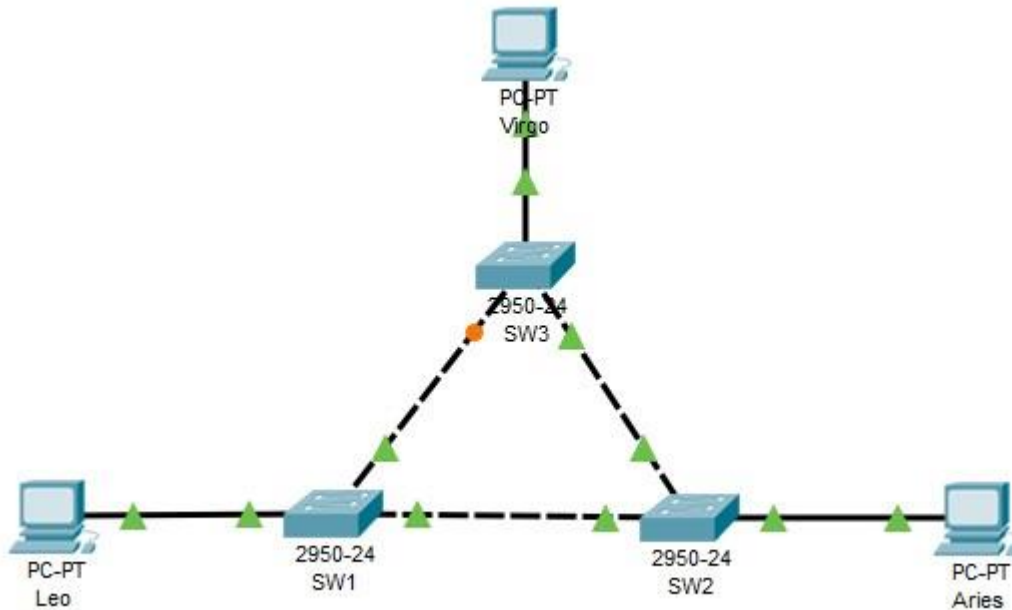


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## MODUL 6

### Kegiatan 1. Topologi 1

1. Membuat desain topologi



Menginputkan atau mencari PC dan switch masing-masing sebanyak 3 buah, kemudian hubungkan dengan kabel.

2. Ubah nama Switch menjadi SW1, SW2, dan SW3, seperti contoh pada SW1, kemudian lakukan hal sama pada SW2 dan SW3. Atau juga bias langsung meng-klik tulisan Switch0, Switch1, dan Switch2 kemudian tinggal mengganti Namanya menjadi SW1, SW2, dan SW3



### 3. Mengkonfigurasi IP address pada masing masing PC

Leo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.1.1

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

Aries

Physical Config **Desktop** Programming Attributes

☐ 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

Virgo

Physical Config **Desktop** Programming Attributes

☐ 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

### 4. Melihat status STP pada masing-masing Switch

- SW1

SW1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch>
Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address     0030.A363.84A9
            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     0060.4776.CE60
            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
Fa0/3                Desg FWD 19        128.3    P2p

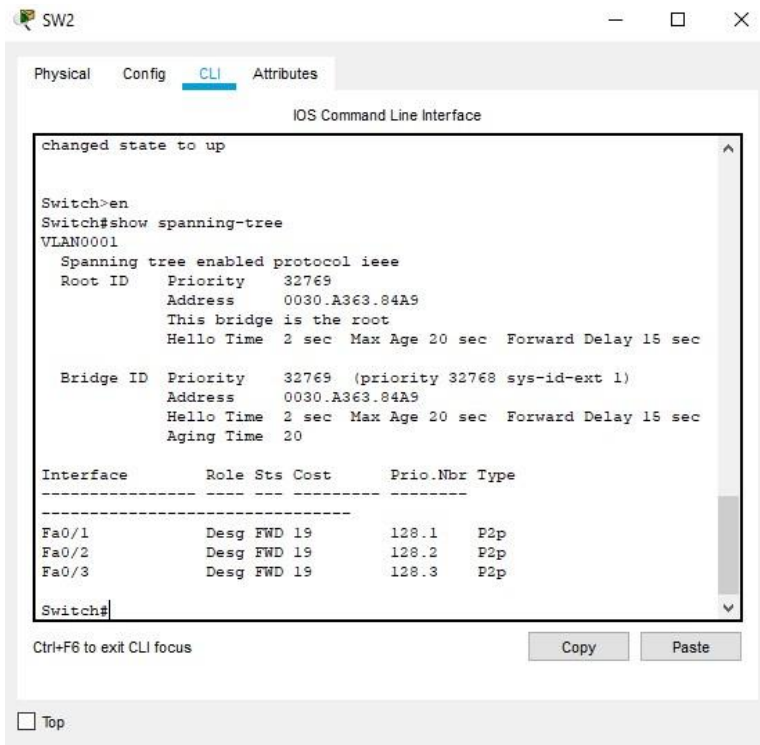
Switch#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

