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PRAKTIKUM JARINGAN KOMPUTER

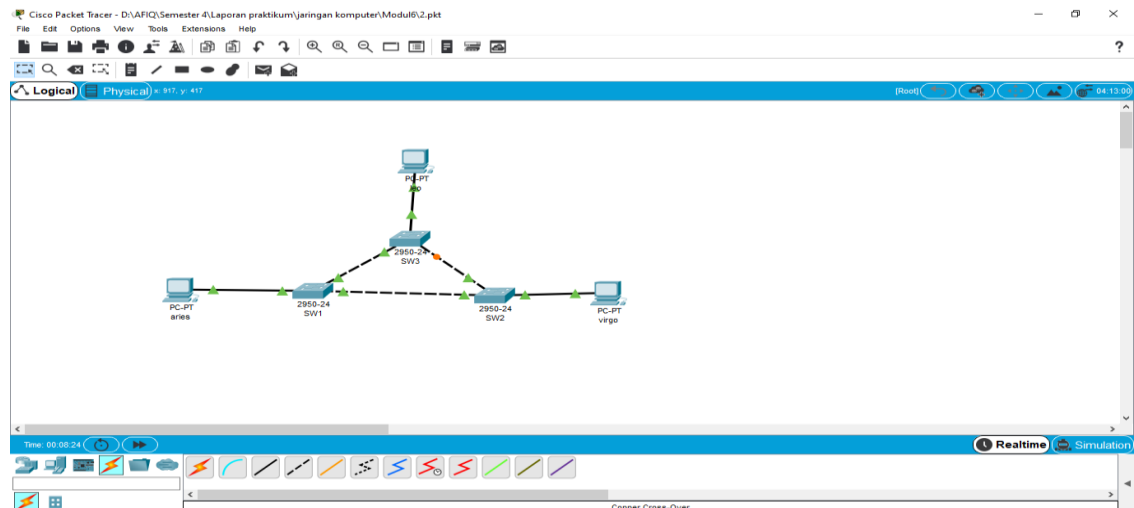
MODUL 6

Kegiatan Praktikum

1. Kegiatan 1. Topologi 1

Menggunakan Packet Tracer, membuat topologi berikut ini dengan menggunakan switch Catalyst 2950.

Memberi nama masing-masing switch dengan nama SW1, SW2, dan SW3



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

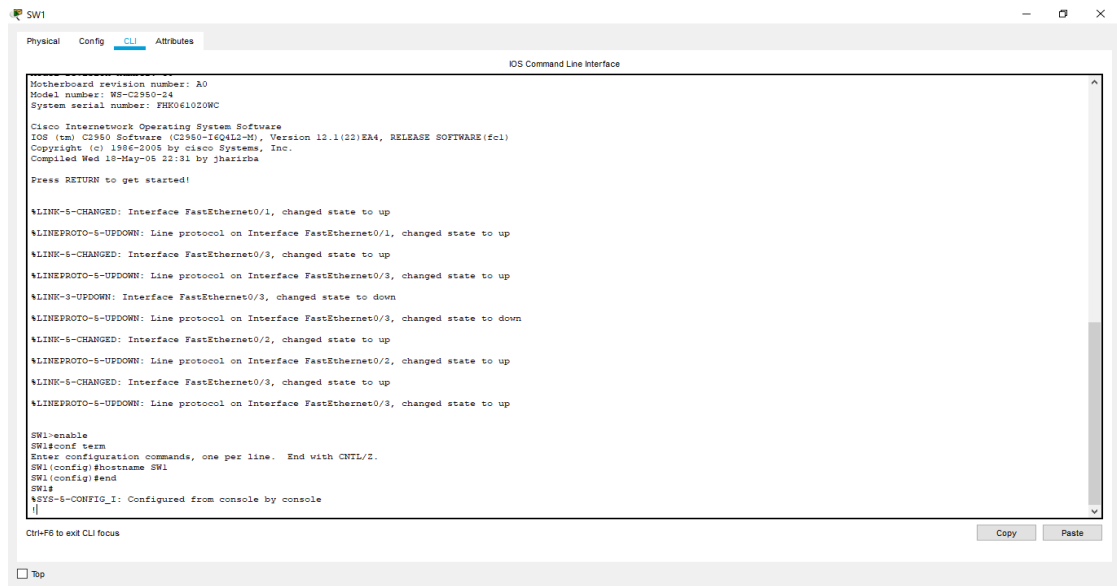
- Klik pada switch yang akan diberi nama
- Pilih CLI
- Klik enter
- Kemudian masukkan perintah berikut ini:

```
Switch>enable
```

```
Switch#conf term
```

