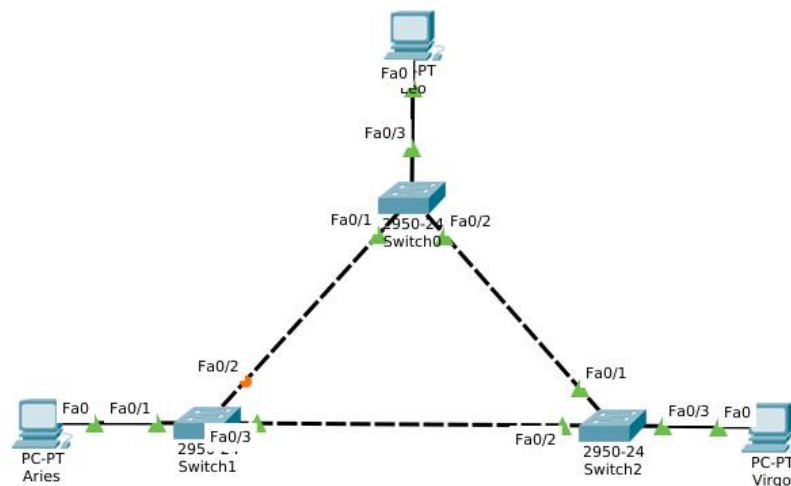Nama   : **Muhammad Vicky Al H.**
NIM   : **L200170065**
Kelas   : **B**
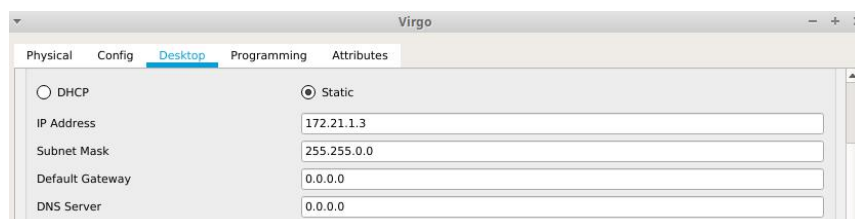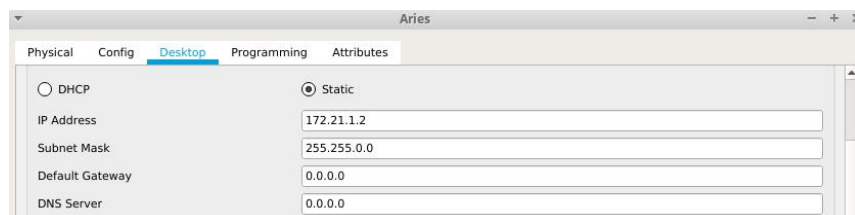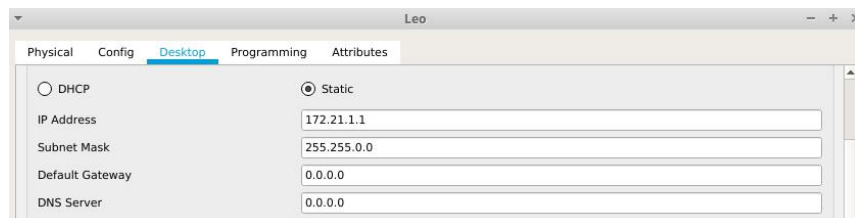Modul   : **BAB VI (Spanning Tree Protocol)**

1. Kegiatan-1 (Topologi 1)

1. Menggunakan Packet Tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950.
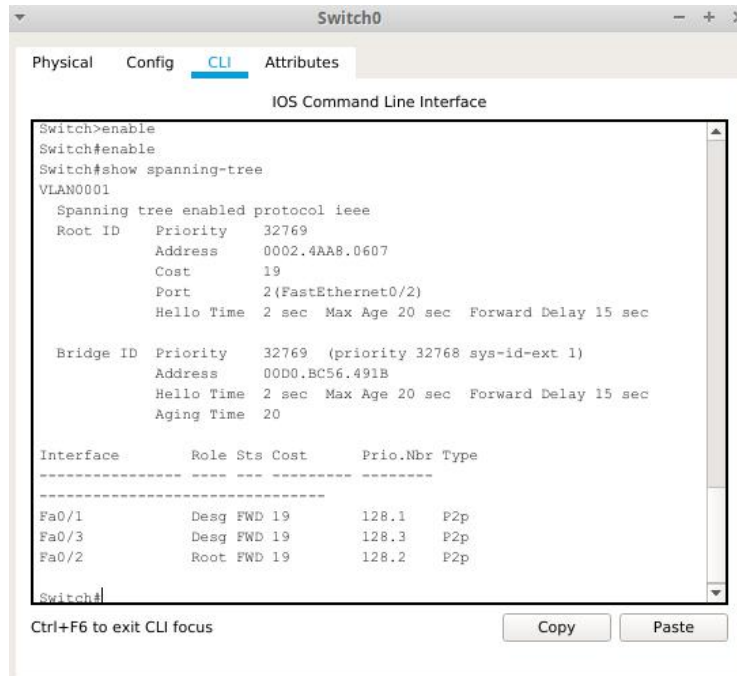

