

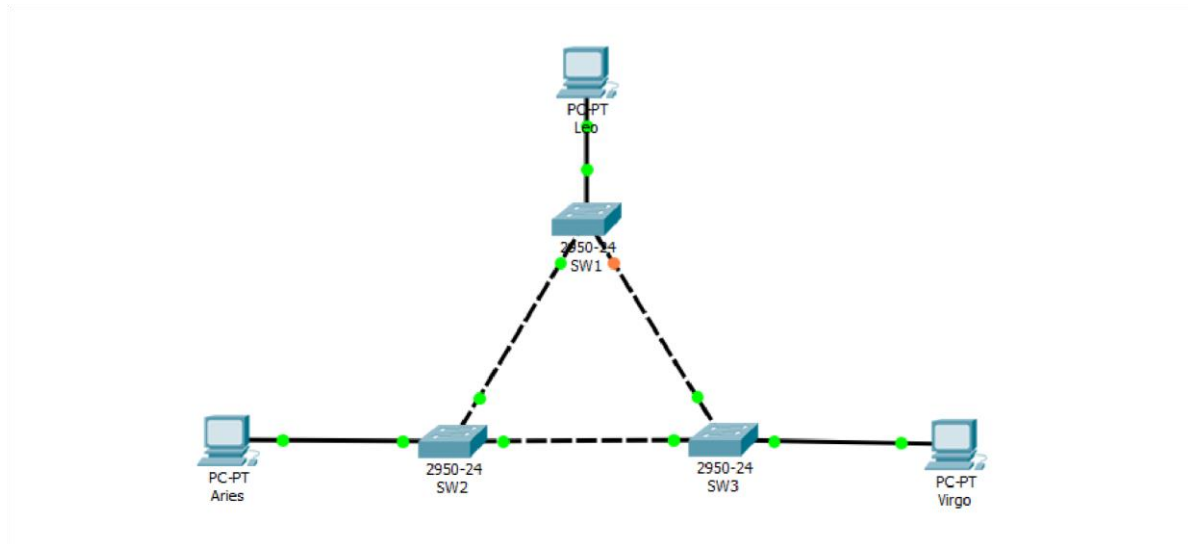
Nama : Danang Ady Saputro Widodo

NIM : L200180205

## MODUL 6

### Kegiatan 1. Topologi 1

#### Membuat topologi



#### **Tugas 1A :** Langkah pembuatan topologi

- Pada bagian Network Devices, klik bagian Switches, dan letakkan 3 buah Switch tipe 2950-24 dengan rangkai seperti gambar.
- Klik ikon End Devices, klik ikon PC dengan keterangan Generic Computer, letakkan 3 buah di dekat Switch masing-masing satu.
- Untuk menghubungkan Switch dan PC, pada bagian Connections klik ikon petir, lalu sambungkan rangkaian.

#### **Tugas 2A :** Memberi nama Switch melalui mode user

```
Switch>enable
```

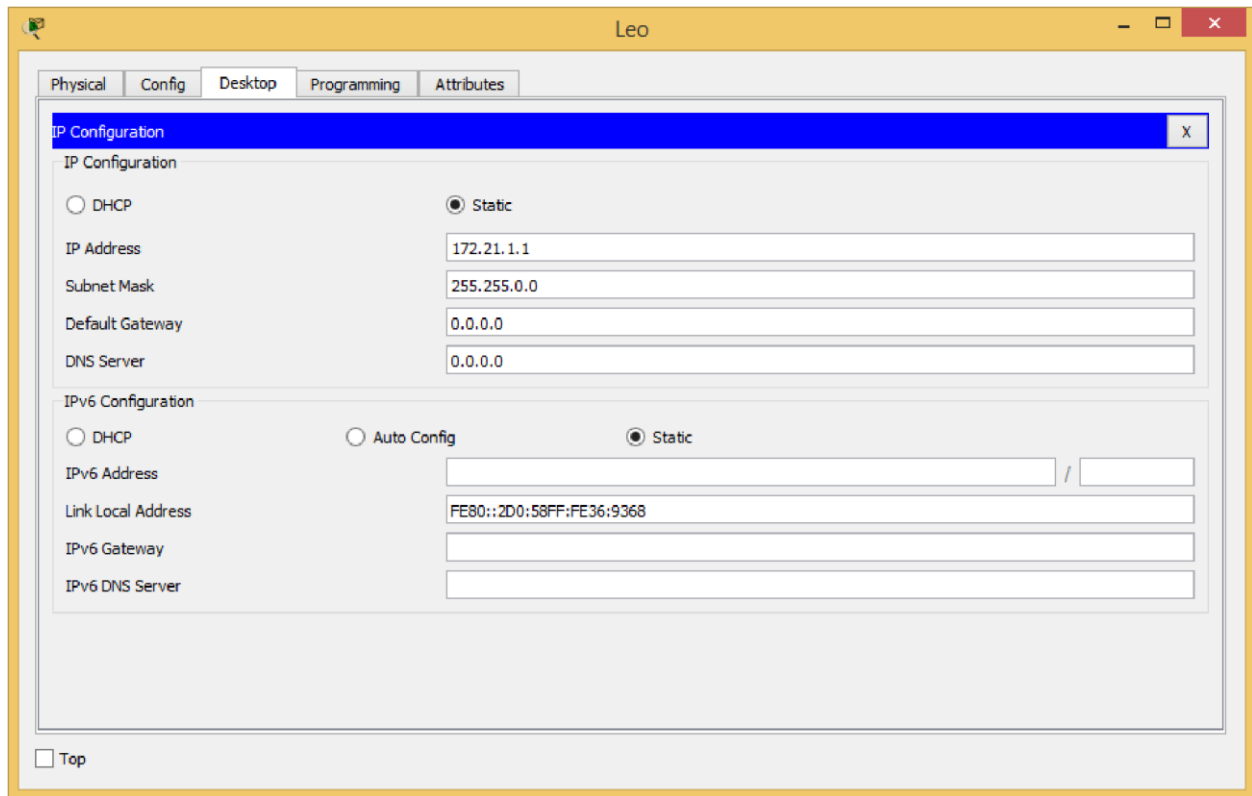
```
Switch#conf term
```

```
Switch(config)#hostname SW1
```

```
SW1(config)#end
```