- SW2



The screenshot shows the CLI of switch SW2. The command `show spanning-tree` has been executed, displaying the spanning-tree configuration for VLAN0001. The output indicates that the bridge is the root of the tree. Below the main output, a table lists the interfaces and their roles.

```
changed state to up

Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0030.A363.84A9
             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     0030.A363.84A9
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

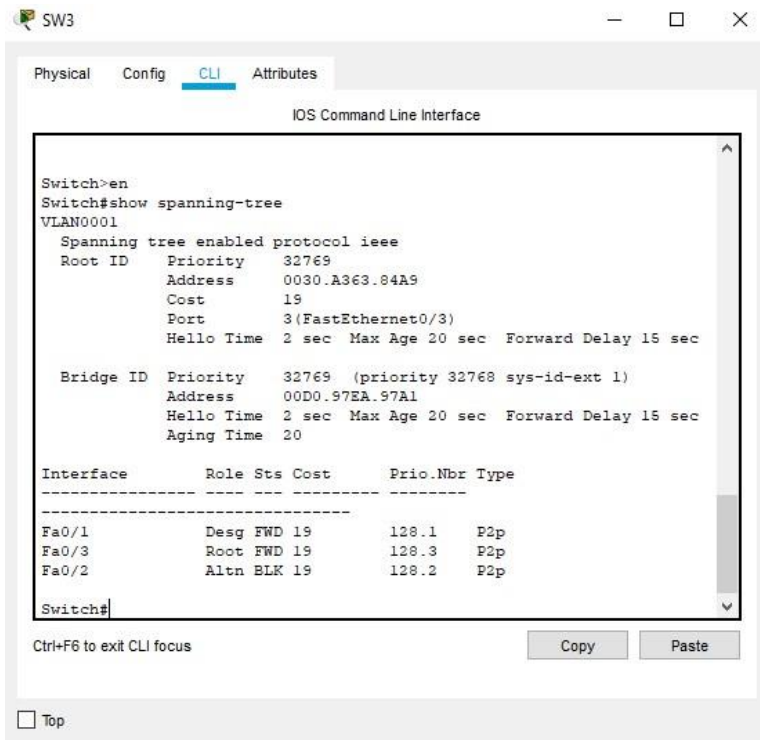
Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/1        Desg FWD 19        128.1    P2p
Fa0/2        Desg FWD 19        128.2    P2p
Fa0/3        Desg FWD 19        128.3    P2p

Switch#
```

Buttons: Copy, Paste

Top

- SW3



The screenshot shows the CLI of switch SW3. The command `show spanning-tree` has been executed, displaying the spanning-tree configuration for VLAN0001. The output indicates that the bridge is not the root of the tree. Below the main output, a table lists the interfaces and their roles.

```
Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0030.A363.84A9
             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     00D0.97EA.97A1
             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        Root FWD 19        128.3    P2p
Fa0/2        Altn BLK 19        128.2    P2p

Switch#
```

Buttons: Copy, Paste

Top

- Mengisi table pada masing masing switch

- SW1

No.	Variabel	Nilai
1.	Root ID	32769 : 0030.A363.84A9
2.	Priority	32769
3.	MAC Address	0060.4775.CE60
4.	Bridge ID	32769 : 0060.4775.CE60
5.	Cost (0/1;0/2;0/3)	0/1 -> 19 0/2 -> 19 0/3 -> 19
6.	Hello Time	2 sec
7.	Max Age	20 sec
8.	Forward Delay	15 sec

