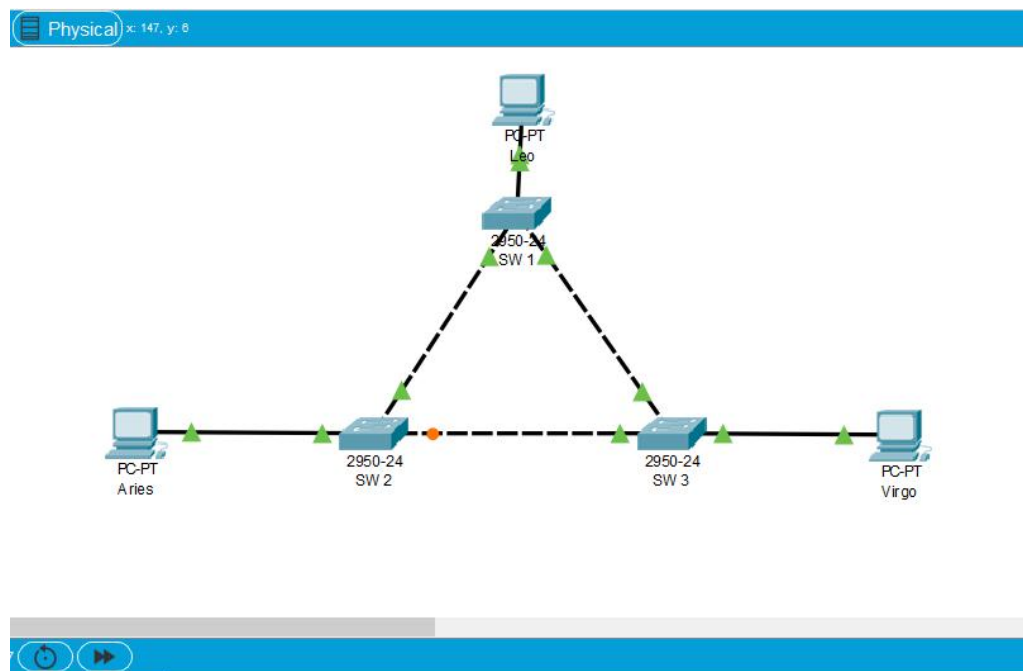


Nama : Ayudhia Isnafiani Fanada
NIM : L200180095
Kelas : C

PRAKTIKUM JARINGAN KOMPUTER MODUL 6

1. Kegiatan 1. Topologi 1

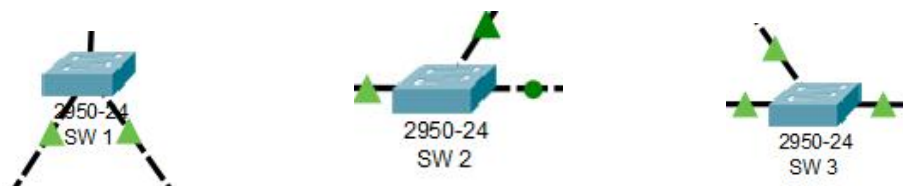
a. Menggunakan PACKET TRACKER buat topologi berikut ini dengan menggunakan switch Catalyst 2950.



Tugas 1A : Tulis langkah pembuatan topologi.

- 1) Buka aplikasi Cisco Packet Tracer.
- 2) Pilih “Switch” yang ada di Daftar Device.
- 3) Memilih switch yaitu Switch Catalyst 2950 sebanyak 3 buah.
- 4) Drag and drop pada layar cisco.
- 5) Kemudian, pilih “End Device” yang ada berada di Daftar Device.
- 6) Pilih PC sebanyak 3 buah, lalu drag and drop ke layar cisco.
- 7) Mengganti nama dan memasukkan IP Address.
- 8) Pilih “Connections” untuk menghubungkan kabel.

b. Beri nama masing-masing switch dengan SW1, SW2, dan SW3.
Caranya dengan double klik pada tulisan sebelum SW1, SW2, dan SW3.



