

# LAPORAN PRAKTIKUM JARINGAN KOMPUTER

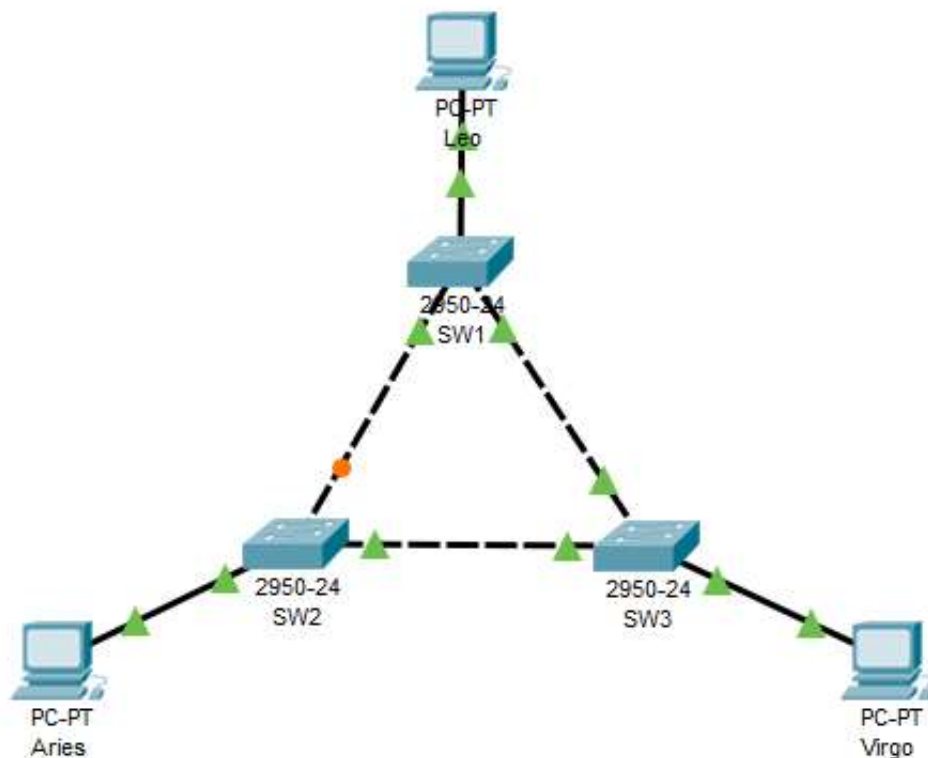
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## MODUL 6 ( Spanning Tree Protocol )

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KELAS : A  
NAMA ASSISTANT LAB : BERLIAN  
TANGGAL PRAKTIKUM : 27/03/2019

### 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

Cisco Packet Tracer - E:\UMS 2017\TEKNIK INFORMATIKA\SEMESTER 4\PRAKTIKUM JARINGAN KOMPUTER(modul6)\1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 1304, y: 413

SW1

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    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    0060.5C18.1EAB
             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
Fa0/3	Desg	FWD	19	128.3	P2p

Switch#

Ctrl+F8 to exit CLI focus

Copy Paste

Time: 00:26:16

Realtime Simulation

IoT Custom Cable

1 new notification

19:46 28/03/2019

## SW2

Cisco Packet Tracer - E:\UMS 2017\TEKNIK INFORMATIKA\SEMESTER 4\PRAKTIKUM JARINGAN KOMPUTER(modul6)\1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 393, y: 109

SW2

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    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.BC93
             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

