

LAPORAN PRAKTIKUM JARINGAN KOMPUTER

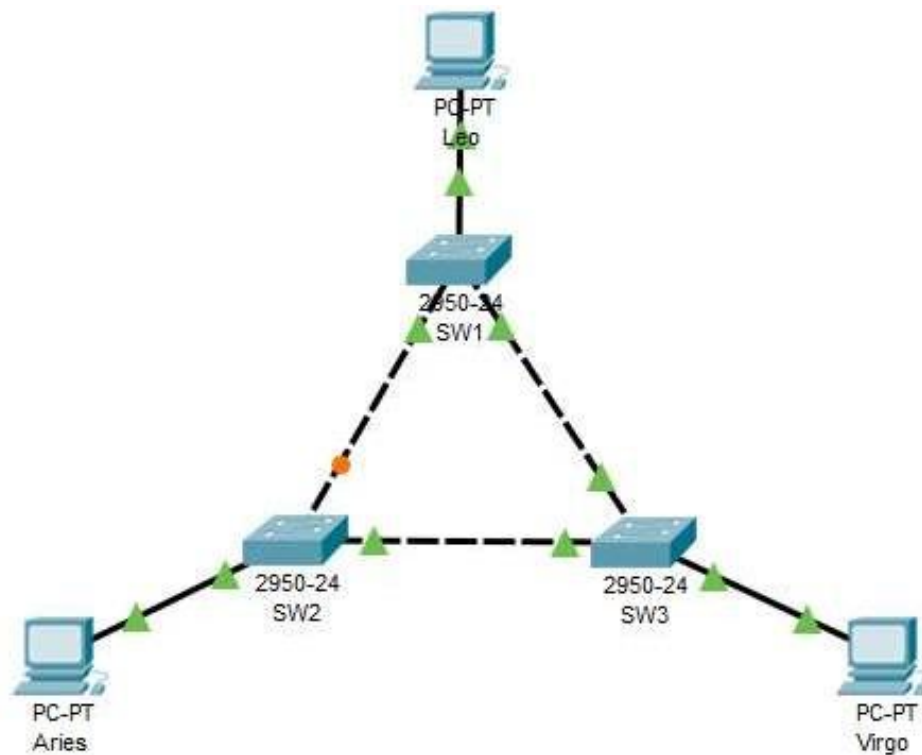
MODUL 6 : Spanning Tree Protocol

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KELAS A

Kegiatan 1. Topologi 1

1. Menggunakan PACKET TRACER buat topologi berikut ini dengan menggunakan switch Catalyst 2950



- Tugas 1A : Tulis langkah pembuatan topologi
 1. Pilih Switch 2950 sebanyak 3 buah.
 2. Pilih PC sebanyak 3 buah.
 3. Gunakan kabel yang auto untuk mempermudah.
 4. Rangkai Rangkaian seperti gambar diatas.

- 2. Beri nama masing-masing switch dengan SW1, SW2 dan SW3
 - Tugas 2A : Tulis langkah pemberian nama switch mulai dari mode user
 1. Klik Switch yang dipilih
 2. Klik Config
 3. Pada pilihan display name ganti dengan nama switch yang diinginkan

- 3. 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

- 4. 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 dan SW3)**

SW1

The screenshot shows a Cisco Packet Tracer interface with a network topology. Three switches (SW1, SW2, SW3) are connected in a triangle. SW1 is connected to PC-PT Leo, SW2 to PC-PT Aries, and SW3 to PC-PT Virgo. The CLI window for SW1 is open, showing the following configuration:

```
Switch>enable
Switch#show spanning-tree
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    0060.4766.A0B7
           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    0060.5C10.12AB
           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	Desig	FWD	19	128.1	P2p
Fa0/3	Desig	FWD	19	128.3	P2p

Switch#

Ctrl+F6 to exit CLI focus

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SW2

The screenshot shows the same Cisco Packet Tracer interface, but with the CLI window for SW2 open. The configuration for SW2 is as follows:

```
Switch>enable
Switch#show spanning-tree
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    0060.4766.A0B7
           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.D342.BC53
           Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec
           Aging Time 20
```

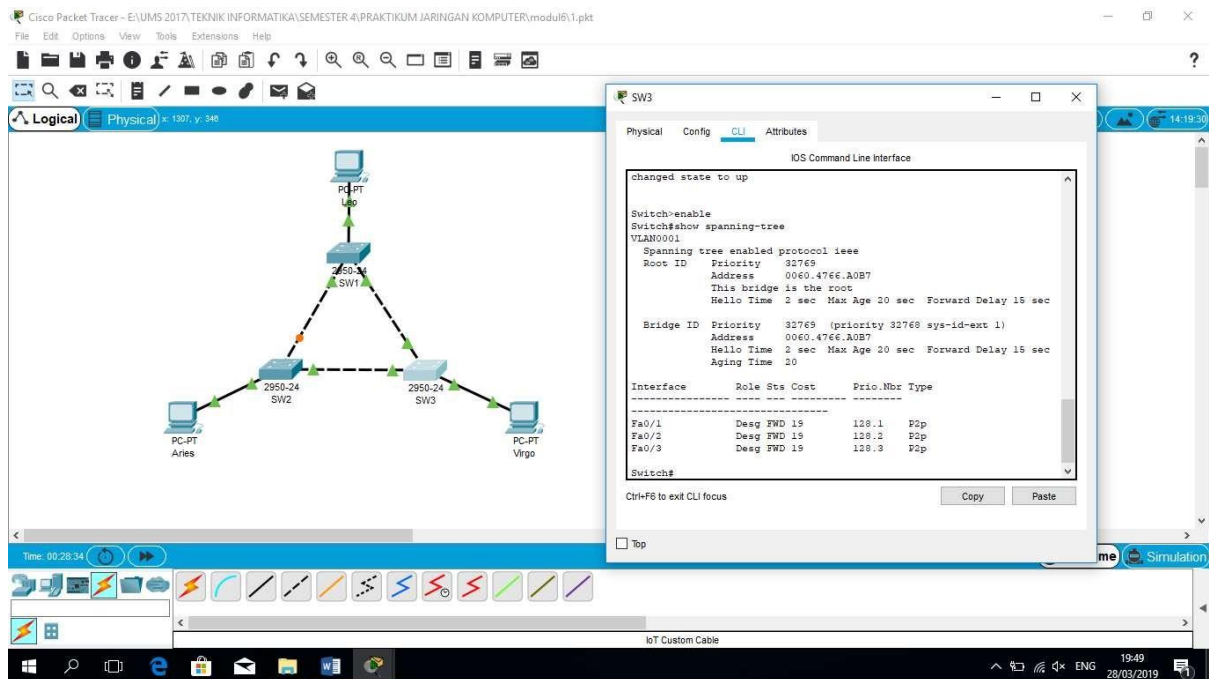
Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/2	Root	FWD	19	128.2	P2p
Fa0/3	Altn	BLK	19	128.3	P2p
Fa0/1	Desig	FWD	19	128.1	P2p

Switch#

Ctrl+F6 to exit CLI focus

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SW3



- **Tugas 4B : Untuk tiap-tiap switch, isikan table berikut:**

SW1

N o	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Root,FWD,19 0/3;Desg,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

SW2

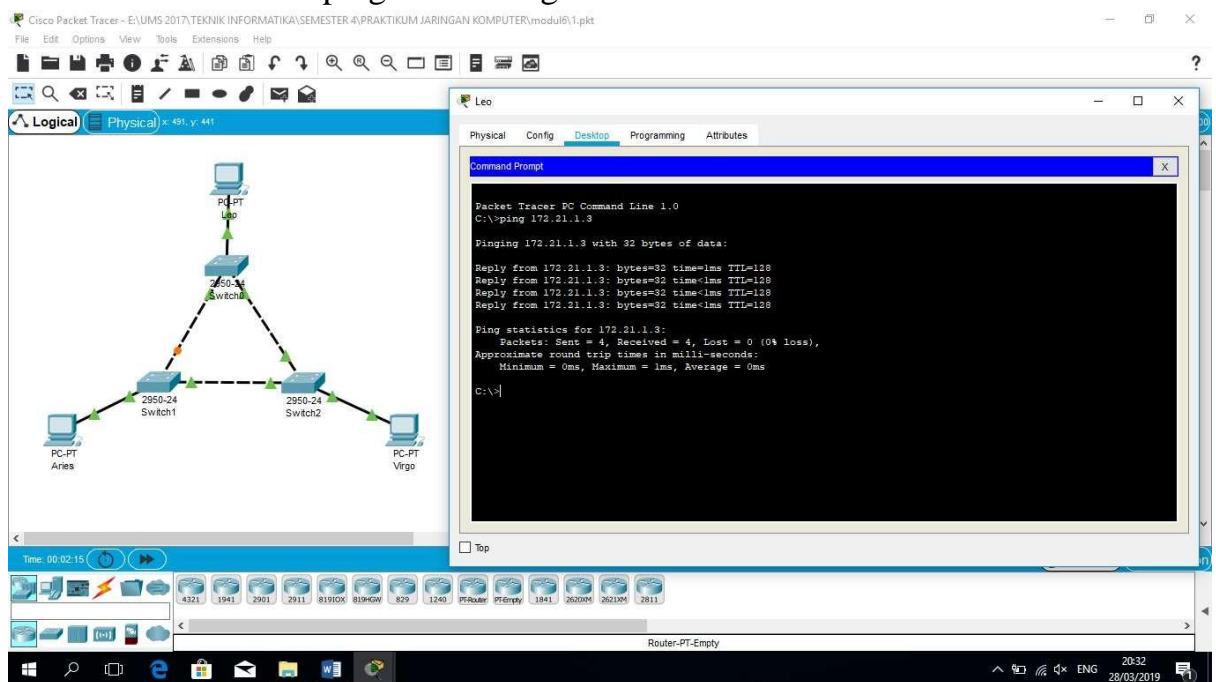
No	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Root,FWD,19 0/3;Altn,BLK,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

SW3

No	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Desg,FWD,19 0/3;Desg,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