## Konfigurasi masing-masing PC

- Leo



The screenshot shows a window titled "Leo" with a yellow border. Inside, there are five tabs: "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Config" tab is selected. Within the "Config" tab, there is a sub-tab "IP Configuration" which is highlighted in blue. Below this sub-tab, there are two sections: "IP Configuration" and "IPv6 Configuration".

**IP Configuration:**

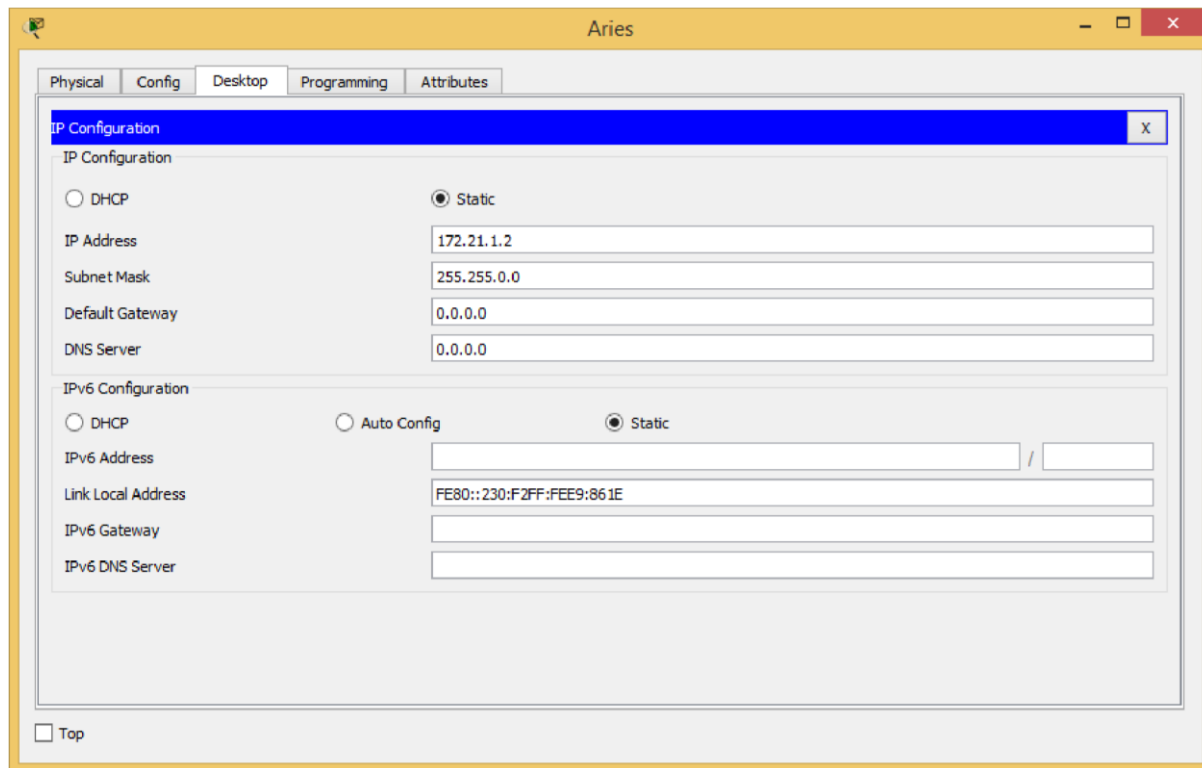
- ☐ DHCP
- ☒ Static
- IP Address: 172.21.1.1
- Subnet Mask: 255.255.0.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

