

Nama : Diah Fitri Ramadhani

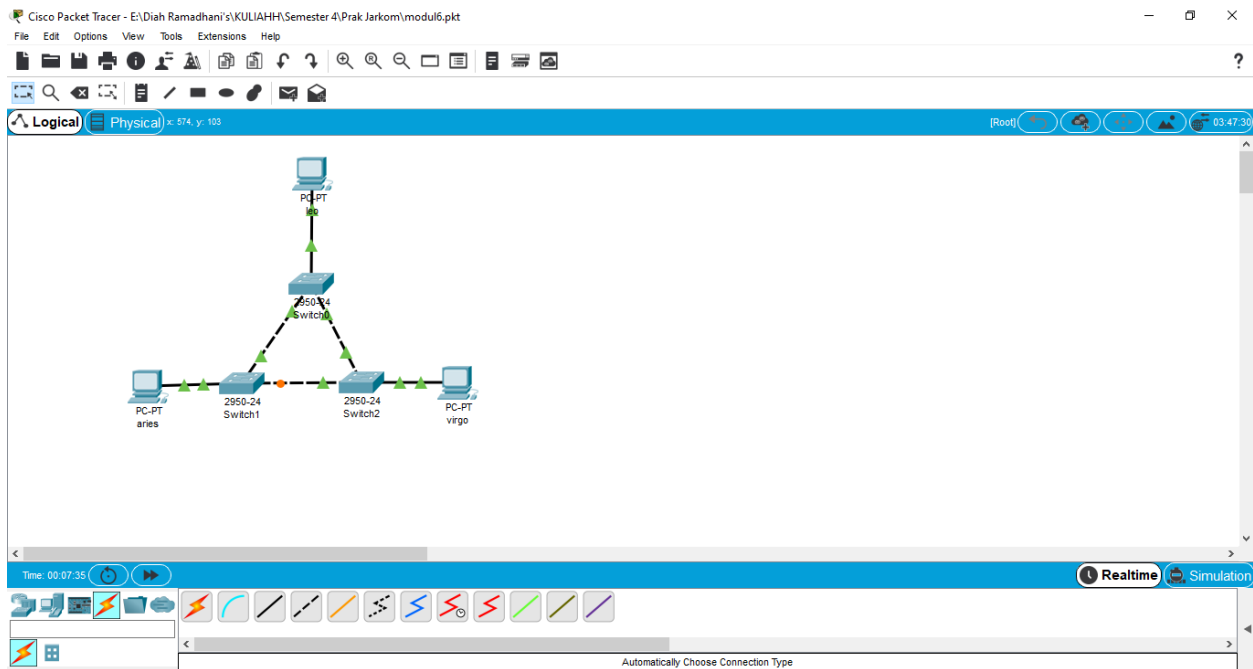
NIM : L200180106

Kelas : C

Modul 6 Jaringan Komputer

Kegiatan 1. Topologi 1

a. Menggunakan Packet Tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950.



Tugas 1A: Tulis Langkah pembuatan topologi

- 1) Buka APLIKASI Cisco Packet Tracer.
- 2) Pilih tab “End Devices” lalu klik “PC”.
- 3) Drag menuju tempat pengerjaan dan lakukan sampai 3 kali.
- 4) Klik tab “Switches” lalu klik switch 2950-24.
- 5) Drag menuju tempat pengerjaan dan lakukan sampai 3 kali.
- 6) Hubungkan dengan kabel.

b) beri nama masing-masing switch dengan SW1, SW2, dan SW3.

SW1

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

Global Settings

Display NameSW1

HostnameSwitch

Serial NumberSerial Number

NVRAM

Erase

Save

Startup Config

Load...

Export...

Running Config

Export...

Merge...

Equivalent IOS Commands

%LINK-3-UPDOWN: Interface FastEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to down

Top

SW2

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/1

FastEthernet0/2

FastEthernet0/3

FastEthernet0/4

FastEthernet0/5

FastEthernet0/6

FastEthernet0/7

FastEthernet0/8

FastEthernet0/9

Global Settings

Display NameSW2

HostnameSwitch

Serial NumberSerial Number

NVRAM

Erase

Save

Startup Config

Load...