- **Tugas 4C : Pada Kondisi default, switch dan port mana saja yang:**
 - ✓ Menjadi root bridge : SW3
 - ✓ Menjadi designated bridge : SW3
 - ✓ Menjadi root port : SW1(Fa0/2) dan SW2(Fa0/2)
 - ✓ Menjadi designated port : SW1(Fa0/1, Fa0/3), SW2(Fa0/1) dan SW3(Fa0/1, Fa0/2, Fa0/3)
- **Tugas 4D : Pada Kondisi default, switch dan port mana saja yang:**
 - ✓ Berada pada keadaan forwarding : SW1(Fa0/1, Fa0/2, Fa0/3), SW2(Fa0/1, Fa0/2) dan SW3(Fa0/1, Fa0/2, Fa0/3)
 - ✓ Berada pada keadaan blocking : SW2(Fa0/3)

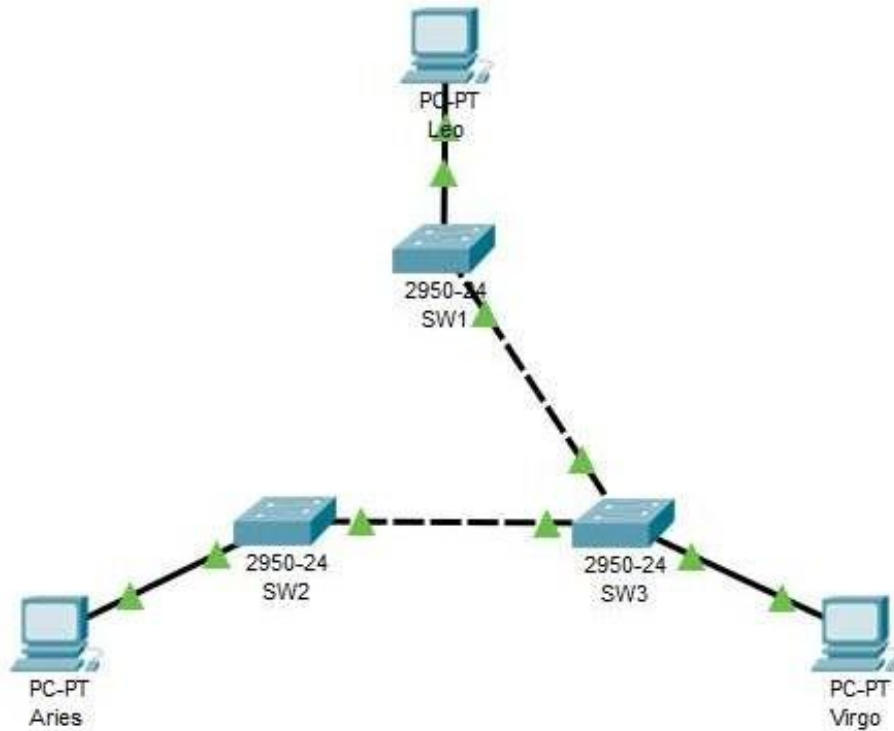
5. Dari PC Leo lakukan ping ke PC Virgo



- **Tugas 5A : Tulis langkah untuk menyimpan perintah ping**
 - ✓ Klik pada PC Leo
 - ✓ Klik Desktop
 - ✓ Klik Command Prompt
 - ✓ Klik Ping IP PC Virgo

Kegiatan 2. Topologi 2

1. Menggunakan PACKET TRACER buat topologi berikut ini dengan menggunakan switch Catalyst 2950



- Tugas 1A : Tulis langkah pembuatan topologi
 1. Pilih Switch 2950 sebanyak 3 buah.
 2. Pilih PC sebanyak 3 buah.
 3. Gunakan kabel yang auto untuk mempermudah.
 4. Rangkai Rangkaian seperti gambar diatas.
- 2. Beri nama masing-masing switch dengan SW1, SW2 dan SW3
 - Tugas 2A : Tulis langkah pemberian nama switch mulai dari mode user
 1. Klik Switch yang dipilih
 2. Klik Config
 3. Pada pilihan display name ganti dengan nama switch yang diinginkan

3. 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

4. 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 dan SW3)

SW1

The screenshot displays the Cisco Packet Tracer interface. On the left, a network topology is visible with three switches (SW1, SW2, SW3) and three PCs (Leo, Aries, Virgo). SW1 is connected to SW2 and SW3, and PC Leo is connected to SW1. SW2 is connected to SW3, and PC Aries is connected to SW2. SW3 is connected to PC Virgo. The right side of the screen shows the CLI window for SW1, displaying the output of the 'show spanning-tree' command. The output shows that STP is enabled on SW1, with the root bridge ID being 32769 (priority 32769, address 0060.4766.A0B7). The bridge ID for SW1 is 32769 (priority 32769, address 0060.5C10.1EAB). The output also shows the STP status for the interfaces Fa0/3 and Fa0/2.