- SW2

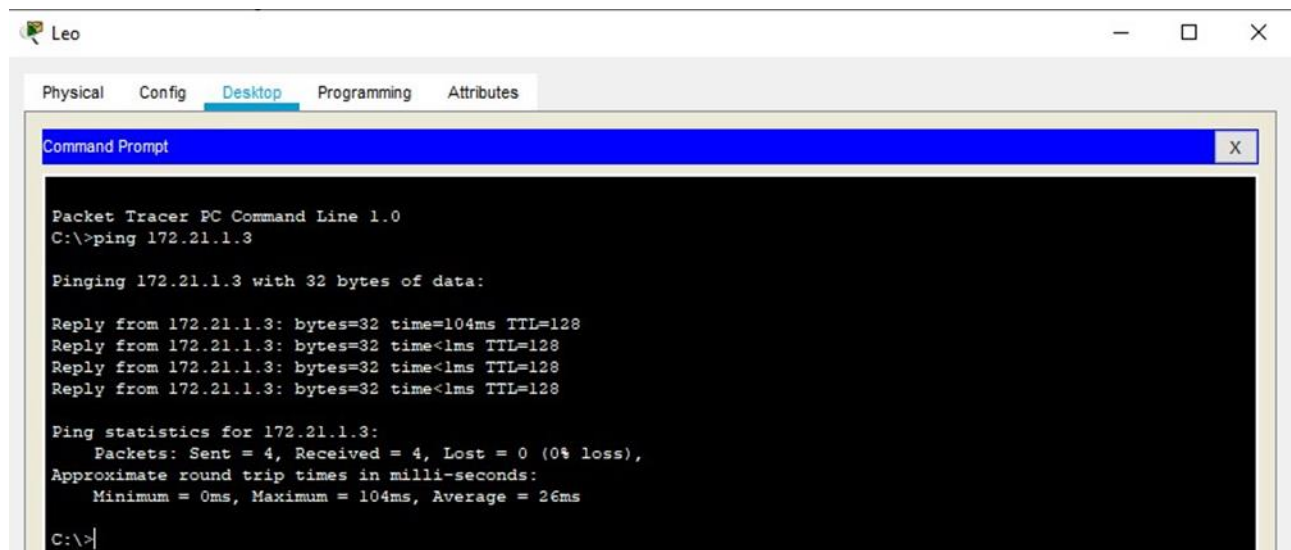
No.	Variabel	Nilai
1.	Root ID	32769 : 0030.A363.84A9
2.	Priority	32769
3.	MAC Address	0030.A363.84A9
4.	Bridge ID	32769 : 0030.A363.84A9
5.	Cost (0/1;0/2;0/3)	0/1 -> 19 0/2 -> 19 0/3 -> 19
6.	Hello Time	2 sec
7.	Max Age	20 sec
8.	Forward Delay	15 sec

- SW3

No.	Variabel	Nilai
1.	Root ID	32769 : 0030.A363.84A9
2.	Priority	32769
3.	MAC Address	00D0.97EA.97A1
4.	Bridge ID	32769 : 00D0.97EA.97A1
5.	Cost (0/1;0/2;0/3)	0/1 -> 19 0/2 -> 19 0/3 -> 19
6.	Hello Time	2 sec
7.	Max Age	20 sec
8.	Forward Delay	15 sec

- Root bridge : SW2
- Designated bride : SW1
- Root port : SW1(Fa 0/2) dan SW3(Fa 0/3)
- Designated port : SW1(Fa 0/1;0/3) , SW2(Fa 0/1;0/2;0/3), dan SW3(Fa 0/1)
- Port yang berada pada keadan forwarding : SW1(Fa 0/1;0/2;0/3) , SW2(Fa 0/1;0/2;0/3), dan SW3(Fa 0/1;0/3)
- Port yang berada pada keadan blocking : SW3 (Fa 0/2)