Export...

Running Config

Export...

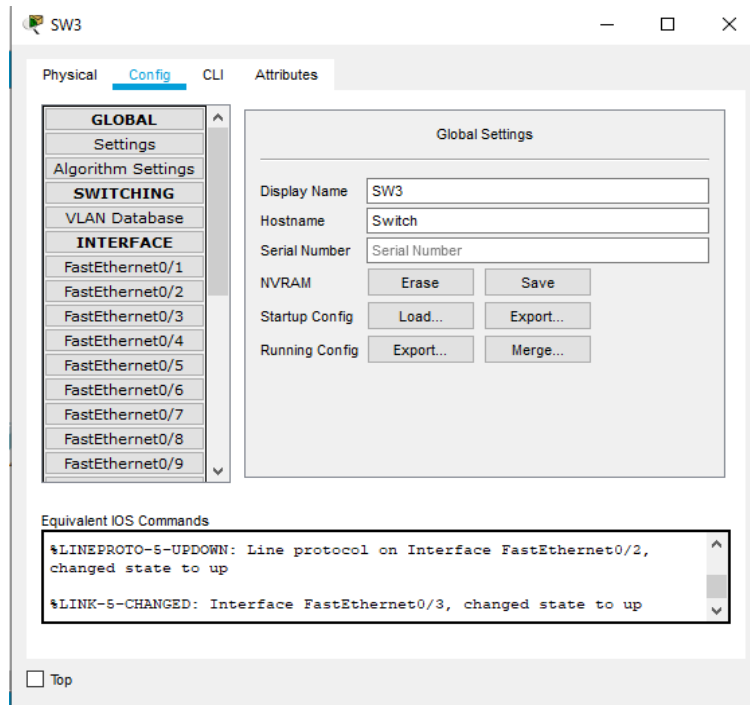
Merge...

Equivalent IOS Commands

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

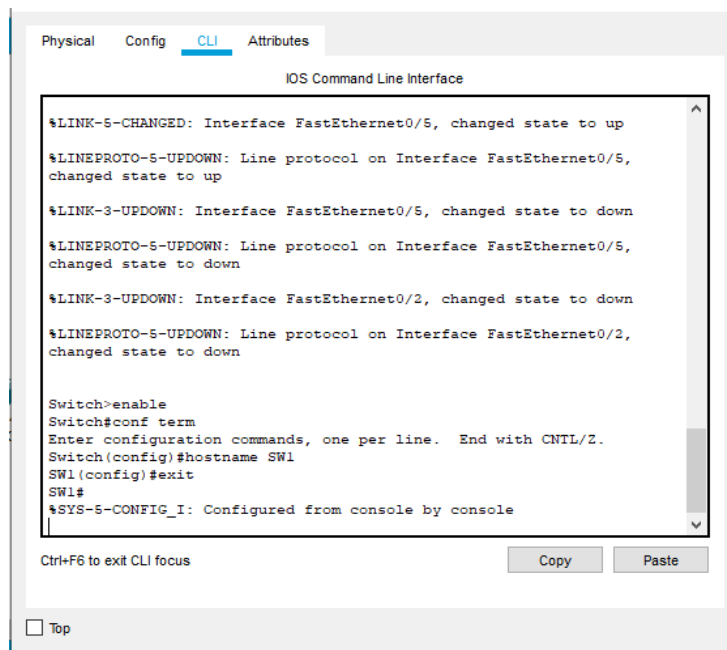
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up

