

NAMA : DANANG AJI N

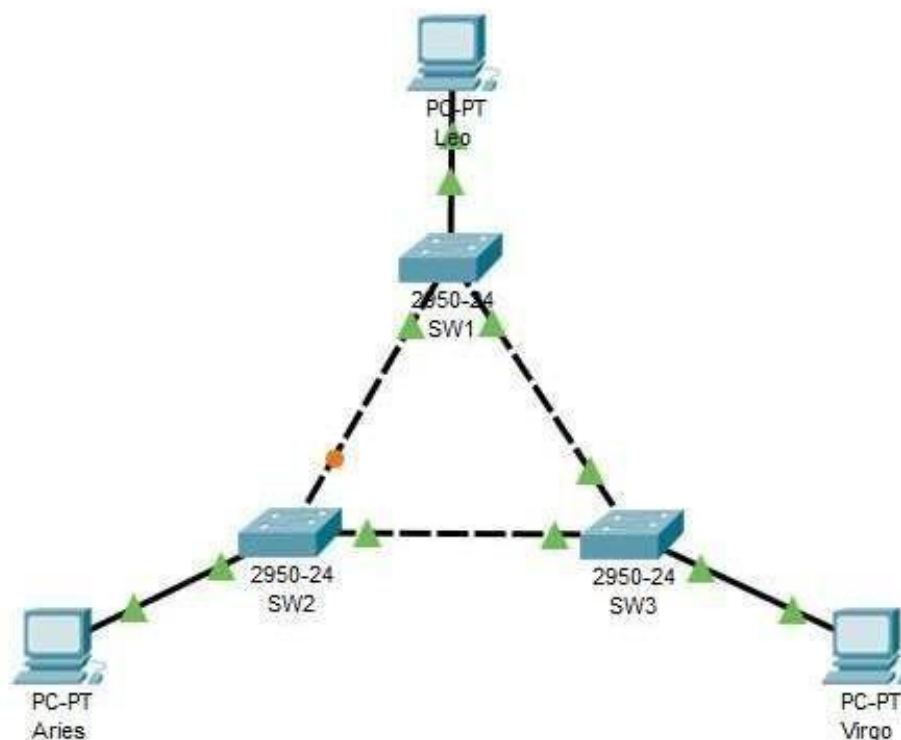
NIM : L200180015

KELAS : A

MODUL 6 : SPANNING TREE PROTOCOL

KEGIATAN 1. TOPOLOGI 1

1. MENGGUNAKAN PACKET TRACER BUAT TOPOLOGI
BERIKUT INIDENGAN 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.

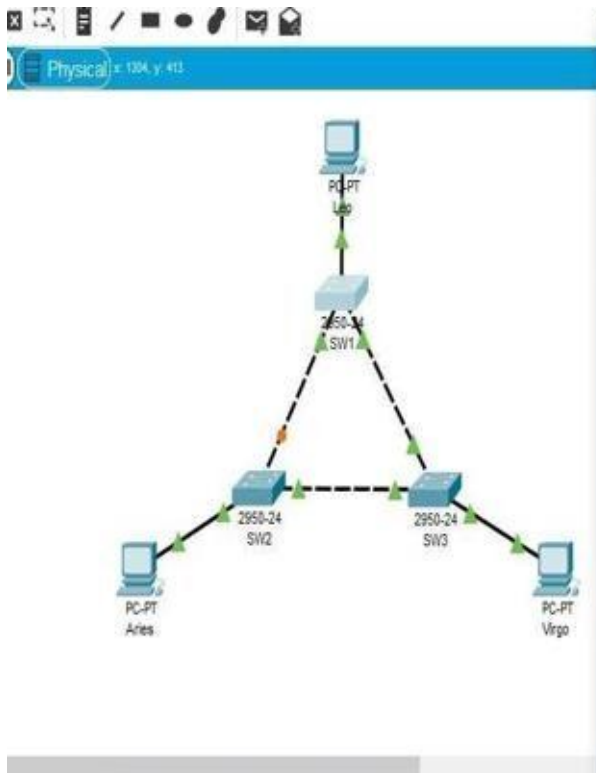
- 2. BERI NAMA MASING-MASING SWITCH DENGAN SW1, SW2 DAN SW3
 - TUGAS 2A : TULIS LANGKAH PEMBERIAN NAMA SWITCH MULAI DARI MODE USER
 1. KLIK SWITCH YANG DIPILIH
 2. KLIK CONFIG
 3. PADA PILIHAN DISPLAY NAME GANTI DENGAN NAMA SWITCH YANG DIINGINKAN