Tugas 2 : Tulis langkah pemberian nama switch mulai dari *mode user*.

SW 1

Switch>enable

Switch#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname SW1

SW1(config)#end

SW 2

Switch>enable

Switch#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname SW2

SW1(config)#end

SW 1

Switch>enable

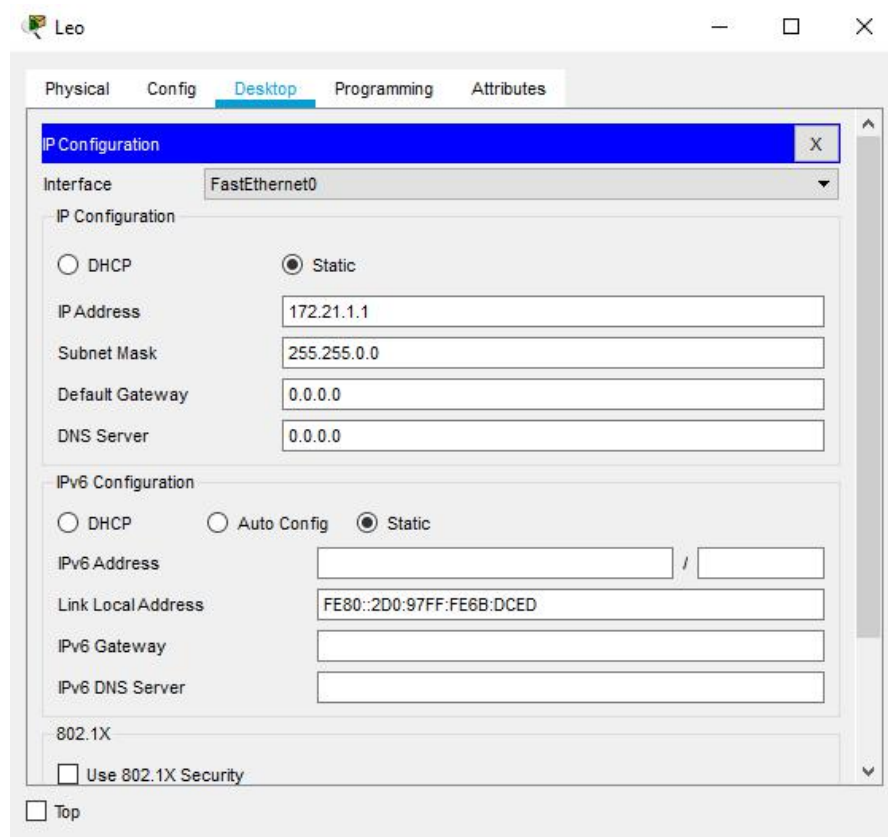
Switch#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)#hostname SW3

SW1(config)#end

c. Konfigurasi masing-masing PC dengan alamat IP:



Aries

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ 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::201:42FF:FE54:D778

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

☐ Top

Virgo

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ 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::204:9AFF:FE09:8AD3