Top

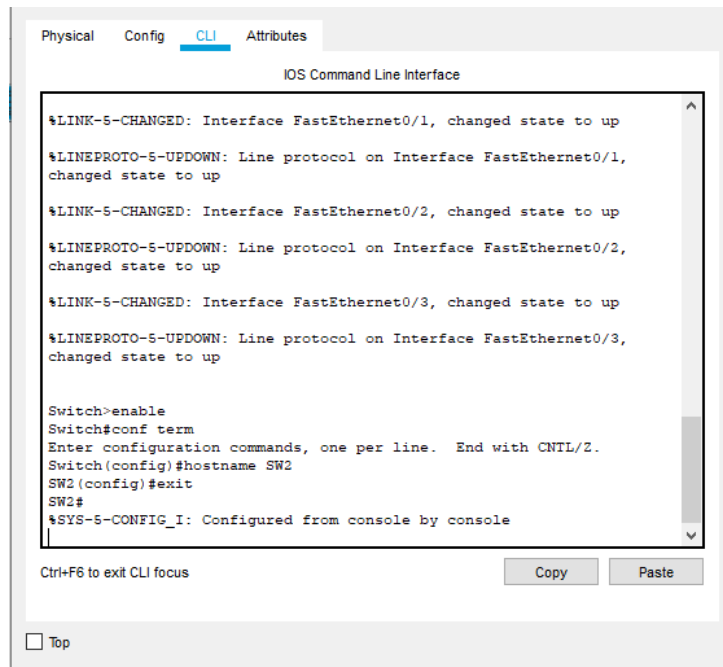


Tugas 2A. Tulis Langkah pemberian nama switch mode user.