- 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

: PADA KONDISI DEFAULT, CAPTURE MASING-MASING TAMPILAN STATUS STP SWITCH (SW1, SW2 DAN SW3)

SW1



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
  
```

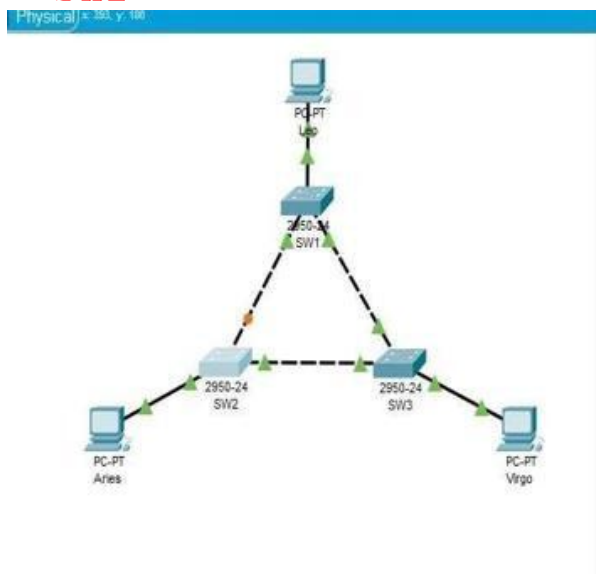
Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/2	Root FWD	19	128.2	F2p	
Fa0/1	Desig FWD	19	128.1	F2p	
Fa0/3	Desig FWD	19	128.3	F2p	

Switch#

Ctrl+F6 to exit CLI focus

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SW2



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
  
```

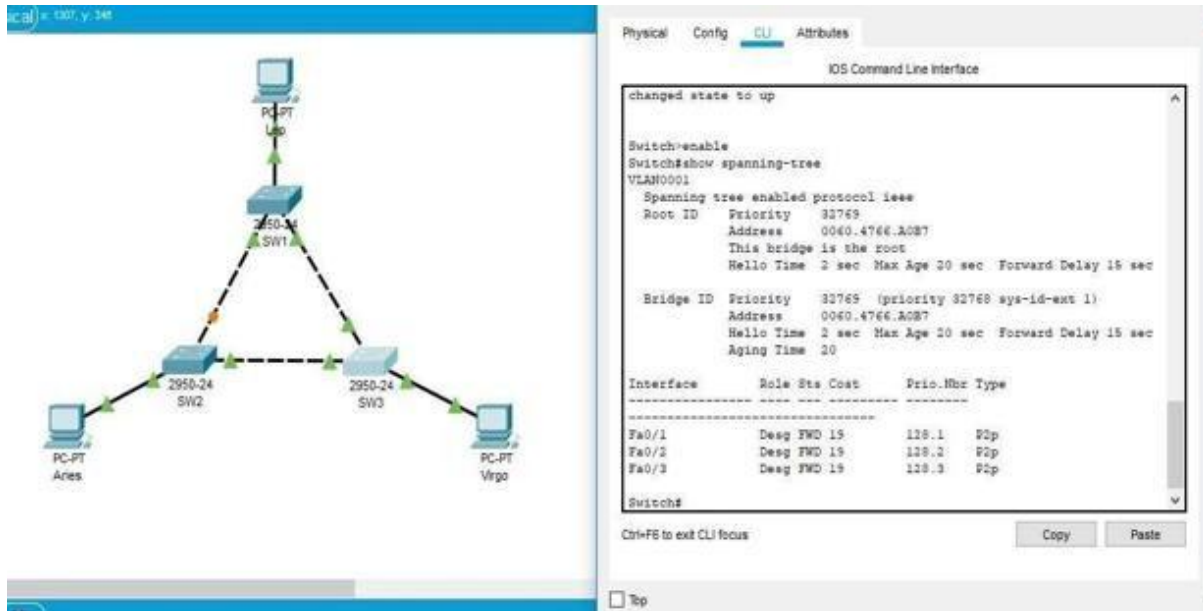
Interface	Role	Sts	Cost	Prio.Nbr	Type
Fa0/2	Root FWD	19	128.2	F2p	
Fa0/3	Altn BLK	19	128.3	F2p	
Fa0/1	Desig FWD	19	128.1	F2p	

