

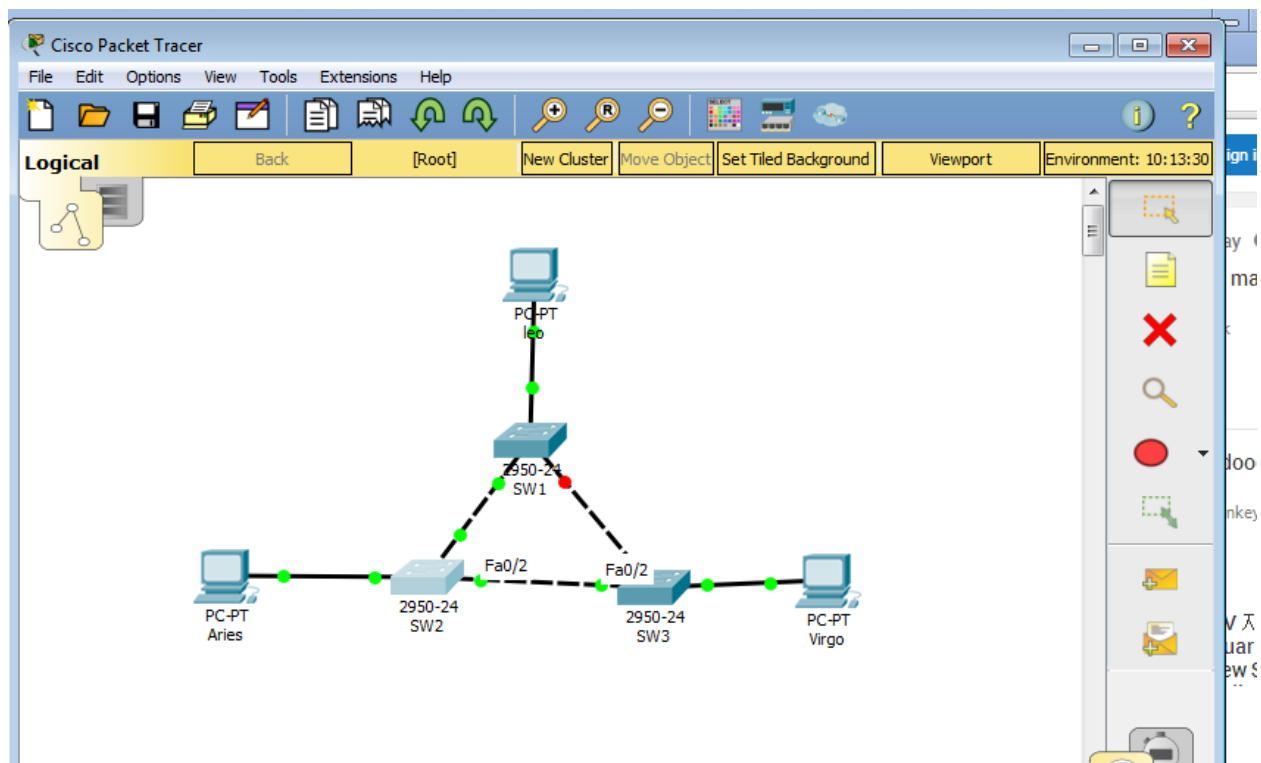
Kelas : B

MODUL 6

SPANNING TREE PROTOCOL

A. Kegiatan Praktikum

Kegiatan 1. Topologi 1



- a. Memberi nama dan IP pada masing-masing computer.

The screenshot shows a window titled "leo" with a tabbed interface. The "Config" tab is selected, and the "IP Configuration" sub-tab is active. The window is divided into two main sections: "IP Configuration" and "IPv6 Configuration".

IP Configuration:

- ☐ DHCP
- ☒ Static
- IP Address: 172.21.1.1
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

IPv6 Configuration:

- ☐ DHCP
- ☐ Auto Config
- ☒ Static
- IPv6 Address: [Empty field] / [Empty field]
- Link Local Address: FE80::260:70FF:FE5B:97A7
- IPv6 Gateway: [Empty field]
- IPv6 DNS Server: [Empty field]

At the bottom left of the window, there is a "Top" button.