## 5. Ping dari PC Leo ke 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:

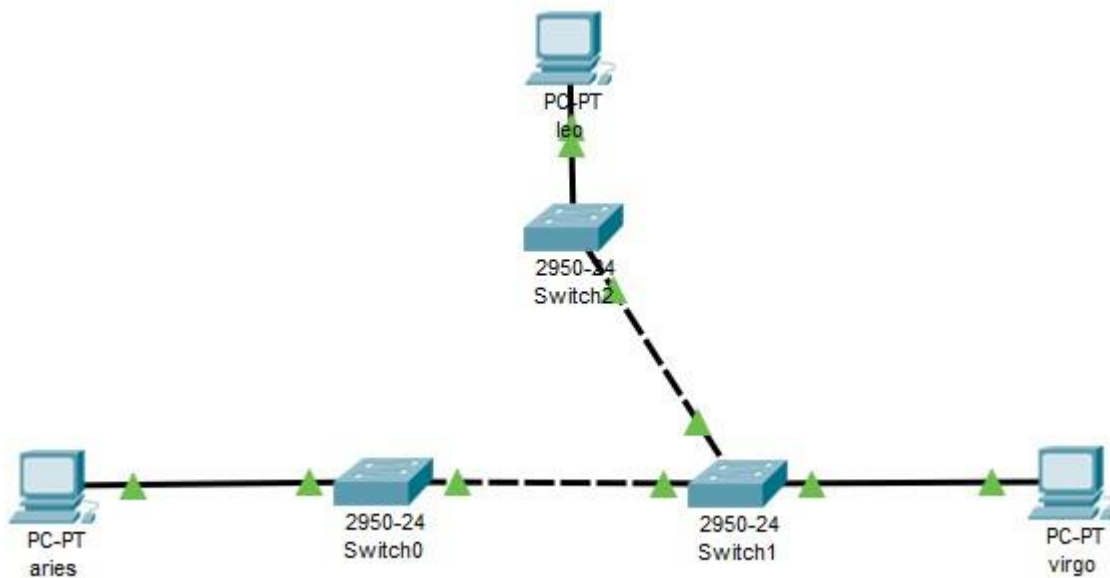
Reply from 172.21.1.3: bytes=32 time=104ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

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 = 104ms, Average = 26ms

C:\>|
  
```

## Kegiatan2. Topologi 2

### 1. Membuat desain topologi



### 2. Mengkonfigurasi IP address pada masing masing PC seperti pada kegiatan sebelumnya, seperti kegiatan sebelumnya, nama PC diganti menjadi aries, virgo, dan leo.

Leo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.1.1

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

Aries

Physical Config **Desktop** Programming Attributes

☐ 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

Virgo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.1.3

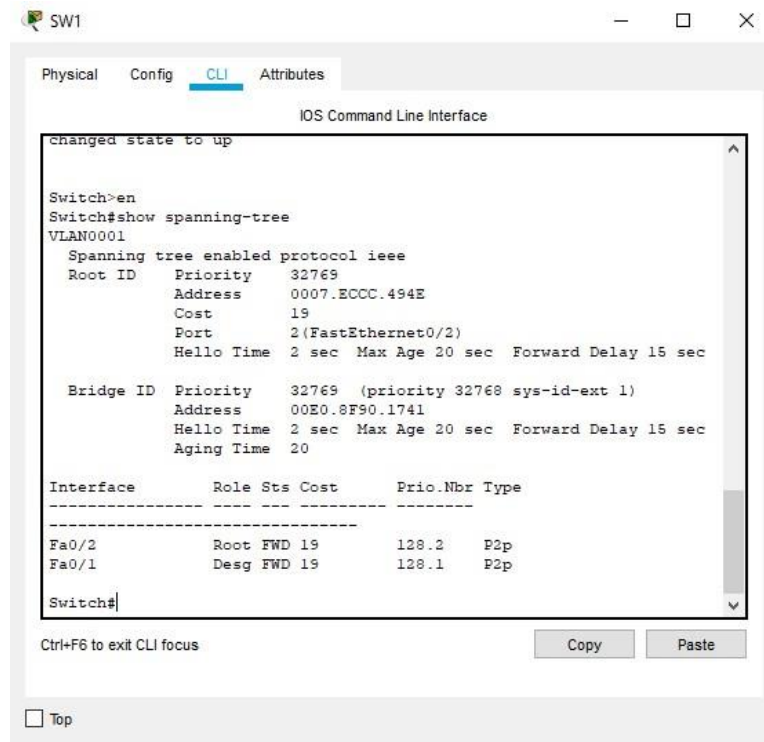
Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

3. Melihat status STP pada masing-masing Switch, sebelumnya switch0, switch1, dan switch2 masing-masing diubah Namanya menjadi SW1, SW2, dan SW3.

- SW1