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

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;ALTN,BLK,19
6	HELLO TIME	2 SEC
7	MAX AGE	20 SEC
8	FORWARD DELAY	15 SEC

SW3

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;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:**

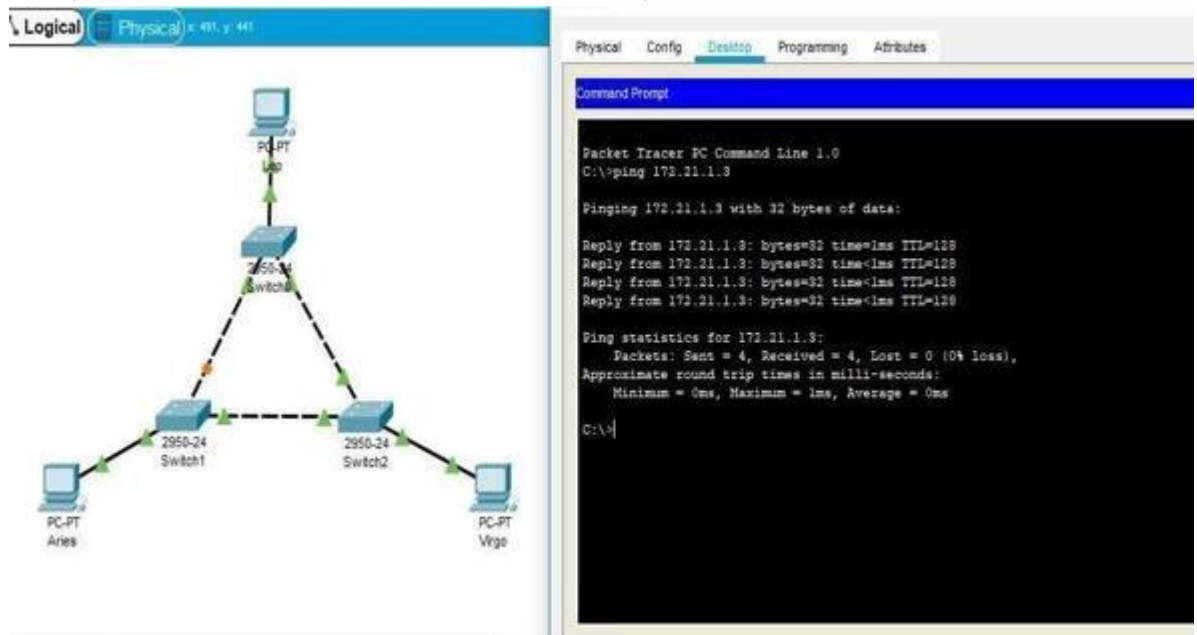
- MENJADI ROOT BRIDGE : SW3
- MENJADI DESIGNATED BRIDGE : SW3
- MENJADI ROOT PORT : SW1(FA0/2) DAN SW2(FA0/2)
- MENJADI DESIGNATED PORT : SW1(FA0/1, FA0/3), SW2(FA0/1) DAN