aries

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::260:3EFF:FE21:D6D3

IPv6 Gateway

IPv6 DNS Server

Top

virgo

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.3

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

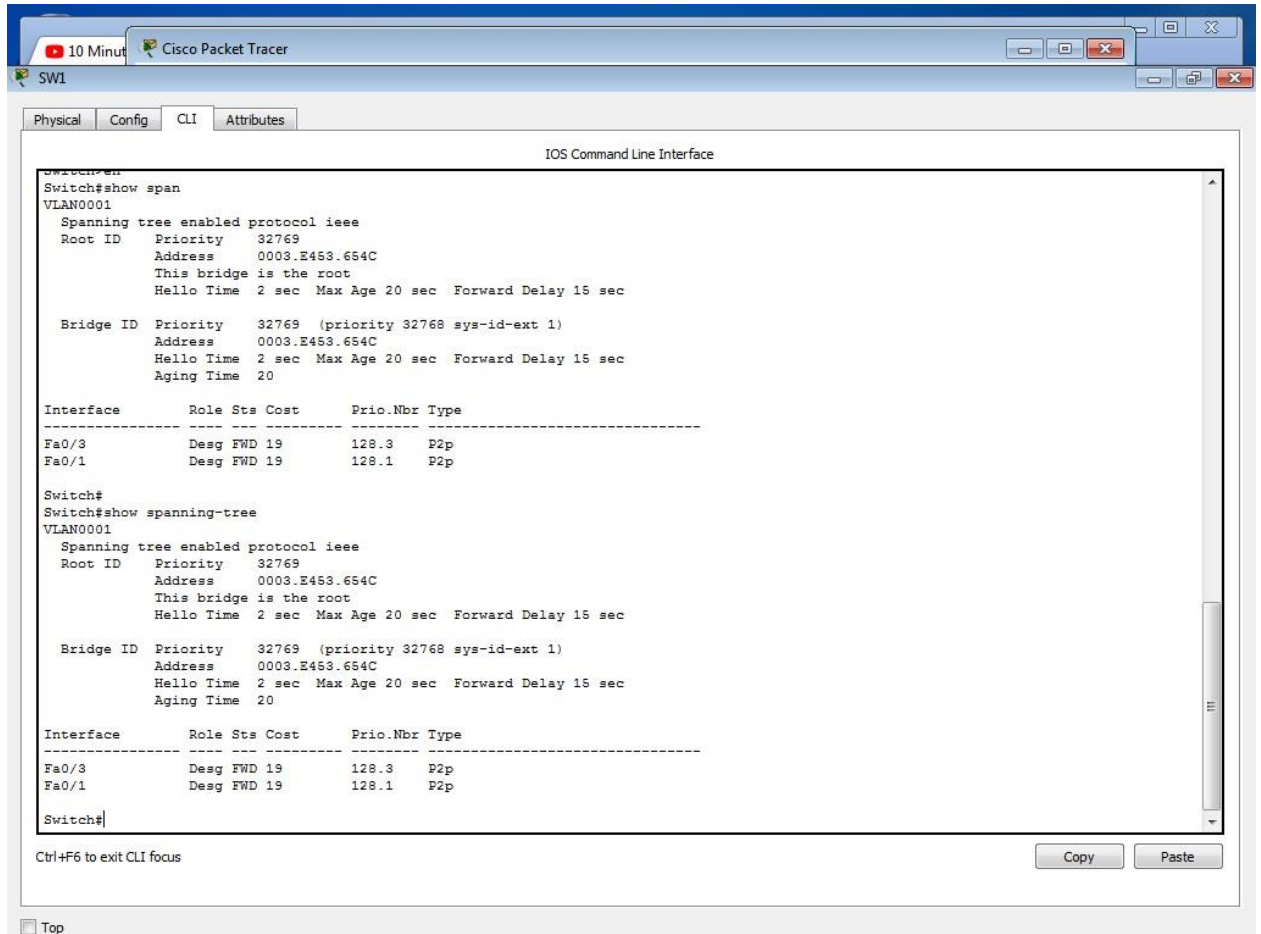
Link Local Address FE80::260:3EFF:FE14:446C

IPv6 Gateway

IPv6 DNS Server

Top

b. Melihat spanning-tree pada masing-masing server.



The screenshot shows the Cisco Packet Tracer interface with a window titled "SW1". The "CLI" tab is selected, displaying the "IOS Command Line Interface". The command "Switch#show span" has been entered, followed by "VLAN0001". The output shows the spanning-tree configuration for VLAN0001, including the root ID, priority, address, and bridge ID. The bridge ID is 32769, and the address is 0003.E453.654C. The output also shows the interface configuration for Fa0/3 and Fa0/1.

```
Switch#show span
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0003.E453.654C
             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     0003.E453.654C
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
             Aging Time 20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/3        Desg FWD 19       128.3    P2p
Fa0/1        Desg FWD 19       128.1    P2p

Switch#
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0003.E453.654C
             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     0003.E453.654C
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
             Aging Time 20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/3        Desg FWD 19       128.3    P2p
Fa0/1        Desg FWD 19       128.1    P2p

Switch#
```