2. Konfigurasi masing-masing PC dengan IP :
   - Leo   = 172.21.1.1/24
   - Aries   = 172.21.1.2/24
   - Virgo   = 172.21.1.3/24

3. 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

Switch0 — CLI — IOS Command Line Interface

```
Switch>enable
Switch#enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.4AA8.0607
             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.BC56.491B
             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
Fa0/2            Root FWD 19        128.2    P2p

Switch#
```
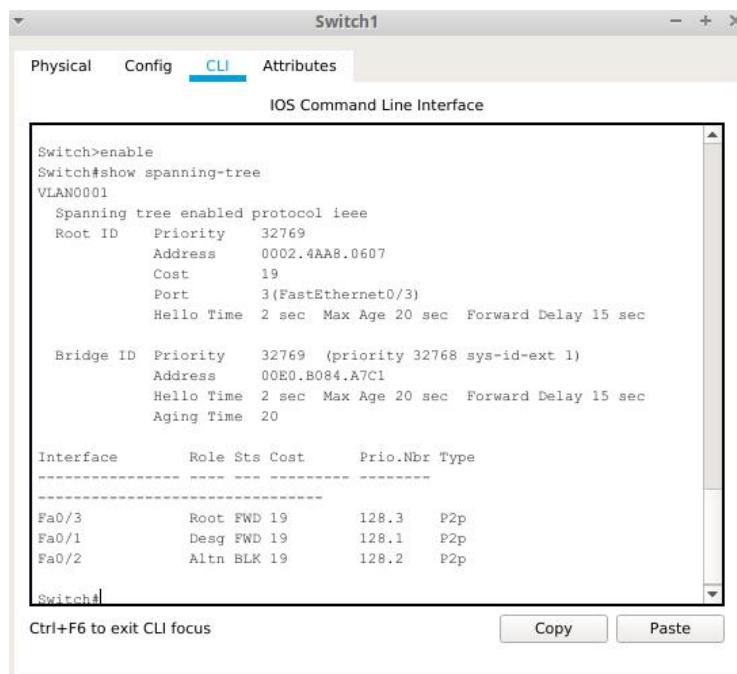
Switch1 — CLI — IOS Command Line Interface

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.4AA8.0607
             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     00E0.B084.A7C1
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

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

Switch#
```

```
                          Switch2                    –  +  ×

 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     0002.4AA8.0607
              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     0002.4AA8.0607
              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#

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```
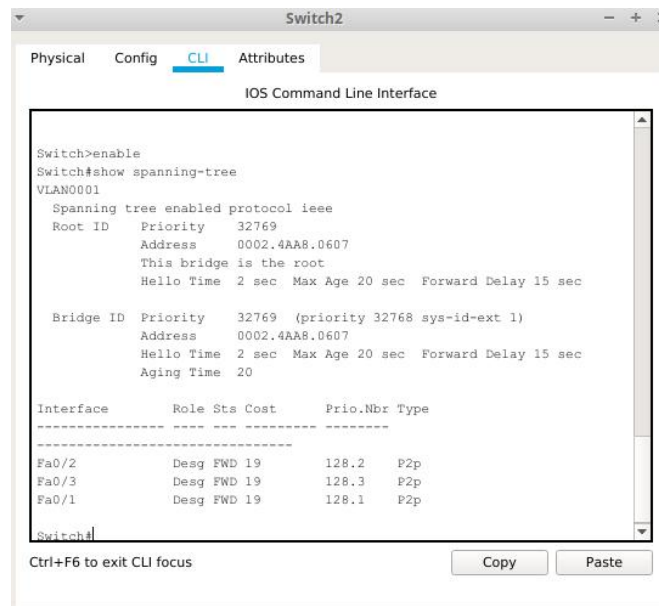
4. Untuk tiap switch, isikan table berikut :