Switch#

Ctrl+F8 to exit CLI focus

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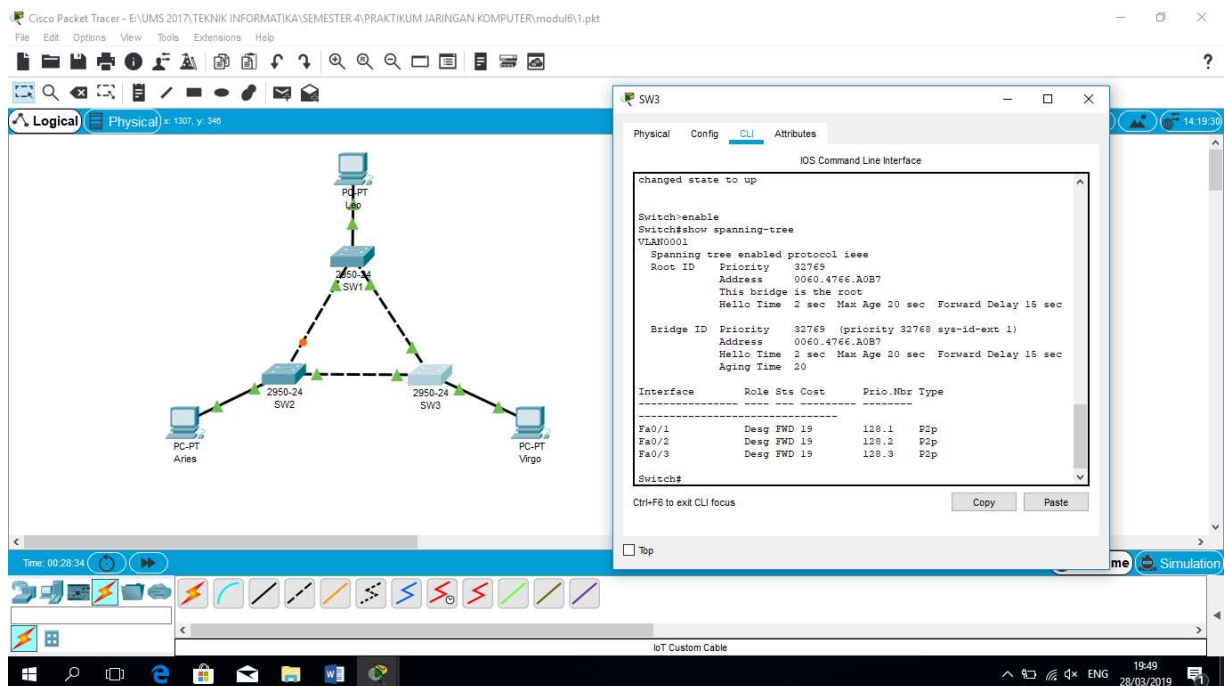
Time: 00:27:46

Realtime Simulation

IoT Custom Cable

19:48 28/03/2019

## SW3



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

## SW1

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;Desg,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

## SW2

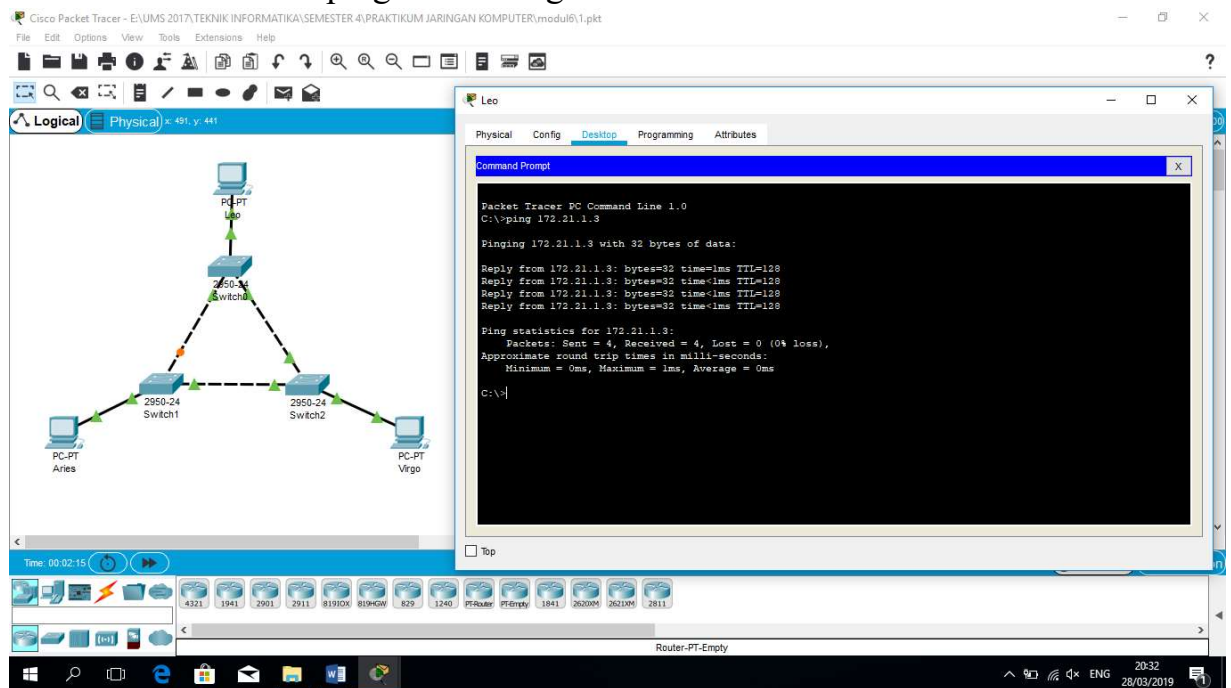
No	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Root,FWD,19 0/3;Altn,BLK,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