Ctrl+F6 to exit CLI focus

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Top

10 MinutCisco Packet Tracer

SW2

PhysicalConfigCLIAttributes

IOS Command Line Interface

VLAN0001

Spanning tree enabled protocol ieee

Root IDPriority32769

Address0003.E453.654C

Cost19

Port3(FastEthernet0/3)

Hello Time2 secMax Age20 secForward Delay15 sec

Bridge IDPriority32769(priority32768 sys-id-ext 1)

Address0004.9A93.4B2A

Hello Time2 secMax Age20 secForward Delay15 sec

Aging Time20

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

Switch#show spanning-tree

VLAN0001

Spanning tree enabled protocol ieee

Root IDPriority32769

Address0003.E453.654C

Cost19

Port3(FastEthernet0/3)

Hello Time2 secMax Age20 secForward Delay15 sec

Bridge IDPriority32769(priority32768 sys-id-ext 1)

Address0004.9A93.4B2A

Hello Time2 secMax Age20 secForward Delay15 sec

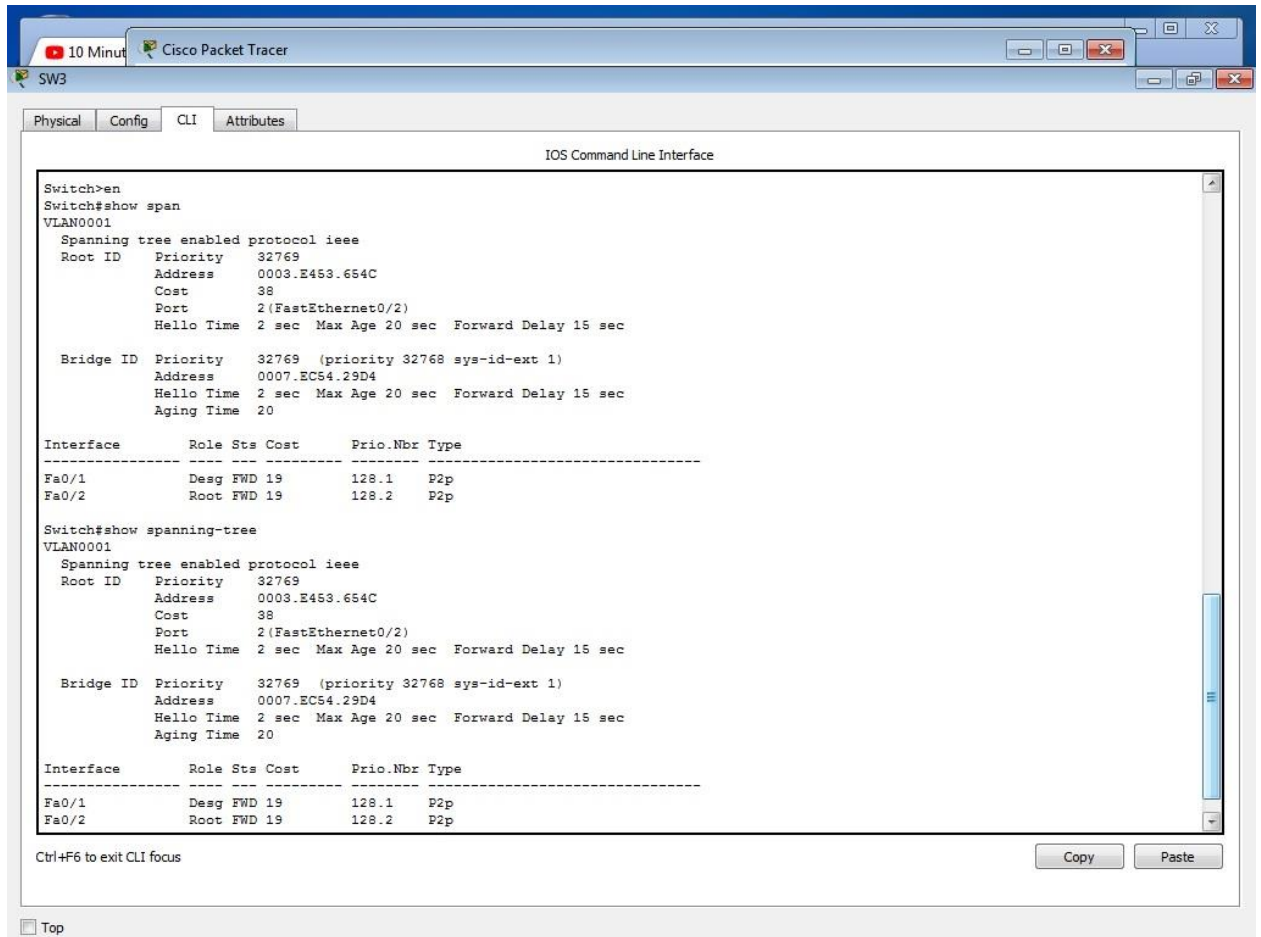
Aging Time20

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

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Top



c. Tabel status STP pada masing-masing Switch :