SW 0

No	Variabel	Nilai	Role	Stat
1	Root ID	32769 : 0002.4AAB.0607	Desg	FWD
2	Priority	32769	Desg	FWD
3	MAC Address	0002.4AAB.0607	Root	FWD
4	Bridge ID	32769 : 00D0.BC56.491B		
5	Cost (0/1;0/2;0/3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03 --> 19		
6	Hello Time	2 Sec		
7	MaxAge	20 Sec		
8	Forward Delay	15 Sec		

SW 1

No	Variabel	Nilai	Role	Stat
1	Root ID	32769 : 0002.4AAB.0607	Root	FWD
2	Priority	32769	Desg	FWD
3	MAC Address	0002.4AAB.0607	Altn	BLK
4	Bridge ID	32769 : 00E0.B084.A7C1		
5	Cost (0/1;0/2;0/3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03 --> 19		
6	Hello Time	2 Sec		
7	MaxAge	20 Sec		
8	Forward Delay	15 Sec		

SW 2

No	Variabel	Nilai	Role	Stat
1	Root ID	32769 : 0002.4AAB.0607	Desg	FWD
2	Priority	32769	Desg	FWD
3	MAC Address	0002.4AAB.0607	Desg	FWD
4	Bridge ID	32769 : 0002.4AAB.0607		
5	Cost (0/1;0/2;0/3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03 --> 19		
6	Hello Time	2 Sec		
7	MaxAge	20 Sec		
8	Forward Delay	15 Sec		

- Root Bridge   : SW 2
- Designated bride : SW 0
- Root Port   : SW 1 Fa0/3, SW 2 Fa0/1
- Designated Port   : SW 0 Fa0/1 Fa0/2, SW 1 Fa0/2, SW 2 Fa0/1 Fa0/2 Fa0/3

- 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)

2. Kegiatan-2 (Topologi 2)

1. Menggunakan Packet Tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950.
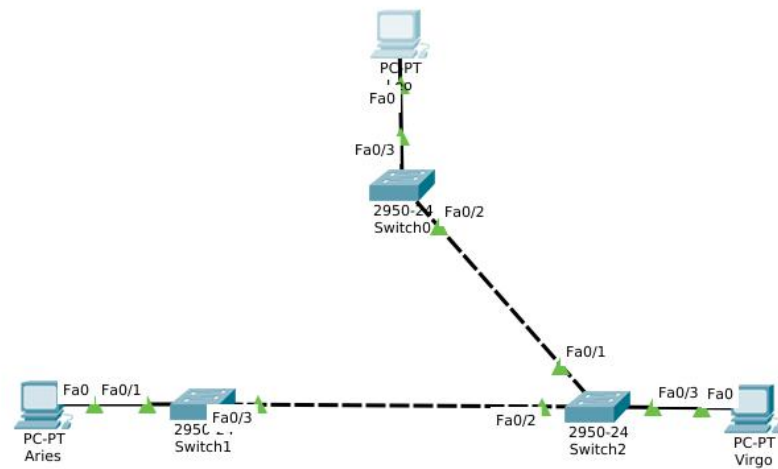
2. Konfigurasi masing-masing PC dengan IP :
   - ➢ Leo   = 172.21.1.1/24
   - ➢ Aries   = 172.21.1.2/24
   - ➢ Virgo   = 172.21.1.3/24
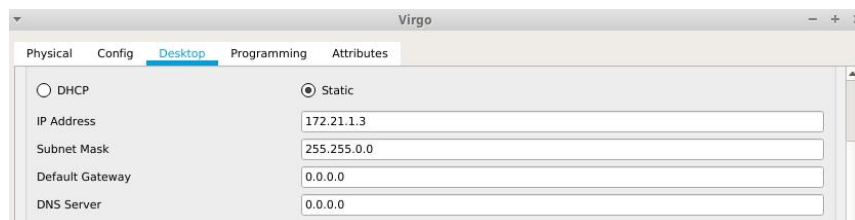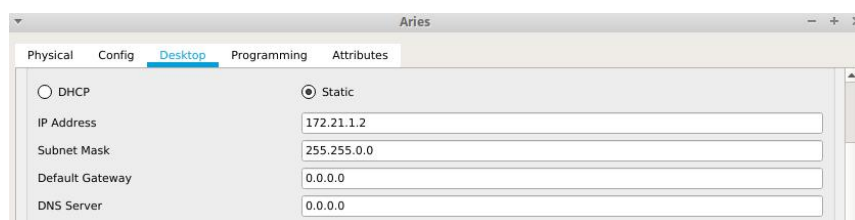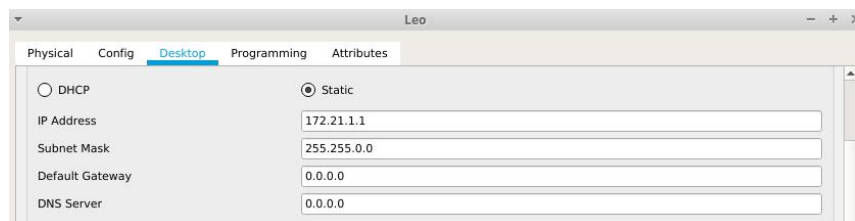
4. Pada mode user atau mode privileged, lihat status STP pada masing-masing switch. Langkah pengoperasian
   - √ Tekan Enter
   - √ Masuk mode privileged (Optional)
   - √ Ketik show spanning-tree