IPv6 Gateway

IPv6 DNS Server

802.1X

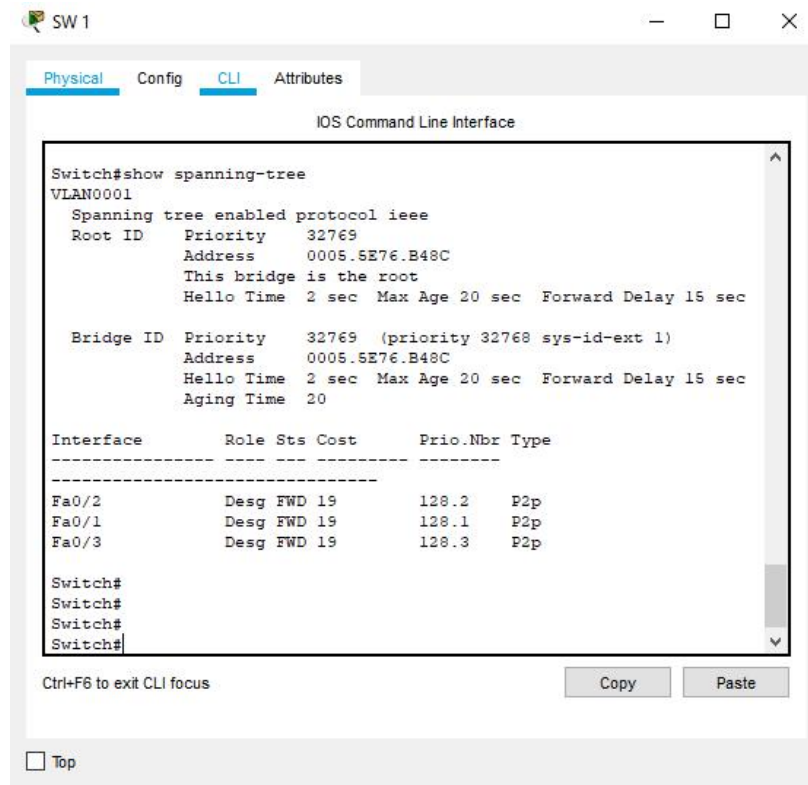
☐ Use 802.1X Security

Authentication MD5

☐ Top

d. Pada mode user atau mode privileged, lihat status STP pada masing-masing switch.

Tugas 4A : Pada kondisi default, capture masing-masing tampilan status STP switch(SW1, SW2, dan SW3)



SW 1

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0005.5E76.B48C
             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     0005.5E76.B48C
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
             Aging Time 20

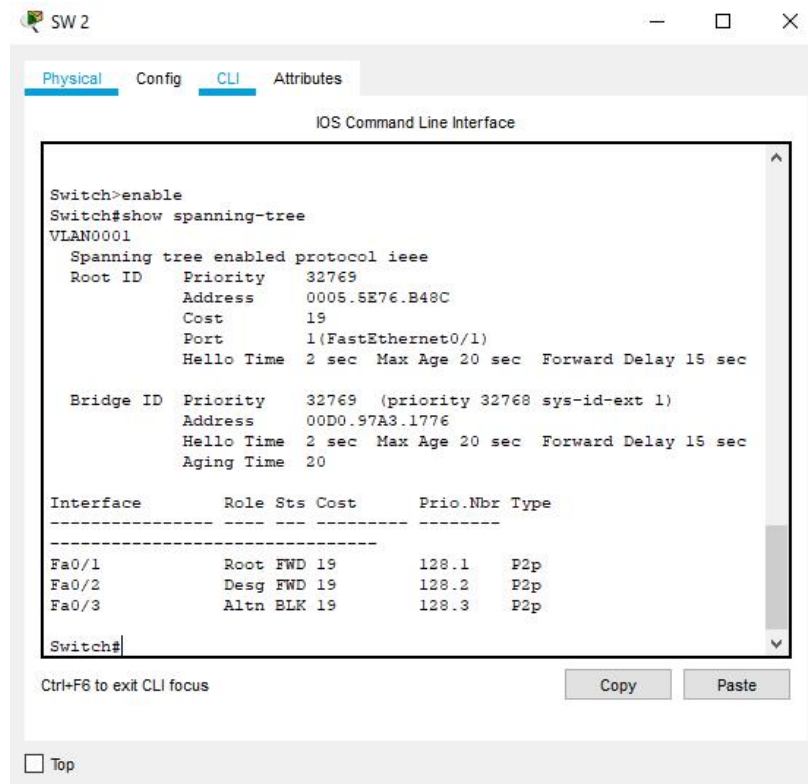
Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/2        Desg FWD 19       128.2    P2p
Fa0/1        Desg FWD 19       128.1    P2p
Fa0/3        Desg FWD 19       128.3    P2p