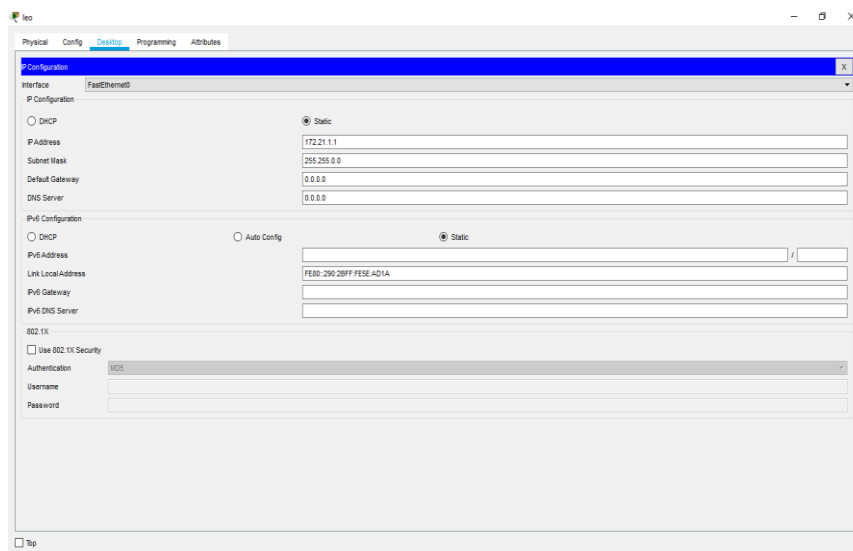
```
Switch(config)#hostname SW1
```

```
SW1(config)#end
```

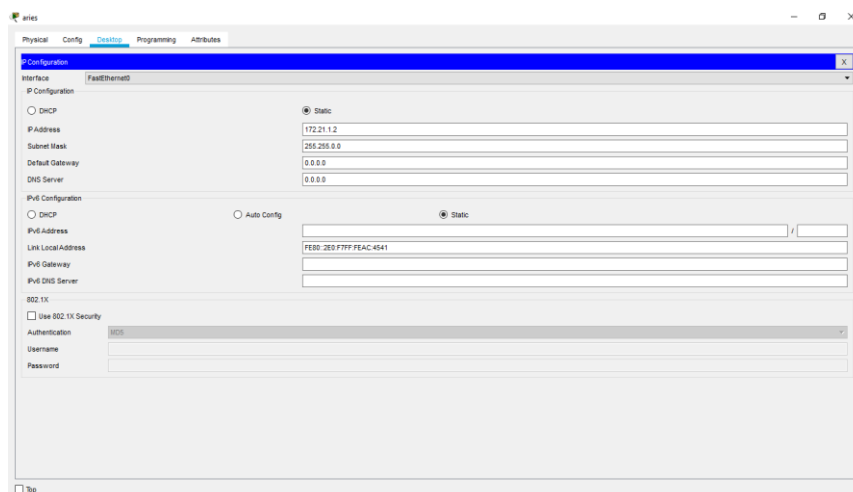


Konfigurasi masing-masing PC dengan alamat IP:

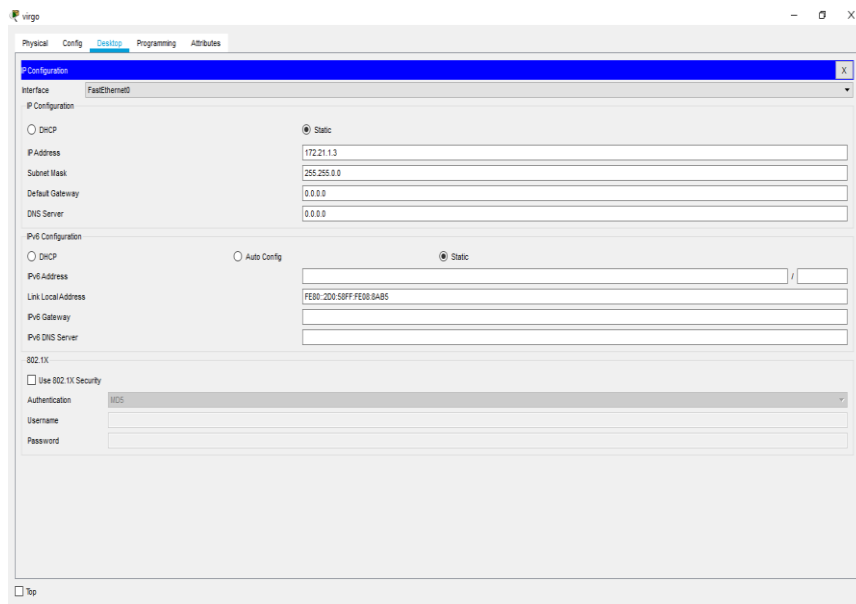
- Leo = 172.21.1.1/24



- Aries = 172.21.1.2/24



- Virgo = 172.21.1.3/24



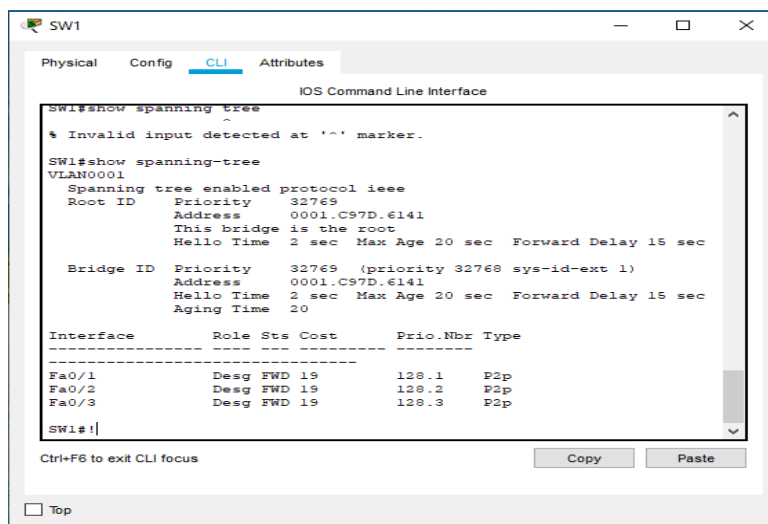
Pada mode user atau mode privileged, lihat status STP pada masing-masing switch.

Langkah pengoperasian:

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

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

- SW1



- SW2

```

SW2>enable
SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address    0001.C97D.6141
              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    000C.86EE.71A9
              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
  
```

SW2#!

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

- SW3

```

SW3>enable
SW3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address    0001.C97D.6141
              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    00D0.BA41.375A
              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
Fa0/3          Altn BLK 19        128.3    P2p
Fa0/1          Desg FWD 19        128.1    P2p
  
```

SW3#!

Ctrl+F6 to exit CLI focus

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

- SW1

No	Variabel	Nilai
1.	Root ID	32729
2.	Priority	32769

3.	MAC Address	0001.C97D.6141
4.	Bridge ID	32729
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
2.	Priority	32769
3.	MAC Address	000C.85EE.71A9
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	Variabel	Nilai
1.	Root ID	32769
2.	Priority	32769
3.	MAC Address	00D0.BA41.375A
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, switch dan port mana saja yang:

- Menjadi root bridge: **SW1**

Terdapat tulisan this bridge is the root

```
Physical Config CLI Attributes
805 Command Line Interface

Press RETURN to get started.

SW1#enable
SW1#show spanning-tree
VLAN0001
Spanning tree enabled protocol STP
Root ID    Address          0011.C97D.4141
           This bridge is the root
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32768 (priority 32768 sys-id-max)
Address     0011.C97D.4141
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       Desg FWD 19        128.3   P2p

SW1#
Ctrl-C to exit CLI mode
```