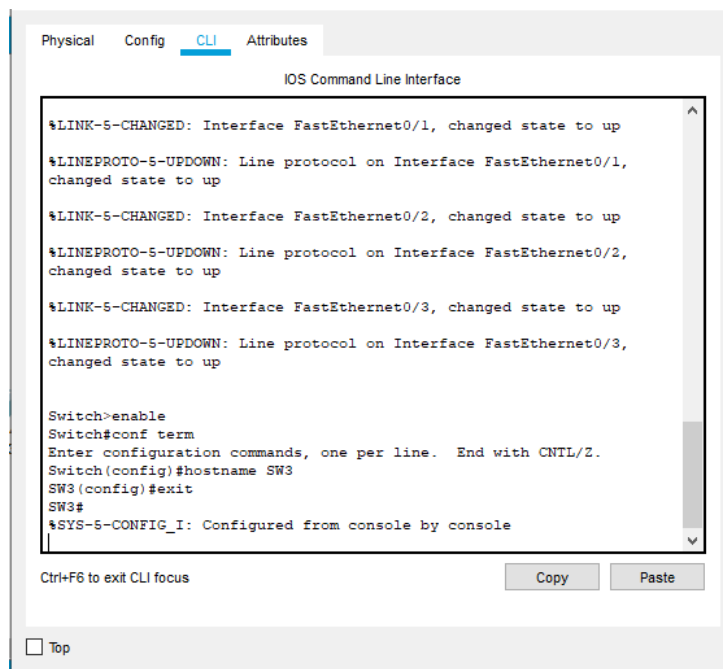
SW1



SW2



SW3



c. Konfigurasi masing-masing PC dengan alamat IP

- leo = 172.21.1.1/24
- aries = 172.21.1.2/24
- virgo = 172.21.1.3/24

leo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.1.1

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::290:2BFF:FE4D:A264

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MDS

Username

Password

☐ Top

aries

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.1.2

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:58FF:FE42:D9B4

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MDS

Username

Password

☐ Top

virgo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.1.3

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::20C:85FF:FE75:E8BB

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MDS

Username

Password

☐ Top

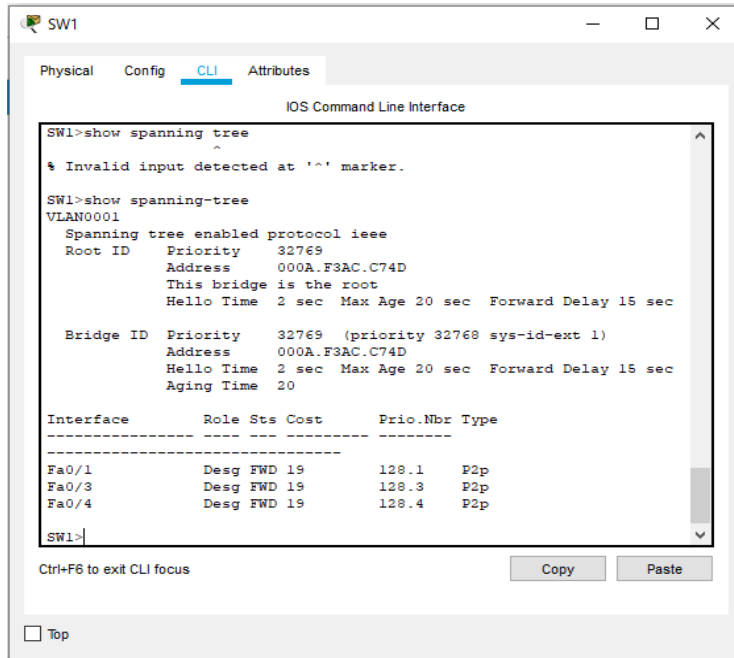
d. Pada mode user, lihat status STP pada masing-masing switch. Langkah pengoperasian :

- 1) Tekan enter
- 2) Masuk mode privileged (optional)
- 3) Ketik show spanning-tree

Tugas 4A. Pada kondisi default, capture masing-masing tampilan status STP Switch (SW1,SW2,SW3).

Tugas 4B. Untuk tiap-tiap switch, isikan tabel berikut.

SW1



```
SW1>show spanning tree
^
% Invalid input detected at '^' marker.

SW1>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000A.F3AC.C74D
             This bridge is the root
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

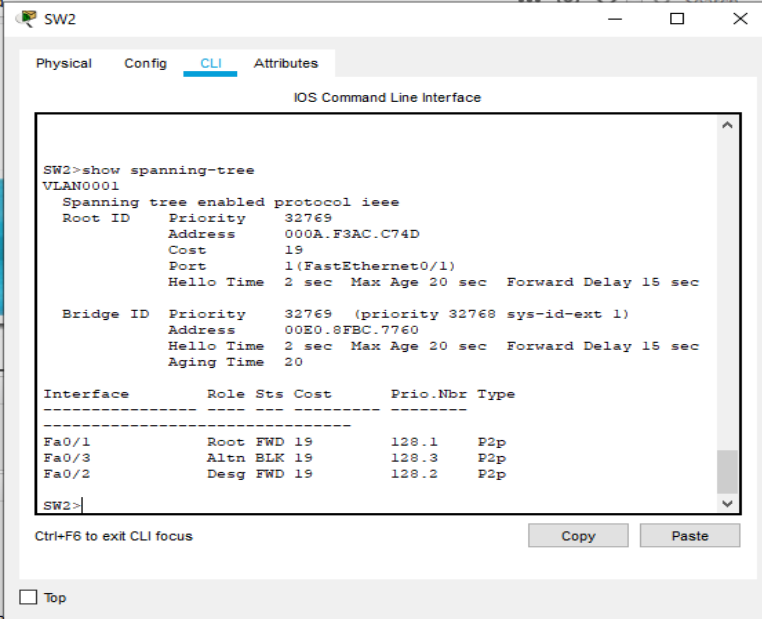
  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     000A.F3AC.C74D
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
             Aging Time 20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/1        Desg FWD 19        128.1    P2p
Fa0/3        Desg FWD 19        128.3    P2p
Fa0/4        Desg FWD 19        128.4    P2p

SW1>
```

No.	Variabel	Nilai
1	Root ID	32769.000A.F3AC.C74D
2	Priority	32769
3	MAC Address	000A.F3AC.C74D
4	Bridge ID	32769.000A.F3AC.C74D
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    000A.F3AC.C74D
            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    00E0.8FBC.7760
            Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time 20