```
changed state to up

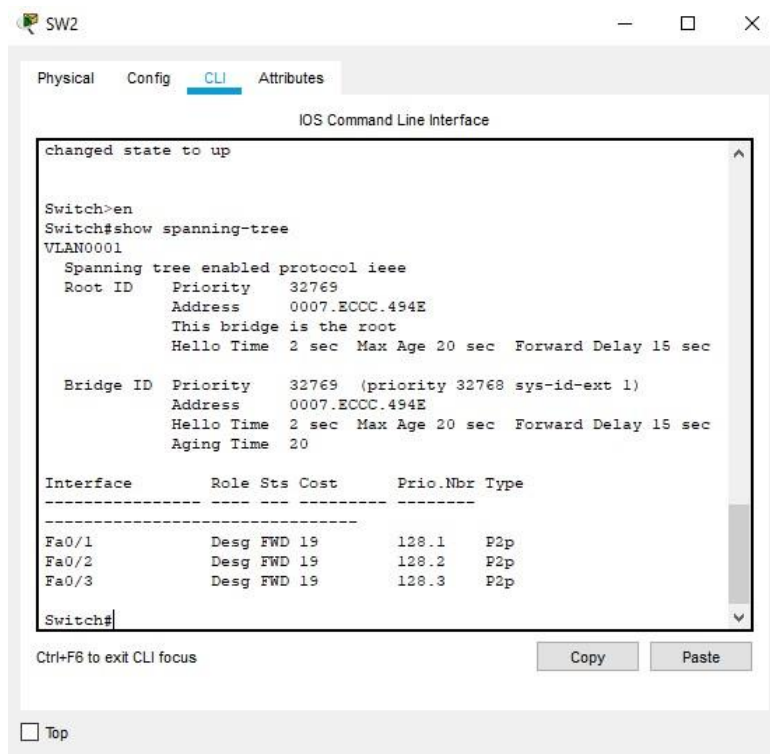
Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0007.ECCC.494E
             Cost        19
             Port        2(FastEthernet0/2)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     00E0.8F90.1741
             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#
```

- SW2



```
changed state to up

Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0007.ECCC.494E
             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     0007.ECCC.494E
             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

Switch#
```

- SW3

```

changed state to up

Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0007.ECCC.494E
             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     0060.5CA8.6196
             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                    Root FWD 19       128.1    P2p

Switch#
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Top

- Mengisi table pada masing masing switch

• SW1

No.	Variabel	Nilai
1.	Root ID	32769 : 0007.ECCC.494E
2.	Priority	32769
3.	MAC Address	00E0.8F90:1741
4.	Bridge ID	32769 : 00E0.8F90:1741
5.	Cost (0/1;0/2)	0/1 -> 19 0/2 -> 19
6.	Hello Time	2 sec
7.	Max Age	20 sec
8.	Forword Delay	15 sec



- SW2

No.	Variabel	Nilai
1.	Root ID	32769 : 0007.ECCC.494E
2.	Priority	32769
3.	MAC Address	0007.ECCC.494E
4.	Bridge ID	32769 : 0007.ECCC.494E
5.	Cost (0/1;0/2;0/3)	0/1 -> 19 0/2 -> 19 0/3 -> 19
6.	Hello Time	2 sec
7.	Max Age	20 sec
8.	Forword Delay	15 sec

- SW3

No.	Variabel	Nilai
1.	Root ID	32769 : 0007.ECCC.494E
2.	Priority	32769
3.	MAC Address	0060.5CA8.6196
4.	Bridge ID	32769 : 0060.5CA8.6196
5.	Cost (0/1;0/2)	0/1 -> 19 0/2 -> 19
6.	Hello Time	2 sec
7.	Max Age	20 sec
8.	Forword Delay	15 sec

- Root bridge : SW2
- Designated bride : SW1 dan SW3
- Root port : SW1(Fa0/2) dan SW3(Fa 0/2)
- Designated port : SW1(Fa 0/1), SW2(Fa 0/1;0/2;0/3), dan SW3 (Fa 0/1)
- 
- Port yang berada pada keadan forwarding : pada semua switch dalam keadaan forward
- Port yang berada pada keadan blocking : tidak ada port yang dalam keadaan blocking

#### 4. Ping dari PC Leo ke PC Virgo