- Menjadi designated bridge: **SW1**
Fa0/1, Fa0/2, Fa0/3 memiliki status yang konsisten, yaitu Desg

```
Physical Config CLI Attributes
805 Command Line Interface

Press RETURN to get started.

SW1#enable
SW1#show spanning-tree
VLAN0001
Spanning tree enabled protocol STP
Root ID    Priority 32768
Address     0011.C97D.4141
           This bridge is the root
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32768 (priority 32768 sys-id-max)
Address     0011.C97D.4141
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       Desg FWD 19        128.3   P2p

SW1#
Ctrl-C to exit CLI mode
```

- Menjadi root port: **SW2(Fa0/3), SW3(Fa0/2)**
Dilihat dari yang memiliki status root
- Menjadi designated port: **SW1(Fa0/1, Fa0/2, Fa0/3), SW2(Fa0/1, Fa0/2), SW3(Fa0/1)**
Dilihat dari yang memiliki status Desg

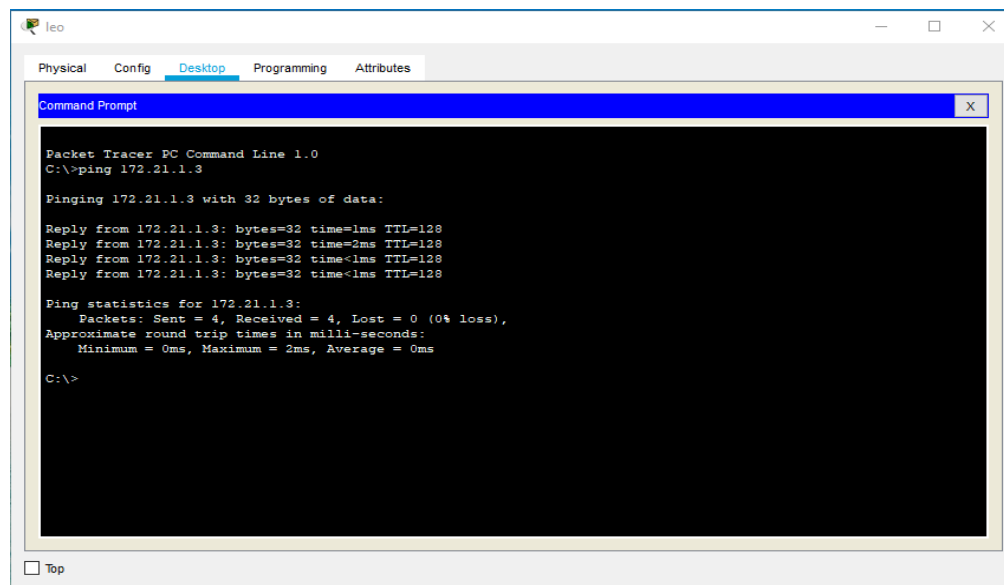
Tugas 4D: Pada kondisi default tersebut, dan port mana saja yang:

- Berada pada keadaan forwarding: **SW1(Fa0/1, Fa0/2, Fa0/3), SW2(Fa0/1, Fa0/2, Fa0/3), SW3(Fa0/1, Fa0/2)**
Dilihat dari yang terdapat tulisan FWD
- Berada pada keadaan blocking: **SW3(Fa0/3)**
Dilihat dari yang terdapat tulisan BLK