Switch0

Physical Config CLI Attributes

IOS Command Line Interface

```
Switch>enable
Switch#enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.4AA8.0607
             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.BC56.491B
             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
Fa0/2            Root FWD 19        128.2    P2p

Switch#
```

Ctrl+F6 to exit CLI focus   Copy   Paste

Switch1

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     0002.4AA8.0607
             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     00E0.B084.A7C1
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

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

Switch#
```

Ctrl+F6 to exit CLI focus   Copy   Paste

```
                              Switch2                    –  +  ✕

  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     0002.4AA8.0607
               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     0002.4AA8.0607
               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
```
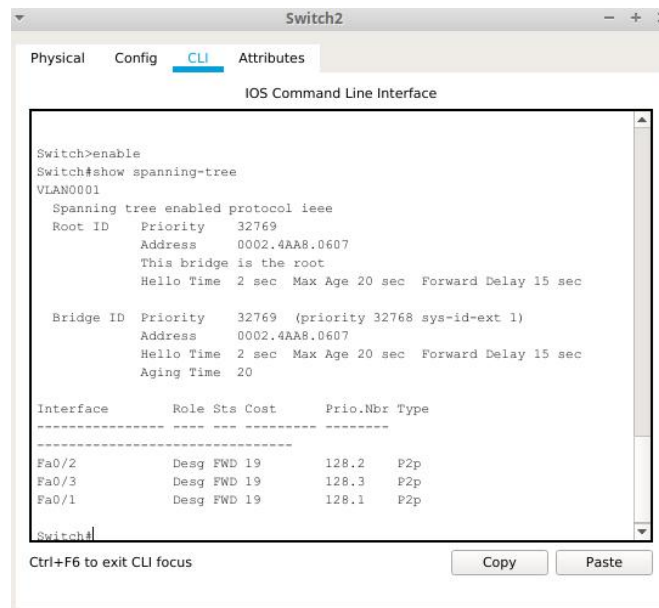
5. Untuk tiap switch, isikan table berikut :

   SW 0

No	Variabel	Nilai	Role	Stat
1	Root ID	32769 : 0002.4AAB.0607	Desg	FWD
2	Priority	32769	Desg	FWD
3	MAC Address	0002.4AAB.0607	Root	FWD
4	Bridge ID	32769 : 00D0.BC56.491B		
5	Cost (0/1;0/2;0/3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03 --> 19		
6	Hello Time	2 Sec		
7	MaxAge	20 Sec		
8	Forward Delay	15 Sec		

   SW 1

No	Variabel	Nilai	Role	Stat
1	Root ID	32769 : 0002.4AAB.0607	Root	FWD
2	Priority	32769	Desg	FWD
3	MAC Address	0002.4AAB.0607	Altn	BLK
4	Bridge ID	32769 : 00E0.B084.A7C1		
5	Cost (0/1;0/2;0/3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03 --> 19		
6	Hello Time	2 Sec		
7	MaxAge	20 Sec		
8	Forward Delay	15 Sec		

   SW 2

No	Variabel	Nilai	Role	Stat
1	Root ID	32769 : 0002.4AAB.0607	Desg	FWD
2	Priority	32769	Desg	FWD
3	MAC Address	0002.4AAB.0607	Desg	FWD
4	Bridge ID	32769 : 0002.4AAB.0607		
5	Cost (0/1;0/2;0/3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03 --> 19		
6	Hello Time	2 Sec		
7	MaxAge	20 Sec		
8	Forward Delay	15 Sec		

- Root Bridge   : SW 2
- Designated bride : SW 0
- Root Port   : SW 1 Fa0/3, SW 2 Fa0/1
- Designated Port : SW 0 Fa0/1 Fa0/2, SW 1 Fa0/2, SW 2 Fa0/1 Fa0/2 Fa0/3

- 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)