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

SW2>

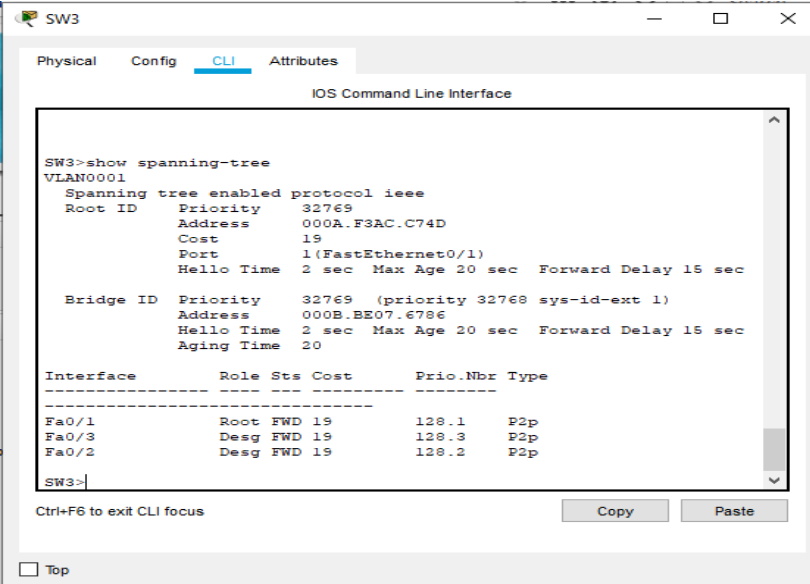
Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

No.	Variabel	Nilai
1	Root ID	32769.000A.F3AC.C74D
2	Priority	32769
3	MAC Address	00E0.8FBC.7760
4	Bridge ID	32769. 00E0.8FBC.7760
5	Cost (0/1;0/2;0/3)	19
6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

SW3



SW3

Physical Config **CLI** Attributes

IOS Command Line Interface

```

SW3>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address    000A.F3AC.C74D
            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    000B.BE07.6786
            Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time 20

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

SW3>

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

No.	Variabel	Nilai
1	Root ID	32769.000A.F3AC.C74D
2	Priority	32769
3	MAC Address	000B.BE07.6786
4	Bridge ID	32769. 000B.BE07.6786
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, switch dan port mana saja yang :

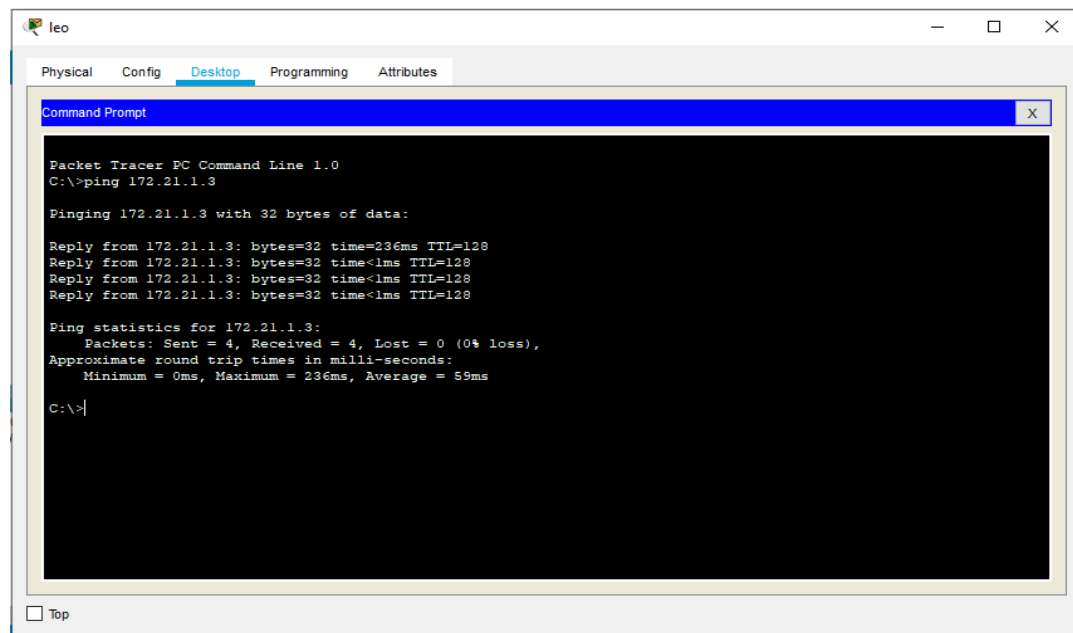
- Menjadi *root bridge* : SW1
- Menjadi *designated bridge* : SW3
- Menjadi *root port* : SW2 Fa0/1, SW3 Fa0/1
- Menjadi *designated port* : SW1 Fa0/1 Fa0/3 Fa 0/4, SW2 Fa0/2, SW3 Fa0/2 Fa 0/3

Tugas 4D : Pada kondisi default tersebut, dan port mana saja yang:

- Berada pada keadaan forwarding : SW1 Fa0/1 Fa0/3 Fa 0/4, SW2 Fa0/1 Fa0/2, SW3 Fa0/1 Fa0/2 Fa0/3
- Berada pada keadaan blocking : SW2 F0/3
- Dari PC Leo lakukan ping ke PC virgo.

Tugas 5A : Tulis Langkah untuk melakukan perintah ping.

- 1) Klik PC Leo dan pilih tab desktop
- 2) Lalu pilih terminal
- 3) Ketik ping 172.21.1.3