Dari PC Leo lakukan ping ke PC Virgo

Tugas 5A: Tulis langkah untuk melakukan perintah ping

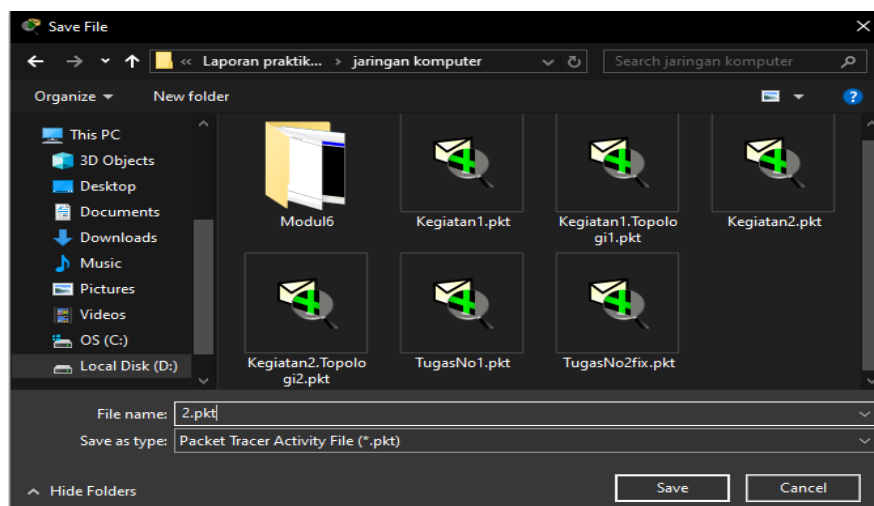
- Klik pada PC Leo
- Pilih desktop
- Pilih command prompt
- Ketik ping 172.21.1.3 (IP Address dari PC Virgo)



Simpan konfigurasi jaringan dengan nama lab2.ekstensi (d disesuaikan dengan ekstensi file masing-masing)

Tugas 6A: Tulis langkah untuk menyimpan konfigurasi jaringan

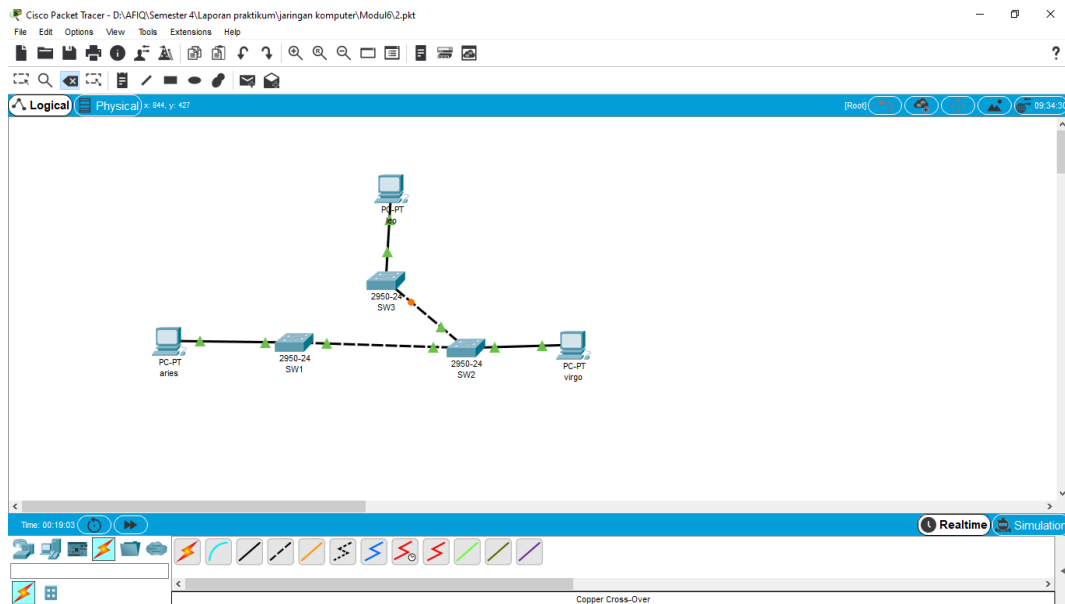
- Klik file
- Klik save as
- Pilih lokasi penyimpanan
- Beri nama file dengan lab2.pkt



- Klik save

2. Kegiatan 2. Topologi 2

Menggunakan packet tracer ubah topologi menjadi seperti topologi berikut ini:



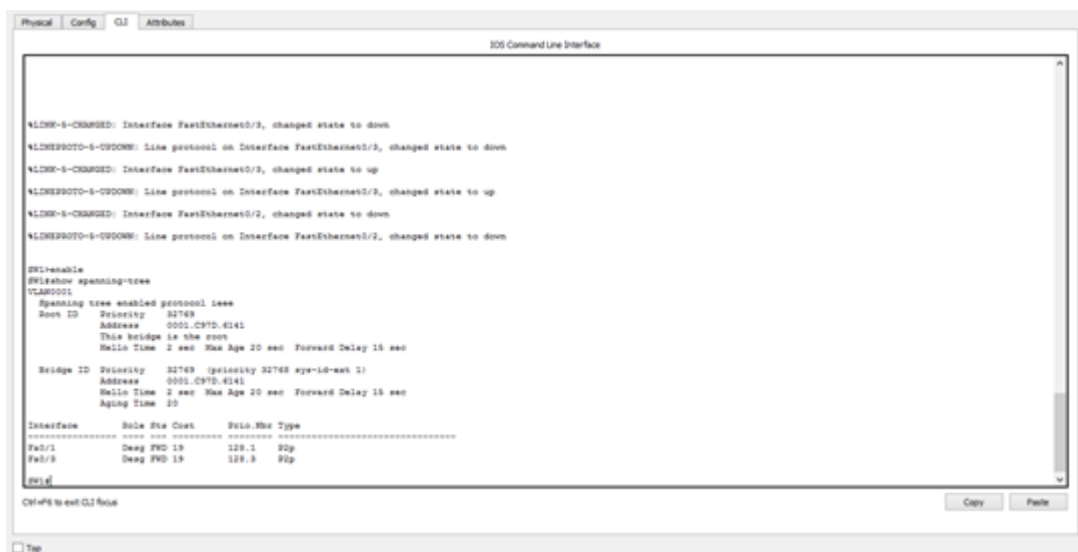
Pada mode user atau mode privileged, lihat status STP pada masing-masing switch.

Langkah pengoperasian:

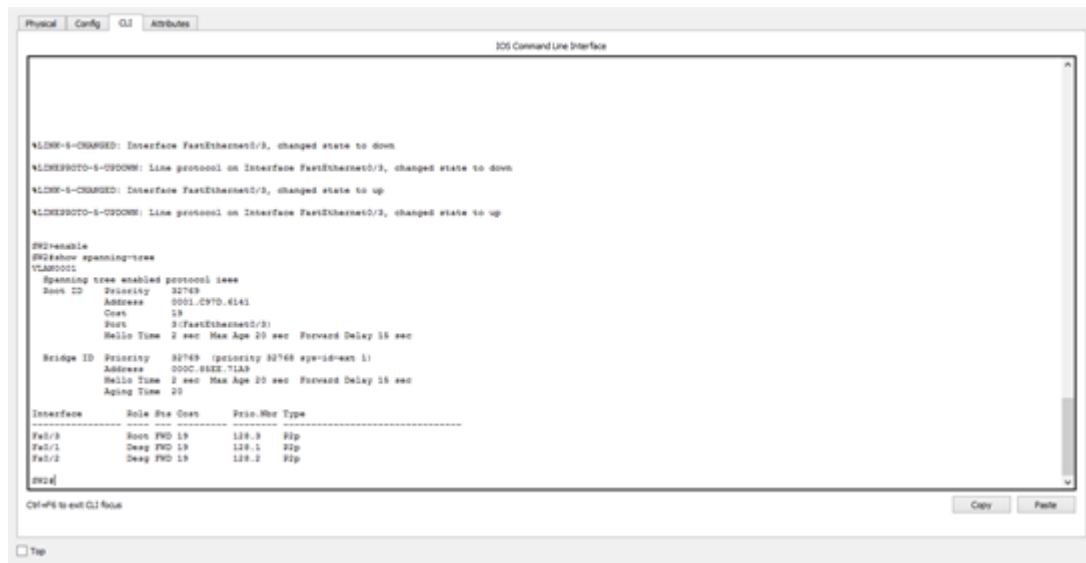
- Tekan enter
- Masuk mode privileged(optional)
- Ketik show spanning tree

Capture masing-masing tampilan status STP switch(SW1, SW2, SW3)