- Switch1

No	Variable	Nilai
1	Root ID	32769
2	Priority	32769
3	MAC Address	0003.E453.654C
4	Bridge ID	32769
5	Cost (0/1;0/2;0/3)	19
6	Hello Time	2 Sec
7	Max Age	20 Sec
8	Forward Delay	15 Sec

- Switch2

No	Variable	Nilai
1	Root ID	32769
2	Priority	32769
3	MAC Address	0003.E453.654C
4	Bridge ID	32769
5	Cost (0/1;0/2;0/3)	-
6	Hello Time	2 Sec
7	Max Age	20 Sec
8	Forward Delay	15 Sec

- Switch3

No	Variable	Nilai
1	Root ID	32769
2	Priority	32769
3	MAC Address	0003.E453.654C
4	Bridge ID	32769
5	Cost (0/1;0/2;0/3)	19
6	Hello Time	2 Sec
7	Max Age	20 Sec
8	Forward Delay	15 Sec

d. Dalam kondisi default :

- Root Bridge => Fa 0/2 (switch1) dengan Fa 0/4 (switch3)
- Designated Bridge => Fa 0/3 (switch1) dengan Fa 0/3 (switch3)
=> Fa 0/4 (switch2) dengan Fa 0/4 (switch3)
- Root Port => Fa 0/2 (switch1)
=> Fa 0/4 (switch3)
- Designated Port => Fa 0/3 (switch1)
=> Fa 0/1 (switch1)
=> Fa 0/4 (switch2)
=> Fa 0/1 (switch2)
=> Fa 0/2 (switch2)
=> Fa 0/1 (switch3)

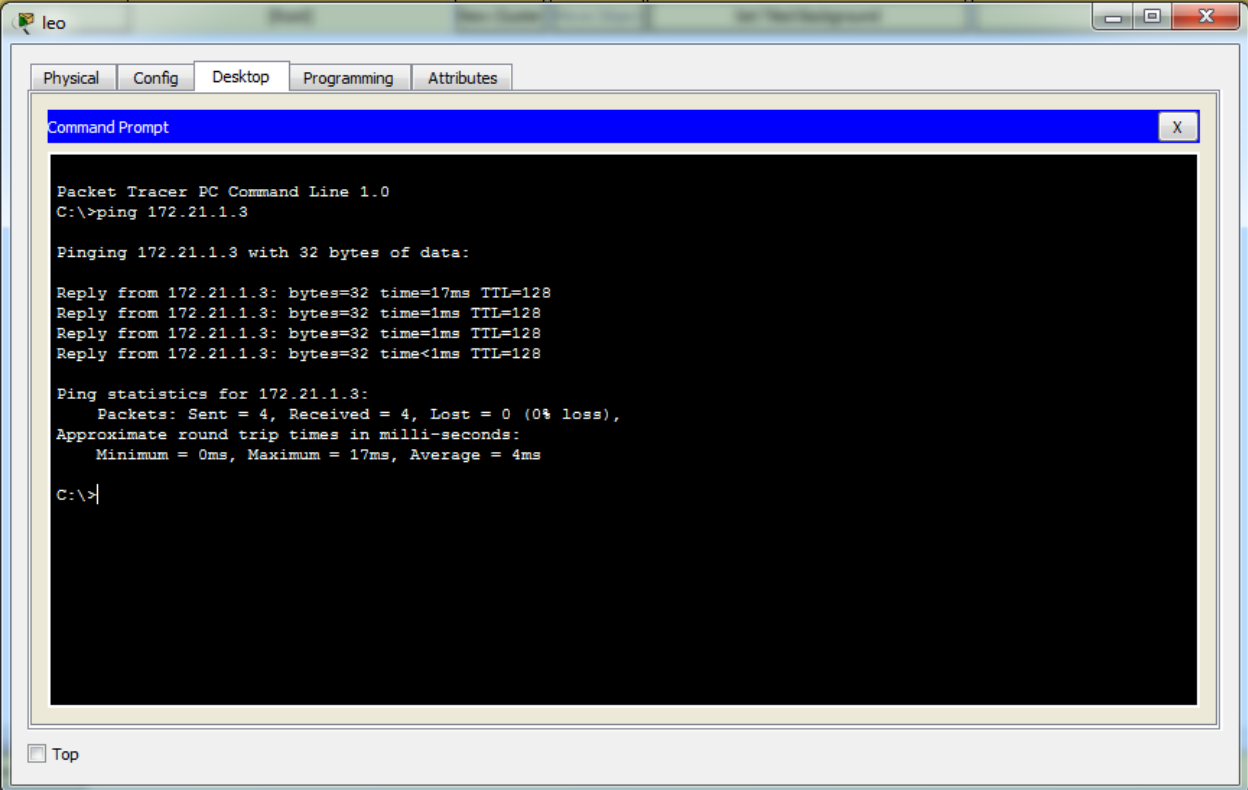
e. Dalam kondisi default :