```

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=236ms 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 = 236ms, Average = 59ms

C:\>

```


f. Simpan konfigurasi jaringan dengan nama lab2.nwc

Tugas 6A : Tulis Langkah untuk menyimpan konfigurasi jaringan.

1) Ketik "Write" pada masing-masing Cli switches.

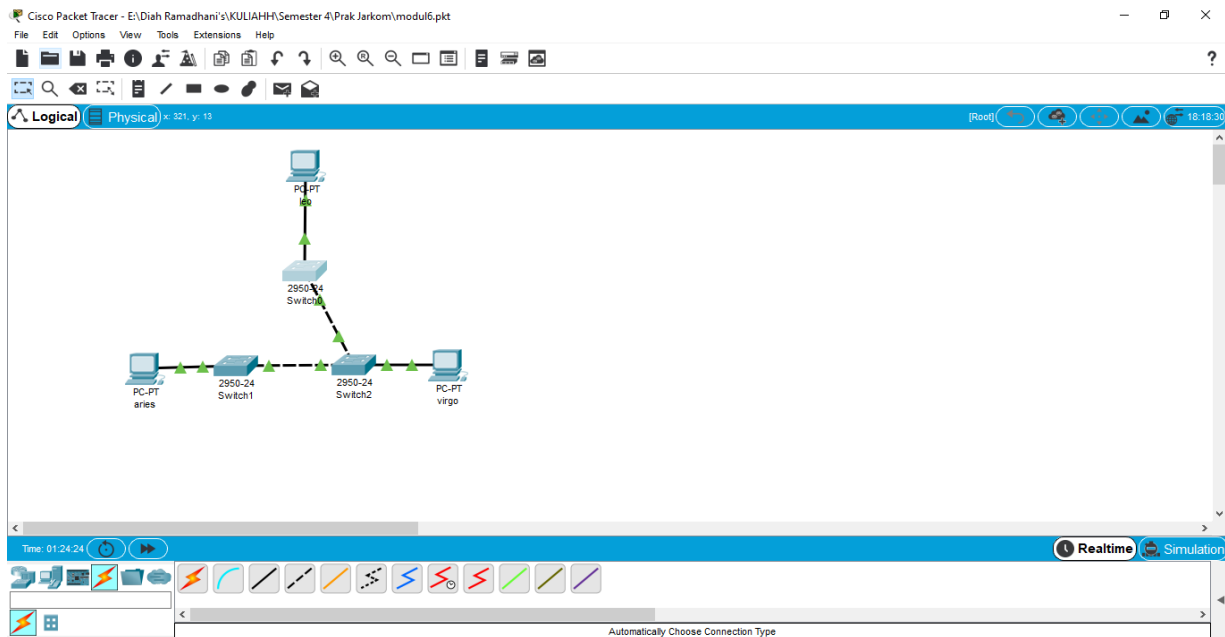
```
SW1#write
Building configuration...
[OK]
SW1#
```