Switch#
Switch#
Switch#
Switch#
```

Ctrl+F6 to exit CLI focus

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☐ Top



SW 2

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0005.5E76.B48C
             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     00D0.97A3.1776
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
             Aging Time 20

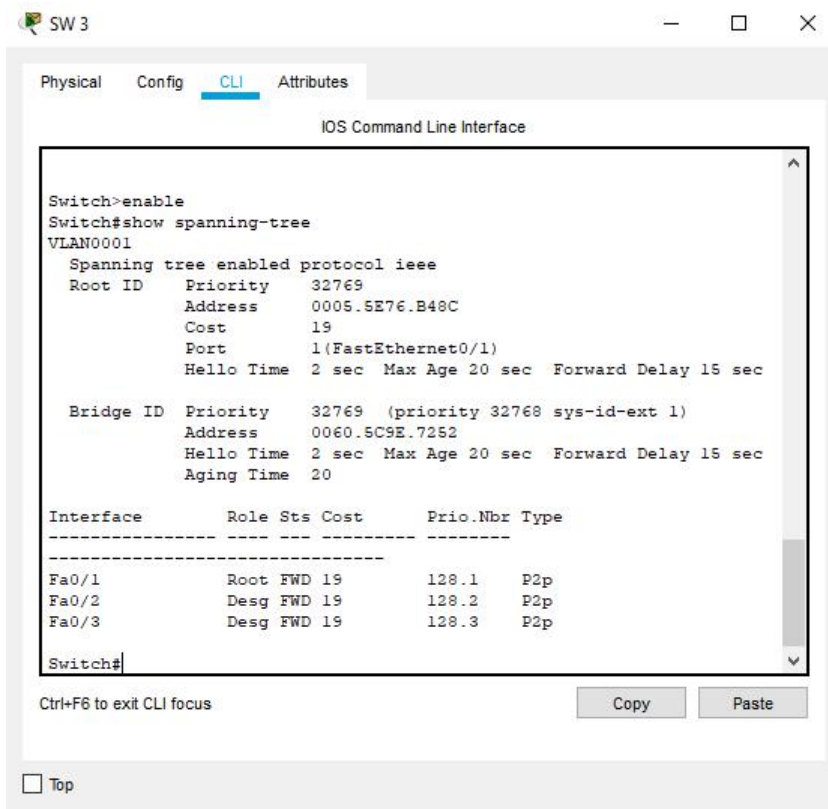
Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/1        Root FWD 19       128.1    P2p
Fa0/2        Desg FWD 19       128.2    P2p
Fa0/3        Altn BLK 19       128.3    P2p

Switch#
```

Ctrl+F6 to exit CLI focus

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☐ Top



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

SW1

NO.	Variabel	Nilai
1.	Root ID	32769:0005.5E76.B48C
2.	Priority	32769
3.	MAC Address	0005.5E76.B48C
4.	Bridge ID	32769:0005.5E76.B48C
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.	Variabel	Nilai
1.	Root ID	32769:0005.5E76.B48C
2.	Priority	32769
3.	MAC Address	0005.5E76.B48C

4.	Bridge ID	32769:00D0.97A3.1776
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.	Variabel	Nilai
1.	Root ID	32769:0005.5E76.B48C
2.	Priority	32769
3.	MAC Address	0060.5C9E.7252
4.	Bridge ID	32769:0060.5C9E.7252
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:

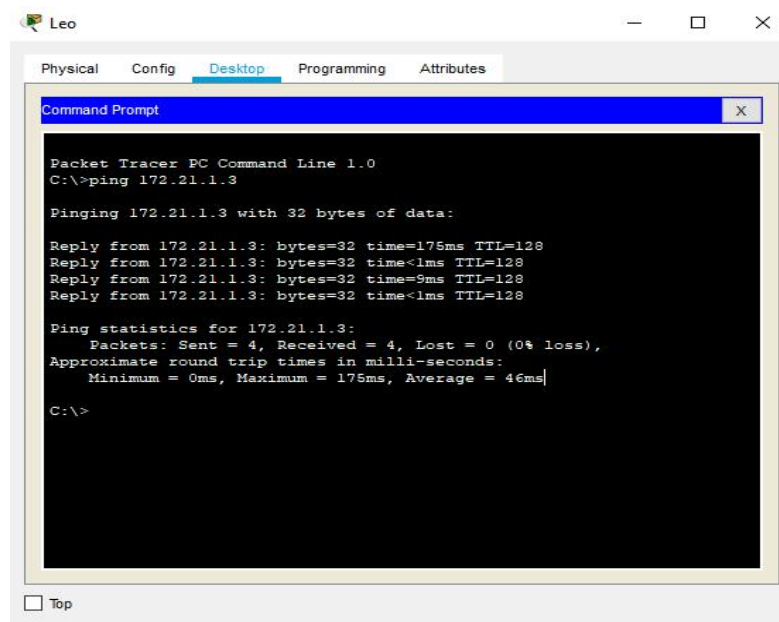
- Menjadi *root bridge* : SW1
- Menjadi *designated bridge* : SW3
- Menjadi *root port* : SW2 (Fa0/1) dan SW3 (Fa0/2)
- Menjadi *designated port* : SW1 (Fa0/1;0/2;0/3), SW2 (Fa0/2) dan SW3 (Fa0/2;0/3)

Tugas 4D :

Pada kondisi default tersebut, dan port mana saja yang :

- Berada pada keadaan *forwarding* : SW1 (Fa0/1;0/2;0/3), SW2 (Fa0/1;0/2), dan SW3 (Fa0/1;0/2;0/3)
- Berada pada keadaan *blocking* : SW2 (Fa0/3)

e. Dari PC Leo lakukan ping ke PC Virgo



Tugas 5A :

Tulis langkah untuk melakukan perintah ping.

- 1) Double klik pada PC Leo
- 2) Pilih Command Prompt
- 3) Kemudian ketik ping (IP Address yang dituju) seperti ping 172.21.1.3

f. Simpan konfigurasi jaringan dengan nama lab2.nwc

Tugas 6A : Tulis langkah untuk menyimpan konfigurasi jaringan.

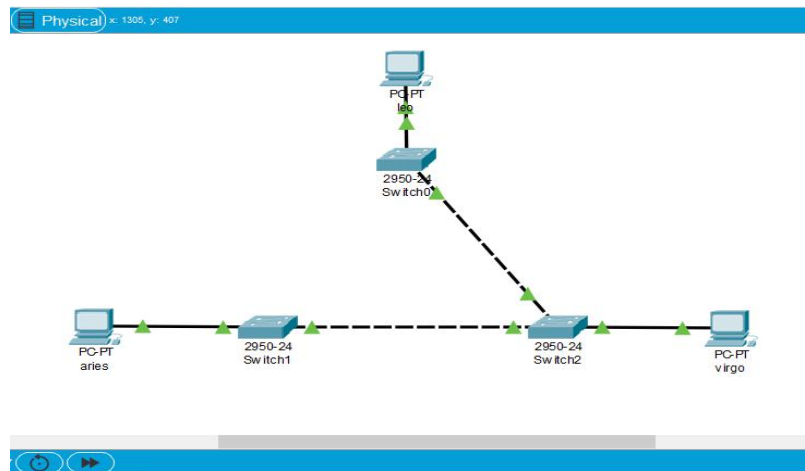
```
SW1>enable
SW1#write
Building configuration...
[OK]
SW1#
```

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

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

2. Kegiatan 2. Topologi 2

a. Menggunakan Packet Tracer ubah topologi menjadi seperti topologi 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.
- d. Pada mode user atau mode privileged, lihat status STP pada masing-masing switch.