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

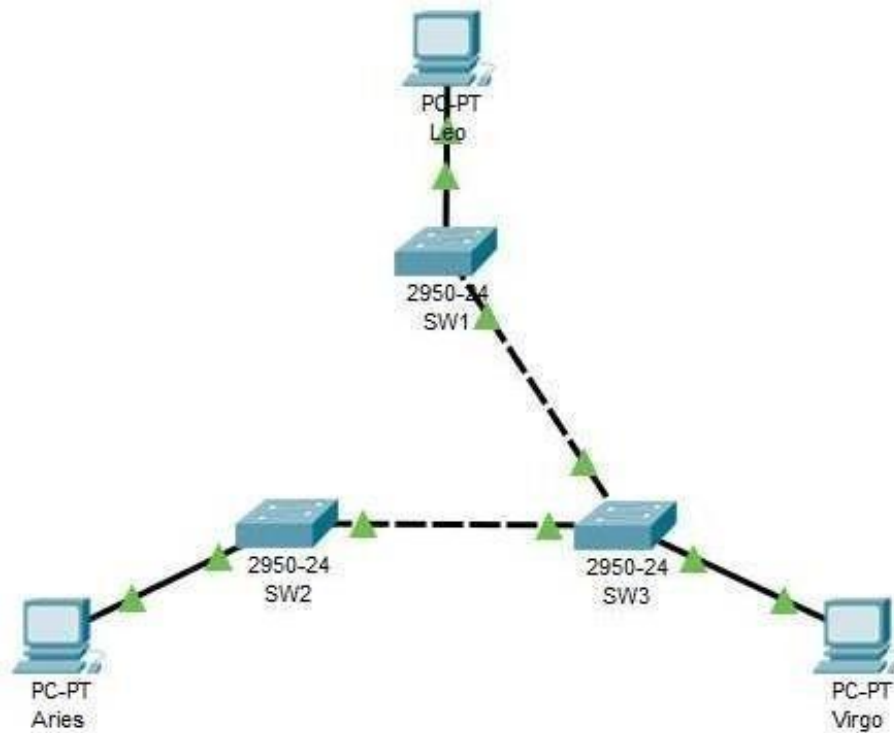


• **TUGAS 5A : TULIS LANGKAH UNTUK MENYIMPAN PERINTAH PING**

- ✓ KLIK PADA PC LEO
- ✓ KLIK DESKTOP
- ✓ KLIK COMMAND PROMPT
- ✓ KLIK PING IP PC VIRGO

KEGIATAN 2

1. MENGGUNAKAN PACKET TRACER BUAT TOPOLOGI BERIKUT INIDENGAN 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 image displays a network diagram on the left and a CLI screenshot on the right. The network diagram shows three switches: SW1 (top), SW2 (bottom left), and SW3 (bottom right). SW1 is connected to PC-PT LEO. SW2 is connected to PC-PT Aries. SW3 is connected to PC-PT Virgo. SW1 is connected to SW2 and SW3. SW2 and SW3 are connected to each other. The CLI screenshot shows the command 'show spanning-tree' being executed on SW1, displaying the status of the spanning tree protocol.

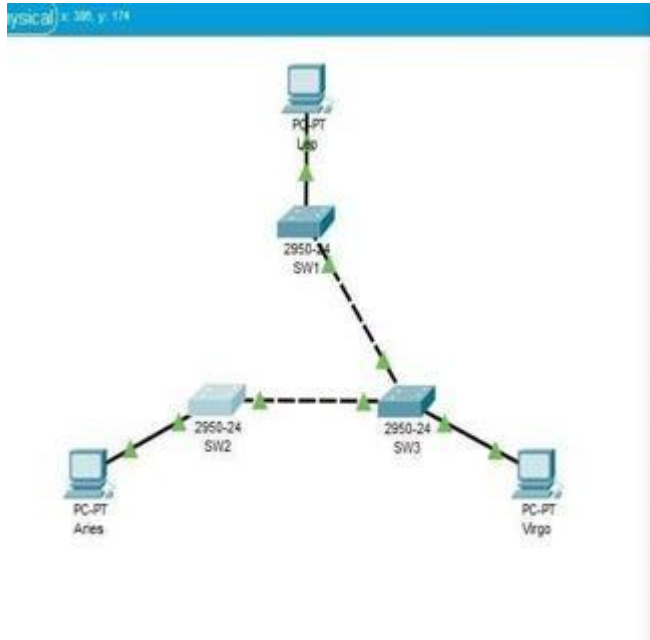
```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0060.4766.A0B7
             Cost        19
             Port        2(FastEthernet0/2)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32769 sys-id-ext 1)
             Address     0060.5C1B.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    F0p
Fa0/2        Root FWD 19      128.2    D1p

Switch#
```