- Port dalam kondisi Forwarding => Fa 0/2 (switch1)
=> Fa 0/3 (switch1)
=> Fa 0/1 (switch1)

=> Fa 0/4 (switch2)
=> Fa 0/1 (switch2)
=> Fa 0/2 (switch2)
=> Fa 0/1 (switch3)
=> Fa 0/4 (switch3)

- Port dalam kondisi Blocking => Fa 0/3 (switch3)

f. Hasil dari ping pada PC Leo dengan PC Virgo.



```
leo
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.3

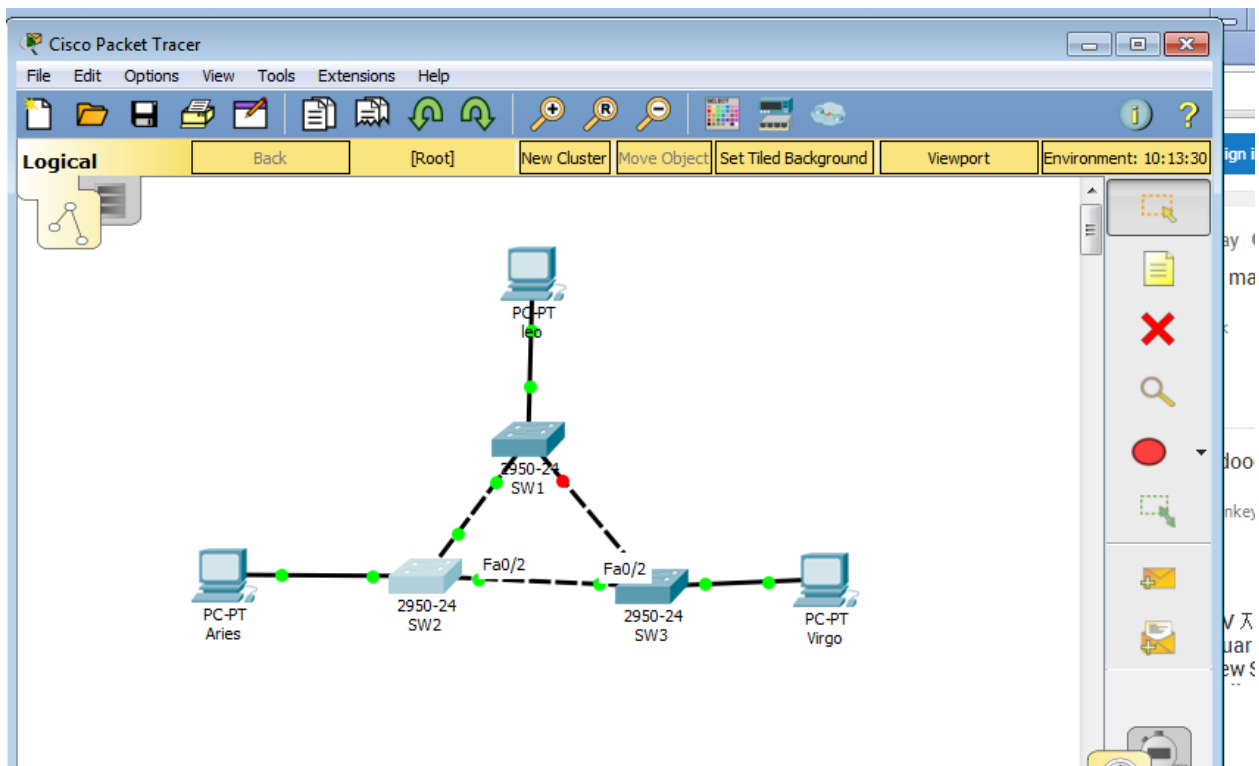
Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=17ms 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 = 17ms, Average = 4ms

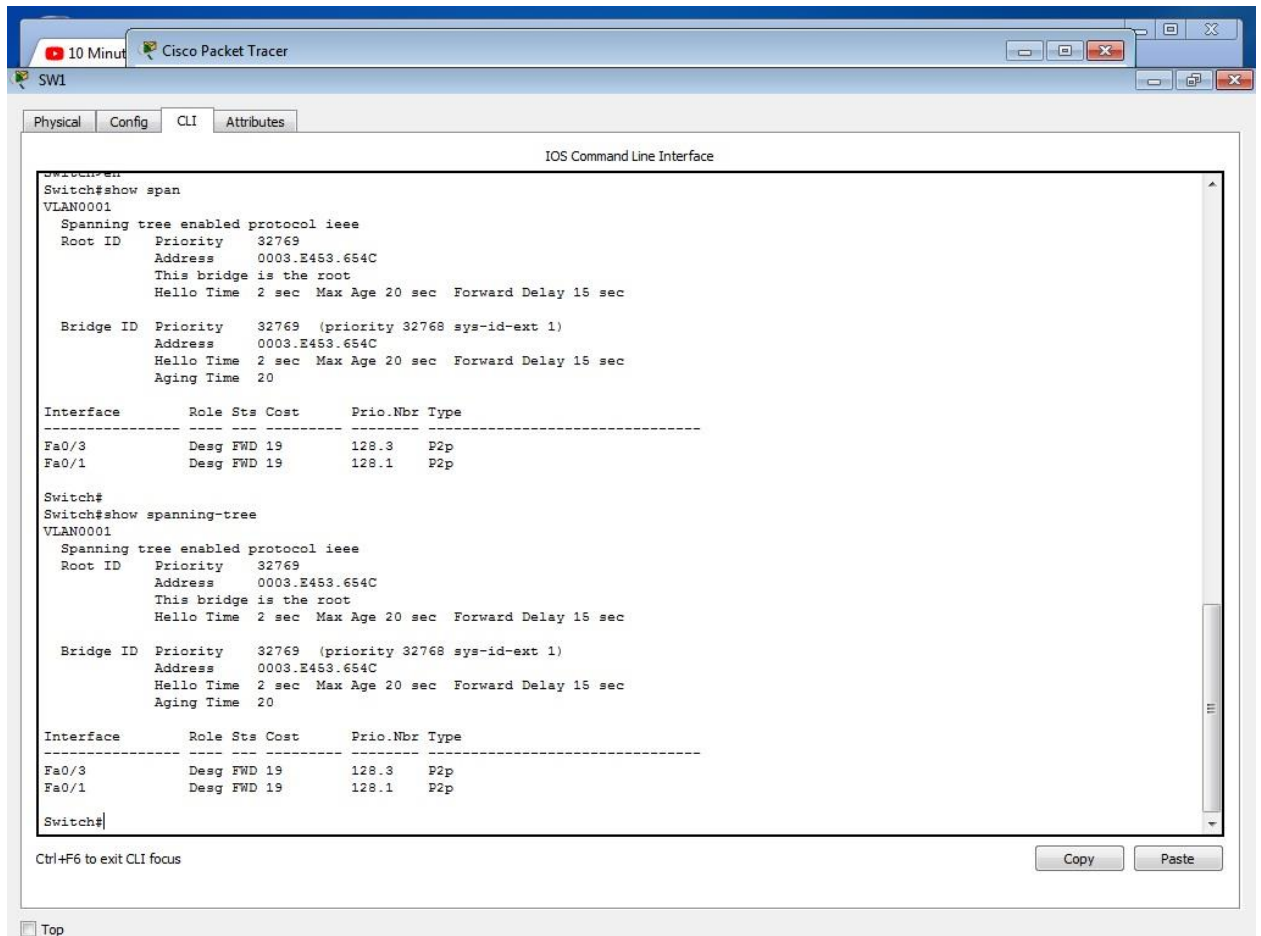
C:\>
```