Tugas 4A : Pada kondisi default, capture masing-masing tampilan status STP pada switch(Switch0, Switch1, dan Switch3)

Switch0

Physical Config CLI Attributes

IOS Command Line Interface

```
changed state to up

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     000A.F3D1.7447
            Cost        38
            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     0090.0C51.75E2
            Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
            Aging Time   20

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

Switch#
```

Ctrl+F6 to exit CLI focus

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☐ Top

Switch1

Physical

Config

CLI

Attributes

IOS Command Line Interface

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

Switch>enable

Switch#show spanning-tree

VLAN0001

Spanning tree enabled protocol ieee

Root ID Priority 32769

Address 000A.F3D1.7447

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.F3D1.7447

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

Switch#

Ctrl+F6 to exit CLI focus

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☐ Top

Switch2

Physical

Config

CLI

Attributes

IOS Command Line Interface

Switch>enable

Switch#show spanning-tree

VLAN0001

Spanning tree enabled protocol ieee

Root ID Priority 32769

Address 000A.F3D1.7447

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 00D0.5866.8463

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

Fa0/2 Desg FWD 19 128.2 P2p

Fa0/3 Desg FWD 19 128.3 P2p

Switch#

Ctrl+F6 to exit CLI focus

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☐ Top

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

Switch0

NO.	Variabel	Nilai
1.	Root ID	32769:000A.F3D1.7447
2.	Priority	32769
3.	MAC Address	000A.F3D1.7447
4.	Bridge ID	32769:0090.0C51.75E2
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.F3D1.7447
2.	Priority	32769
3.	MAC Address	000A.F3D1.7447
4.	Bridge ID	32769:000A.F3D1.7447
5.	Cost(0/1;0/2;0/3)	19
6.	Hello Time	2 sec
7.	MaxAge	20 sec
8.	Forward Delay	15 sec

Swith2

NO.	Variabel	Nilai
1.	Root ID	32769:000A.F3D1.7447
2.	Priority	32769
3.	MAC Address	000A.F3D1.7447
4.	Bridge ID	32769:00D0.5866.8463
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:

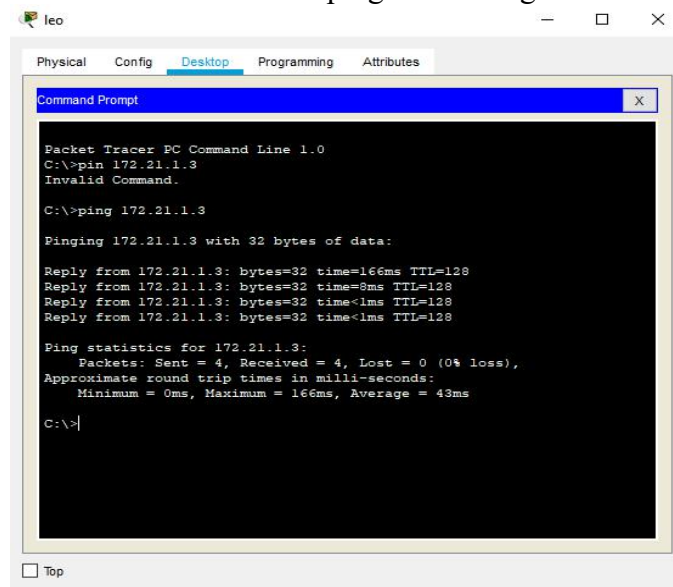
- Menjadi *root bridge* : Switch1
- Menjadi *designated bridge* : Switch2
- Menjadi *root port* : Switch0 (Fa0/2) dan Switch2 (Fa0/1)
- Menjadi *designated port* : Switch0 (Fa0/1), Switch1 (Fa0/1;0/2) dan Switch2 (Fa0/2;0/3)

Tugas 4D :

Pada kondisi default tersebut, dan port mana saja yang :

- Berada pada keadaan *forwarding* : Switch0 (Fa0/2;0/1), Switch1 (Fa0/1;0/2), dan Switch2 (Fa0/1;0/2;0/3)
- Berada pada keadaan *blocking* : Tidak ada keadaan blocking.

e. Dari PC Leo lakukan ping ke PC Virgo



Tugas 5A :

Tulis langkah untuk melakukan perintah ping.

- 4) Double klik pada PC Leo
- 5) Pilih Command Prompt
- 6) Kemudian ketik ping (IP Address yang dituju) seperti ping 172.21.1.3

f. Simpan konfigurasi jaringan dengan nama lab2.nwc