```
SW2#write
Building configuration...
[OK]
SW2#
```

```
SW3#write
Building configuration...
[OK]
SW3#
```

Kegiatan 2. Topologi 2

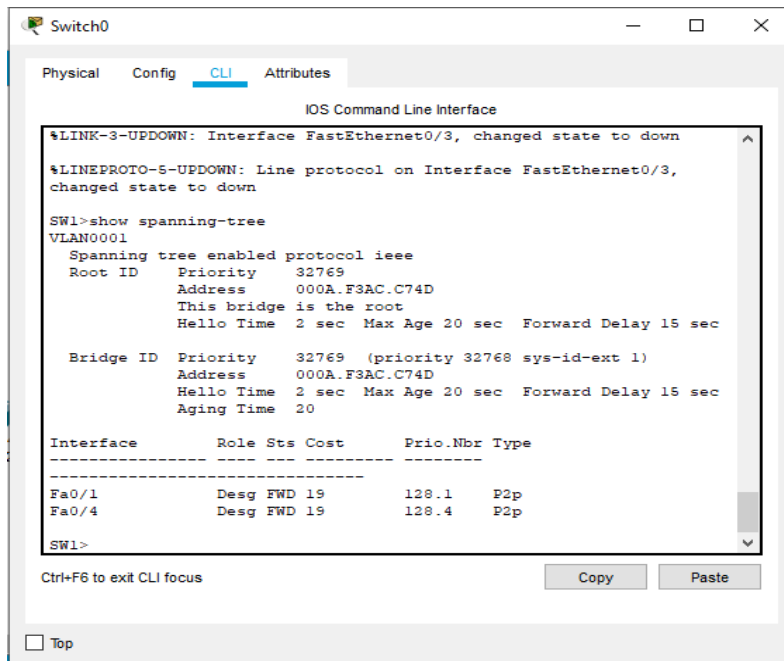
a. Menggunakan Packet Tracer ubah topologi menjadi berikut ini:

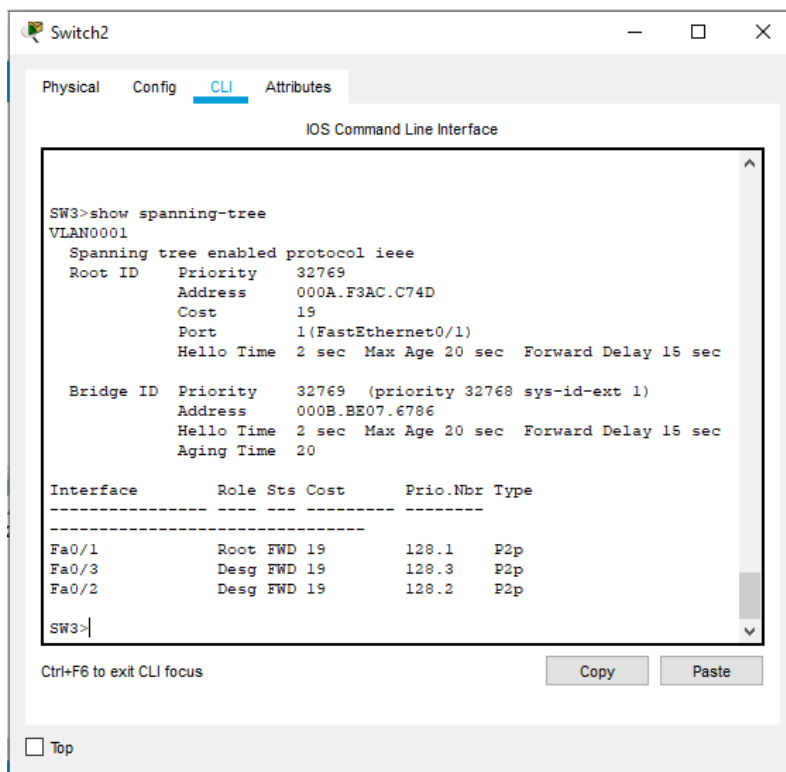
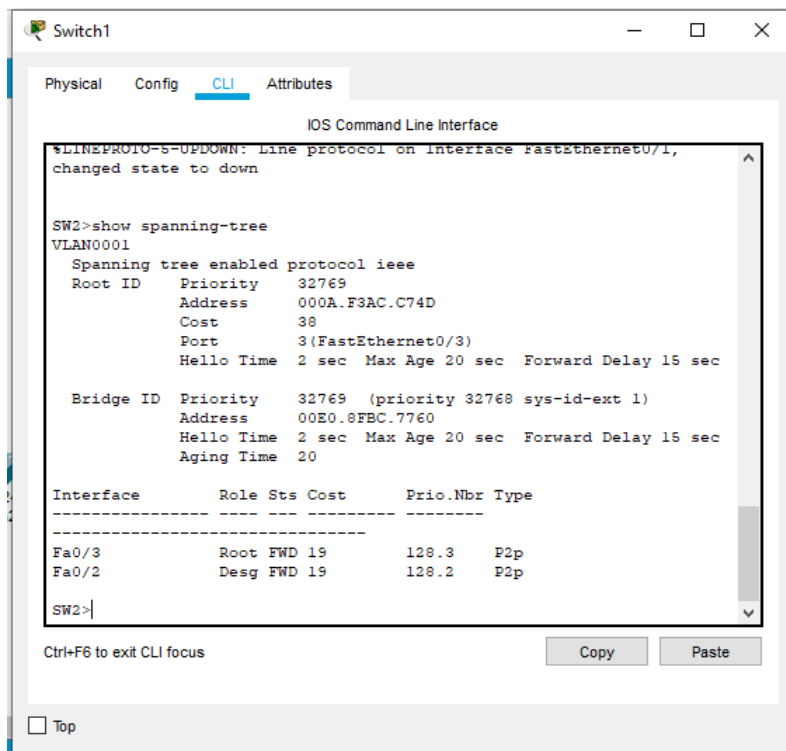


b. Simpan topologi dan buka topologi tersebut pada lingkungan Packet Tracer. Kemudian load file konfigurasi lab2.ncw

c. Lakukan Langkah lab.4 dan lab.5.

Tugas 9A: Kerjakan tugas seperti pada tugas Langkah lab.4.





Switch0

No.	Variabel	Nilai
1	Root ID	32769.000A.F3AC.C74D
2	Priority	32769
3	MAC Address	000A.F3AC.C74D
4	Bridge ID	32769.000A.F3AC.C74D
5	Cost (0/1;0/2;0/3)	19
6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

Switch1

No.	Variabel	Nilai
1	Root ID	32769.000A.F3AC.C74D
2	Priority	32769
3	MAC Address	00E0.8FBC.7760
4	Bridge ID	32769. 00E0.8FBC.7760
5	Cost (0/1;0/2;0/3)	19
6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

Switch2

No.	Variabel	Nilai
1	Root ID	32769.000A.F3AC.C74D
2	Priority	32769
3	MAC Address	000B.BE07.6786
4	Bridge ID	32769. 000B.BE07.6786
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, switch dan port mana saja yang :

- Menjadi *root bridge* : Switch1
- Menjadi *designated bridge* : Switch2
- Menjadi *root port* : Switch1 Fa0/3, Switch2 Fa0/1
- Menjadi *designated port* : Switch0 Fa0/1 Fa0/4, Switch1 Fa0/2, Switch2 Fa0/2 Fa0/3

Tugas 4D : Pada kondisi default tersebut, dan port mana saja yang:

- Berada pada keadaan forwarding : Switch0 Fa0/1 Fa0/4, Switch1 Fa0/2 Fa0/3, Switch2 Fa0/1 Fa0/2 Fa0/3
-
- Berada pada keadaan blocking : Tidak ada
- Dari PC Leo lakukan ping ke PC virgo.

Tugas 5A : Tulis Langkah untuk melakukan perintah ping.

- 4) Klik PC Leo dan pilih tab desktop
- 5) Lalu pilih terminal
- 6) Ketik ping 172.21.1.3

```
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=12ms 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 = 12ms, Average = 3ms

C:\>|
```