Kegiatan 2. Topologi 2



- a. Karena rangkaian sebelumnya hanya diberikan sedikit perubahan, berupa penghapusan kabel dari switch1 dengan switch2.

- b. Melihat spanning-tree pada masing-masing server.



The screenshot shows the Cisco Packet Tracer interface with a window titled "SW1". The "CLI" tab is selected, displaying the "IOS Command Line Interface". The command sequence entered is:

```
Switch#
Switch#show span
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     0003.E453.654C
            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     0003.E453.654C
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time  20
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/3	Desg	FWD	19	128.3	P2p
Fa0/1	Desg	FWD	19	128.1	P2p

```
Switch#
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     0003.E453.654C
            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     0003.E453.654C
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time  20
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/3	Desg	FWD	19	128.3	P2p
Fa0/1	Desg	FWD	19	128.1	P2p

Switch#

Ctrl+F6 to exit CLI focus

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SW2

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    0003.E453.654C
           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    0004.9A93.4B2A
           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

Switch#show spanning-tree
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    0003.E453.654C
           Cost        19
           Port        3(FastEthernet0/3)
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

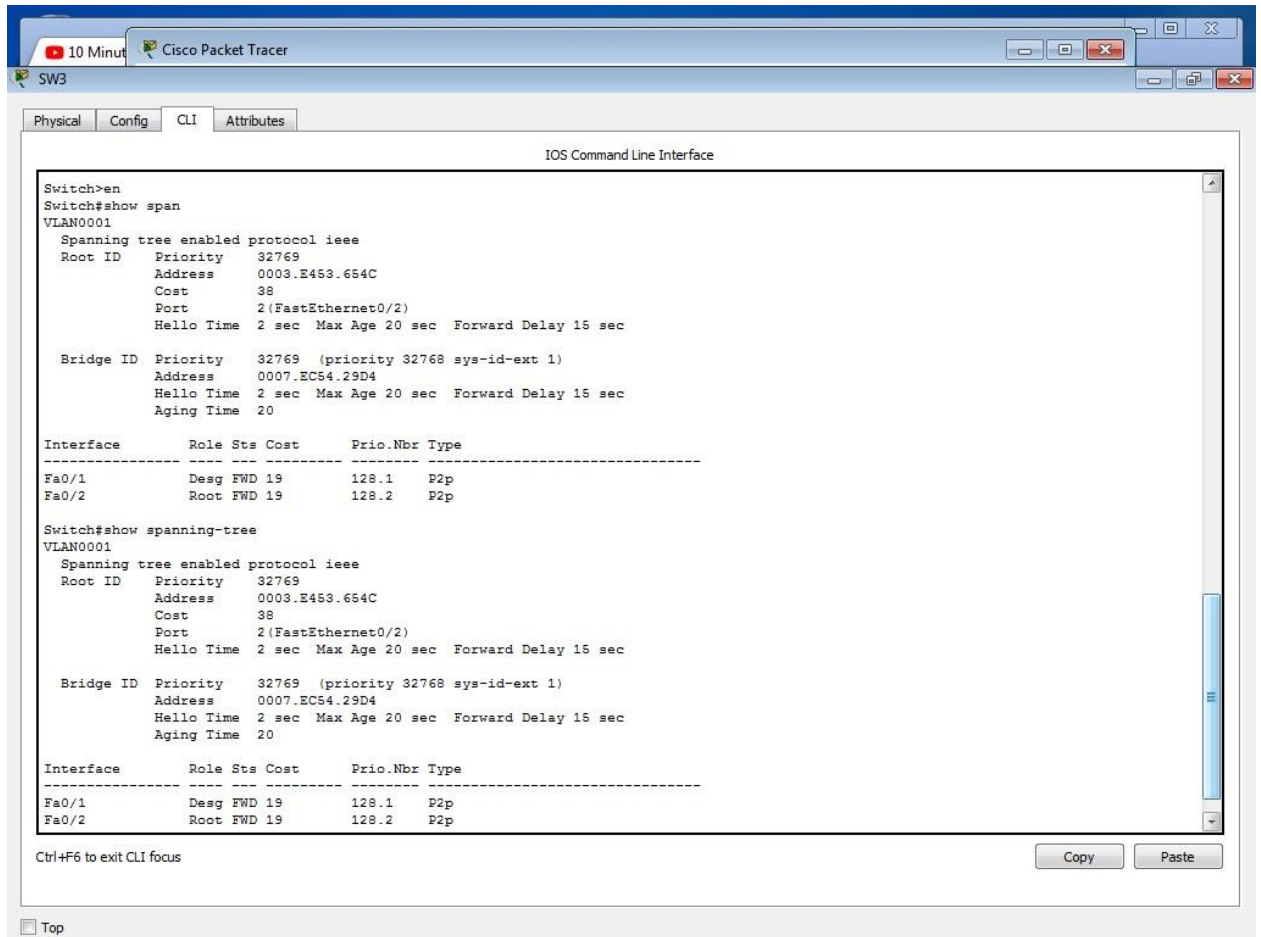
           Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
           Address    0004.9A93.4B2A
           Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
           Aging Time  20

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

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☐ Top



d. Tabel status STP pada masing-masing Switch :

- Switch1

No	Variable	Nilai
1	Root ID	32769
2	Priority	32769
3	MAC Address	0003.E453.654C
4	Bridge ID	32769
5	Cost (0/1;0/2;0/3)	38
6	Hello Time	2 Sec
7	Max Age	20 Sec
8	Forward Delay	15 Sec

- Switch2

No	Variable	Nilai
1	Root ID	32769
2	Priority	32769
3	MAC Address	0003.E453.654C
4	Bridge ID	32769
5	Cost (0/1;0/2;0/3)	-
6	Hello Time	2 Sec
7	Max Age	20 Sec
8	Forward Delay	15 Sec