## 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)

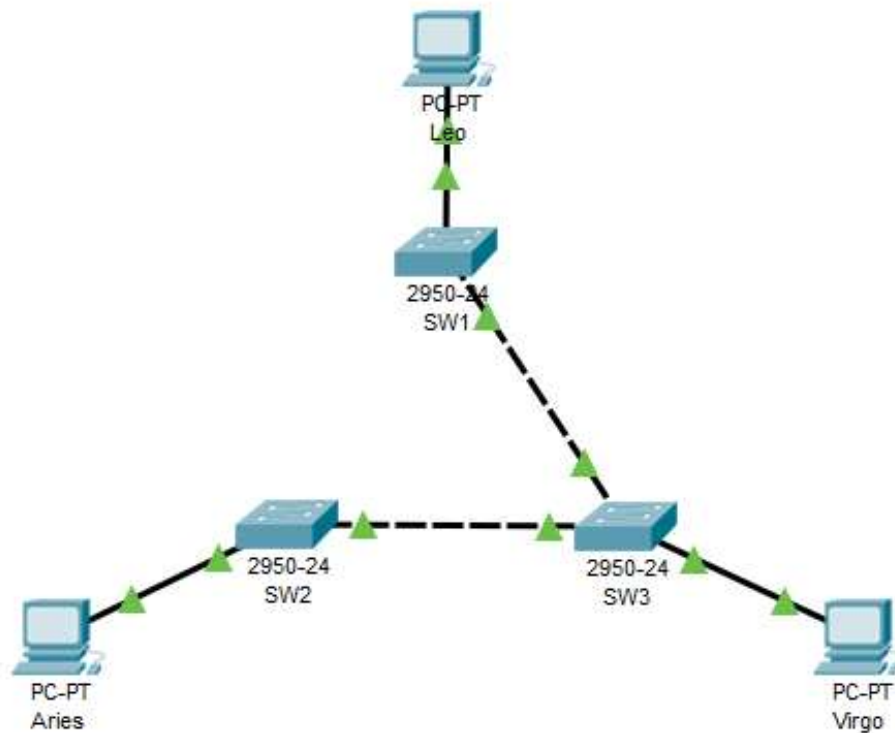
## 5. Dari PC Leo lakukan ping ke PC Virgo



- 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 shown 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 PC Aries, and SW3 is connected to PC Virgo. The switches are labeled '2950-24'. The PCs are labeled 'PC-PT'. The interface shows the 'Physical' tab selected, and the 'SW1' window is open, displaying the 'CLI' tab. The CLI output shows the status of the spanning tree protocol on SW1.

```
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    0060.5C19.1EAB
           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 19        128.3   P2p
Fa0/2       Root FWD 19        128.2   P2p

Switch#
```

The bottom of the screen shows the Windows taskbar with the time 20:44 and date 28/03/2019.