```
Switch#enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address    0060.4766.A0B7
              Cost        19
              Port        2 (FastEthernet0/2)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

    Bridge ID  Priority    32769 (priority 32769 sys-id-ext 1)
              Address    0060.5C10.1EAB
              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 15 128.3 P2p
Fa0/2 Root FWD 19 128.2 P2p

Switch#
```


SW2

Cisco Packet Tracer - E:\UMS 2017\TEKNIK INFORMATIKA\SEMESTER 4\PRAKTIKUM JARINGAN KOMPUTER\modul6\2.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 386, y: 174

Time: 00:05:51

Router-PT

20:45
28/03/2019

SW2

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    32768
              Address    0060.4766.A0B7
              Cost        19
              Port        2 (FastEthernet0/2)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
    Bridge ID  Priority    32768 (priority 32768 sys-id-ext 1)
              Address    0000.D942.BC93
              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 15 128.1 P2p
Fa0/2 Root FWD 19 128.2 P2p
```

Ctrl+F6 to exit CLI focus

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Top

Simulation

SW3

Cisco Packet Tracer - E:\UMS 2017\TEKNIK INFORMATIKA\SEMESTER 4\PRAKTIKUM JARINGAN KOMPUTER\modul6\2.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 474, y: 268

Time: 00:06:31

Router-PT

20:46
28/03/2019

SW3

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    32768
              Address    0060.4766.A0B7
              Cost        19
              Port        2 (FastEthernet0/2)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
    Bridge ID  Priority    32768 (priority 32768 sys-id-ext 1)
              Address    0060.4766.A0B7
              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 Desg FWD 19 128.3 P2p
Fa0/1 Desg FWD 19 128.1 P2p
```

Ctrl+F6 to exit CLI focus

Copy Paste

Top

Simulation

- **Tugas 4B : Untuk tiap-tiap switch, isikan table berikut:**

SW1

N o	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/2;Root,FWD,19 0/3;Desg,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

SW2

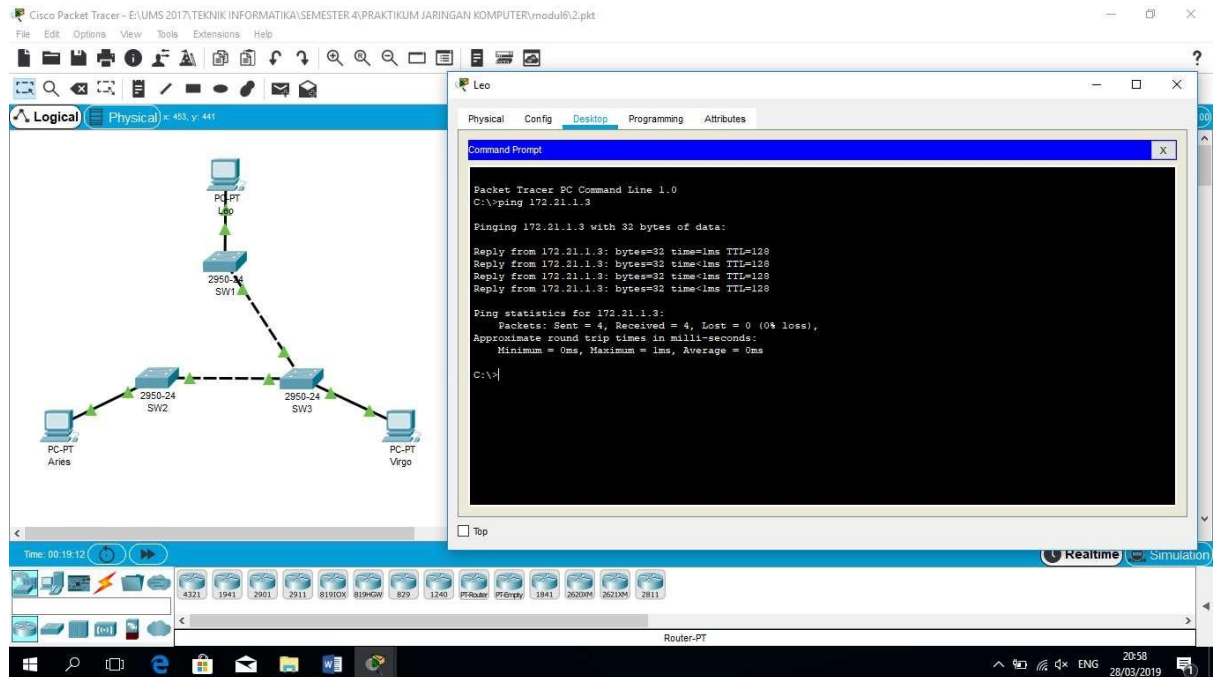
N o	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Root,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

SW3

No	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Desg,FWD,19 0/3;Desg,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

- Tugas 4C : Pada Kondisi default, switch dan port mana saja yang:
 - ✓ Menjadi root bridge : SW3
 - ✓ Menjadi designated bridge : SW3
 - ✓ Menjadi root port : SW1(Fa0/2) dan SW2(Fa0/2)
 - ✓ Menjadi designated port : SW1(Fa0/3), SW2(Fa0/1) dan SW3(Fa0/1, Fa0/2, Fa0/3)
- Tugas 4D : Pada Kondisi default, switch dan port mana saja yang:
 - ✓ Berada pada keadaan forwarding : SW1(Fa0/2, Fa0/3), SW2(Fa0/1, Fa0/2) dan SW3(Fa0/1, Fa0/2, Fa0/3)
 - ✓ Berada pada keadaan blocking : -

5. Dari PC Leo lakukan ping ke PC Virgo



- Tugas 5A : Tulis langkah untuk menyimpan perintah ping
 - ✓ Klik pada PC Leo
 - ✓ Klik Desktop
 - ✓ Klik Command Prompt