- Switch3

No	Variable	Nilai
1	Root ID	32769
2	Priority	32769
3	MAC Address	0003.E453.654C
4	Bridge ID	32769
5	Cost (0/1;0/2;0/3)	19
6	Hello Time	2 Sec
7	Max Age	20 Sec
8	Forward Delay	15 Sec

g. Dalam kondisi default :

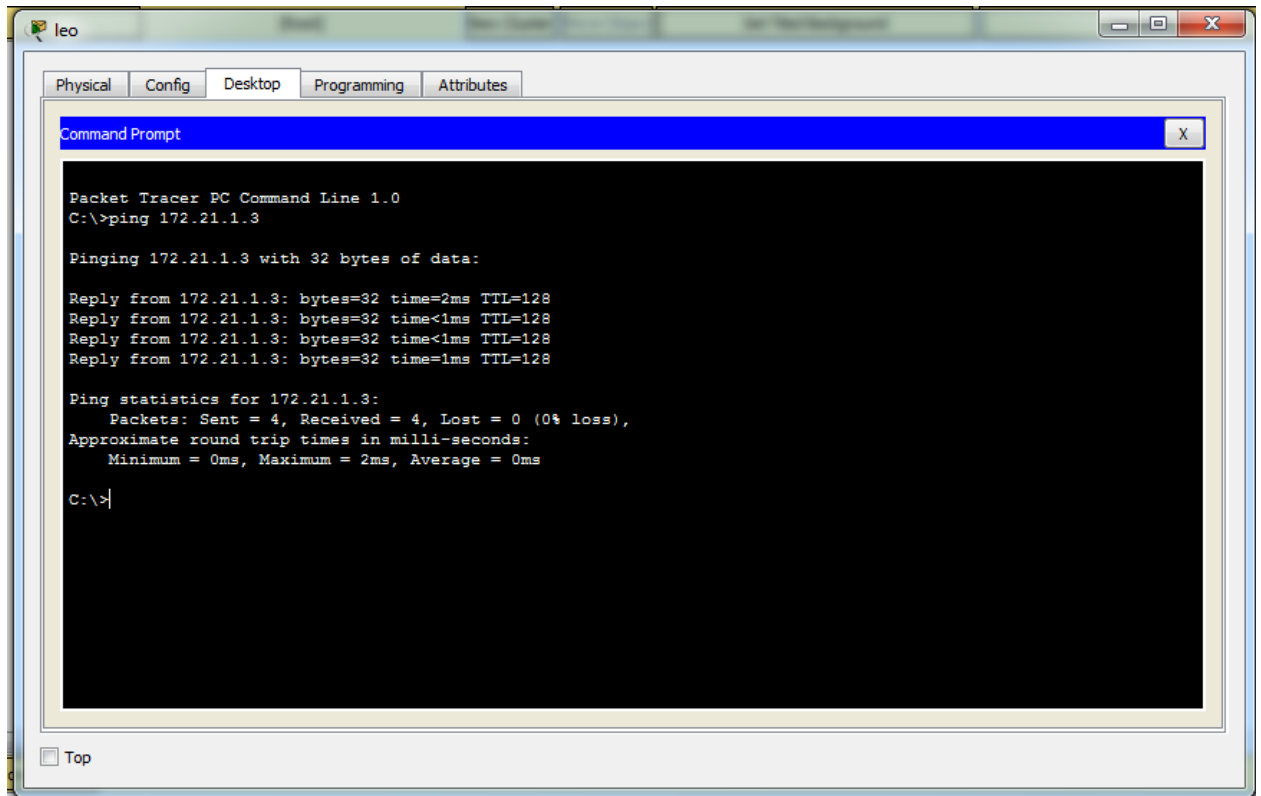
- Root Bridge => Fa 0/3 (switch1) dengan Fa 0/4 (switch3)
- Designated Bridge => Fa 0/4 (switch2) dengan Fa 0/3 (switch3)
- Root Port => Fa 0/3 (switch1)
=> Fa 0/4 (switch3)
- Designated Port => Fa 0/1 (switch1)
=> Fa 0/4 (switch2)
=> Fa 0/1 (switch2)
=> Fa 0/1 (switch3)
=> Fa 0/3 (switch3)

h. Dalam kondisi default :

- Port dalam kondisi Forwarding => Fa 0/3 (switch1)
=> Fa 0/1 (switch1)
=> Fa 0/4 (switch2)
=> Fa 0/1 (switch2)
=> Fa 0/1 (switch3)
=> Fa 0/4 (switch3)
=> Fa 0/3 (switch3)

- Port dalam kondisi Blocking => -

c. Hasil dari ping pada PC Leo dengan 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=2ms 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 = 2ms, Average = 0ms

C:\>|
```