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     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.D842.BC98
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20
  
```

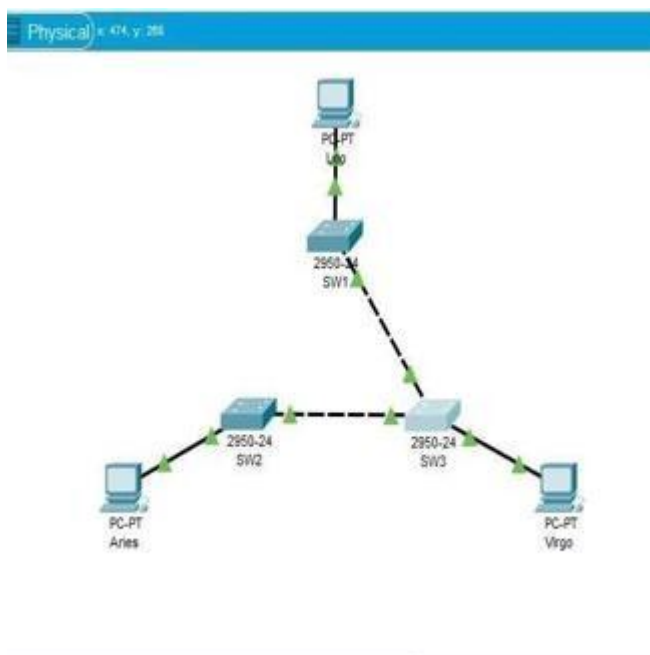
Interface	Role	Sts	Cost	Prio	Nbr	Type
Fa0/1	Desg	FWD	19	128.1		P2p
Fa0/2	Root	FWD	19	128.2		P2p

Switch#

Ctrl+F6 to exit CLI focus

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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     0060.4766.A0B7
             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     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

Switch#

Ctrl+F6 to exit CLI focus

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- **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

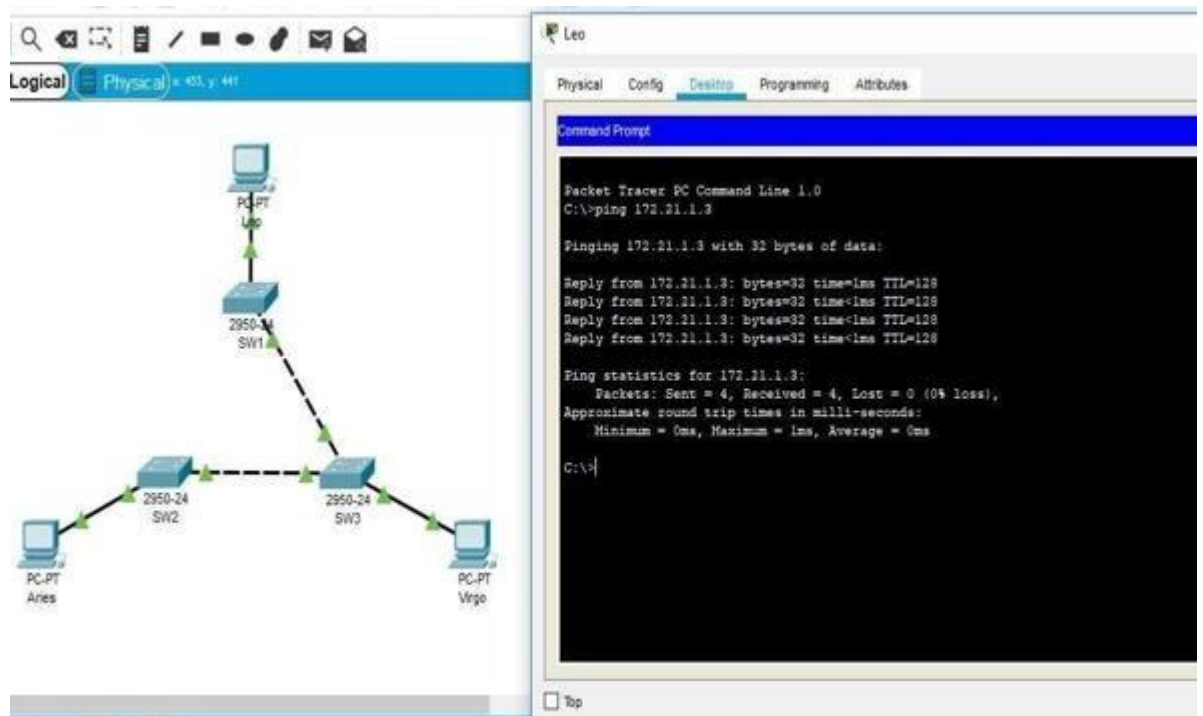
N O	VARIABEL	NILAI
1	ROOT ID	32769, 0060.4766.A0B7
2	PRIORITY	32769
3	MAC ADDRESS	0060.4766.A0B7
4	BRIDGE ID	32769, 0060.4766.A0B7
5	COST(0/1;0/2 ;0/ 3)	0/1;DESG,FWD,19 0/2;ROOT,FWD,19
6	HELLO TIME	2 SEC
7	MAX AGE	20 SEC
8	FORWARD DELAY	15 SEC

SW3

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;DESIG,FWD,19 0/2;DESIG,FWD,19 0/3;DESIG,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