## 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 + 389, y: 174

Time: 00:05:51

Router-PT

1 new notification

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    32769
             Address     00E0.4766.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.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 19 128.1 P2p
Fa0/2 Root FWD 19 128.2 P2p

Switch#
```

Ctrl+F6 to exit CLI focus

Copy Paste

Top

## 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 + 474, y: 208

Time: 00:06:31

Router-PT

1 new notification

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    32769
             Address     00E0.4766.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     00E0.4766.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

Switch#
```

Ctrl+F6 to exit CLI focus

Copy Paste

Top

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

### SW1

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)	0/2;Root,FWD,19 0/3;Desg,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

### SW2

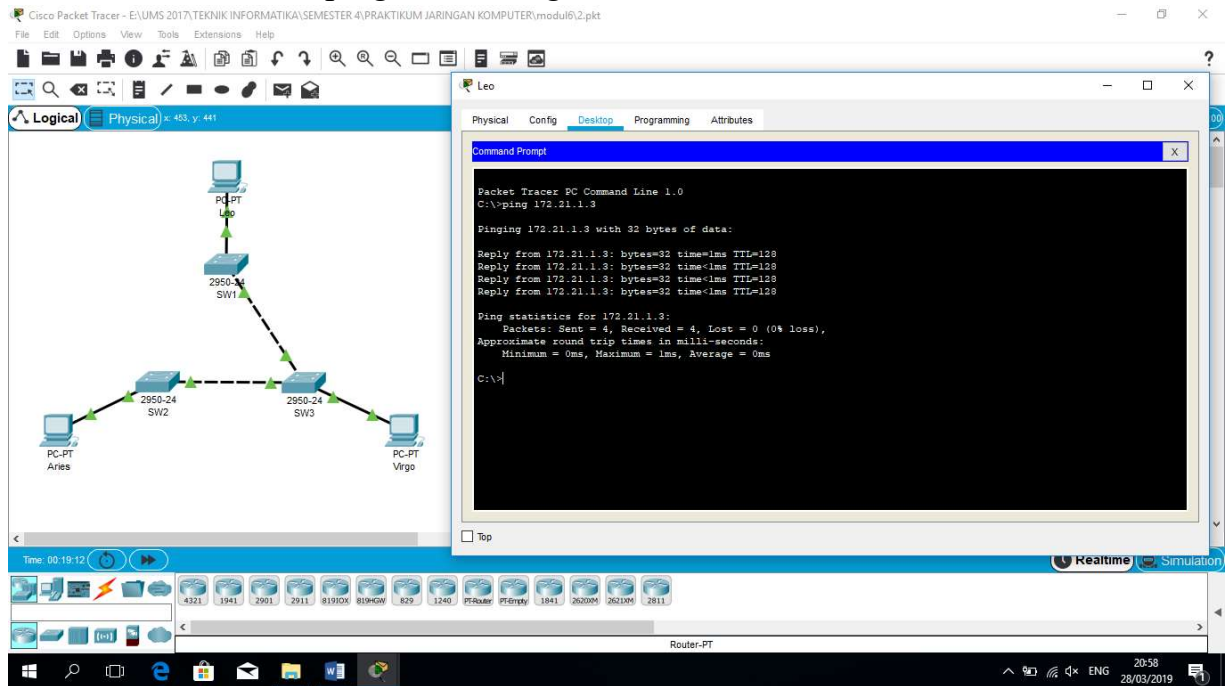
No	Variabel	Nilai
1	Root ID	32769, 0060.4766.A0B7
2	Priority	32769
3	MAC Address	0060.4766.A0B7
4	Bridge ID	32769, 0060.4766.A0B7
5	Cost(0/1;0/2;0/3)	0/1;Desg,FWD,19 0/2;Root,FWD,19
6	Hello Time	2 sec
7	Max Age	20 sec
8	Forward Delay	15 sec

### 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