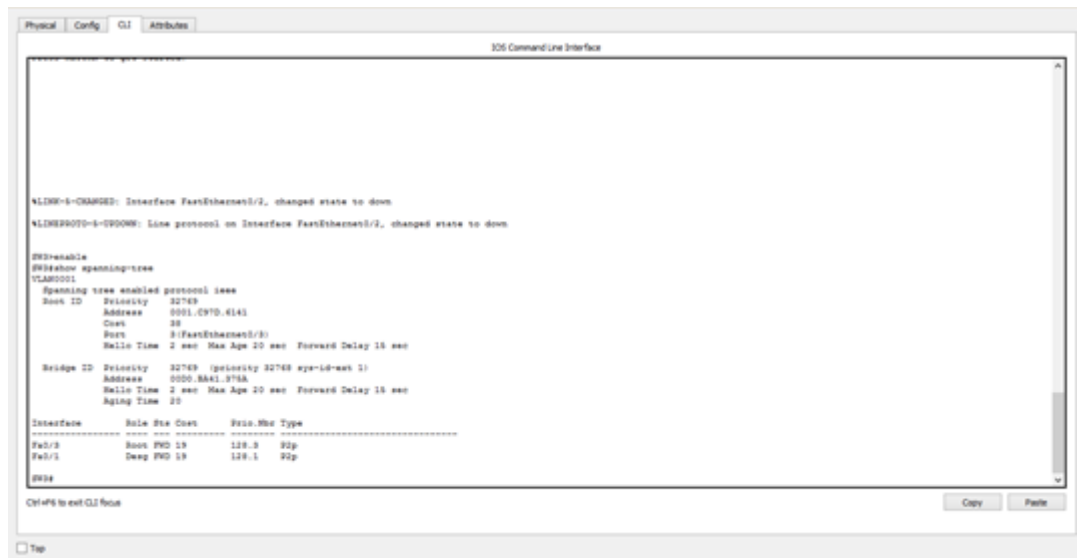
- SW1



- SW2



- SW3



Untuk tiap switch, isikan tabel berikut:

- SW1

No	Variabel	Nilai
1.	Root ID	32769
2.	Priority	32769
3.	MAC Address	0001.C97D.6141
4.	Bridge ID	32729
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
2.	Priority	32769
3.	MAC Address	000C.85EE.71A9
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	Variabel	Nilai
1.	Root ID	32769
2.	Priority	32769
3.	MAC Address	00D0.BA41.375A
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 tersebut, switch dan port mana saja yang:

- Menjadi root bridge: **SW1**

Terdapat tulisan this bridge is the root

```

%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to down
%LINKPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to down
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINKPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to down
%LINKPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down

SW1enable
SW1#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0000.0000.0000
             This bridge is the root
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32769 sys-id-ext 1)
             Address     0001.0970.4141
             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

SW1#

```

- Menjadi designated bridge: **SW1**
Fa0/1, Fa0/3 memiliki status yang konsisten, yaitu Desg

```

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

SW1enable
SW1#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0001.0970.4141
             This bridge is the root
             Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32769 sys-id-ext 1)
             Address     0001.0970.4141
             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

SW1#

```

- Menjadi root port: **SW2(Fa0/3), SW3(Fa0/3)**
Dilihat dari yang memiliki status root
 - Menjadi designated port: **SW1(Fa0/1, Fa0/3), SW2(Fa0/1, Fa0/2), SW3(Fa0/1)**
Dilihat dari yang memiliki status Desg
- Pada kondisi tersebut, dan port mana saja yang:
- Berada pada keadaan forwarding: **SW1(Fa0/1, Fa0/3), SW2(Fa0/1, Fa0/2, Fa0/3), SW3(Fa0/1, Fa0/3)**
Dilihat dari yang terdapat tulisan FWD
 - Berada pada keadaan blocking: **Tidak ada**
Dilihat dari yang terdapat tulisan BLK

Dari PC Leo lakukan ping ke PC Virgo

Tulis langkah untuk melakukan perintah ping

- Klik pada PC Leo
- Pilih desktop
- Pilih command prompt
- Ketik ping 172.21.1.3 (IP Address dari 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=8ms 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 = 8ms, Average = 2ms

C:\>
```