**IPv6 Configuration:**

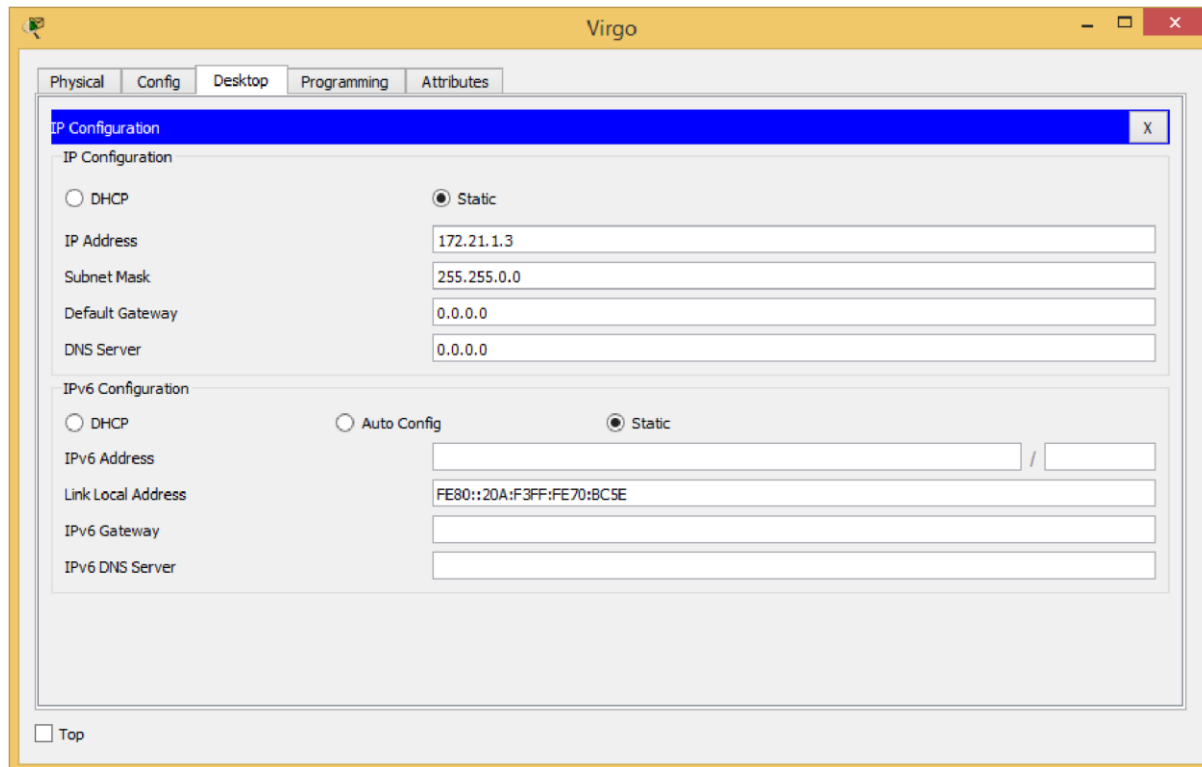
- ☐ DHCP
- ☐ Auto Config
- ☒ Static
- IPv6 Address: [empty] / [empty]
- Link Local Address: FE80::2D0:58FF:FE36:9368
- IPv6 Gateway: [empty]
- IPv6 DNS Server: [empty]

At the bottom left of the window, there is a checkbox labeled "Top" which is currently unchecked.

- Aries



- Virgo



**Tugas 4A :** Pada mode *user* atau *privileged*, lihat status STP pada masing-masing switch.

- SW1

The screenshot shows the CLI window for SW1. The 'CLI' tab is selected. The command 'show spanning-tree' has been executed, displaying the following output:

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0002.16AD.170E
             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     00D0.9793.688A
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15
sec

             Aging Time   20

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

Below the output, there is a 'Ctrl+F6 to exit CLI focus' message and 'Copy' and 'Paste' buttons. At the bottom left, there is a 'Top' button.

- 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      0002.16AD.170E  
              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      0002.16AD.170E  
              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  
Fa0/1           Desg   FWD   19      128.1      P2p  
Fa0/2           Desg   FWD   19      128.2      P2p  
  
Switch#

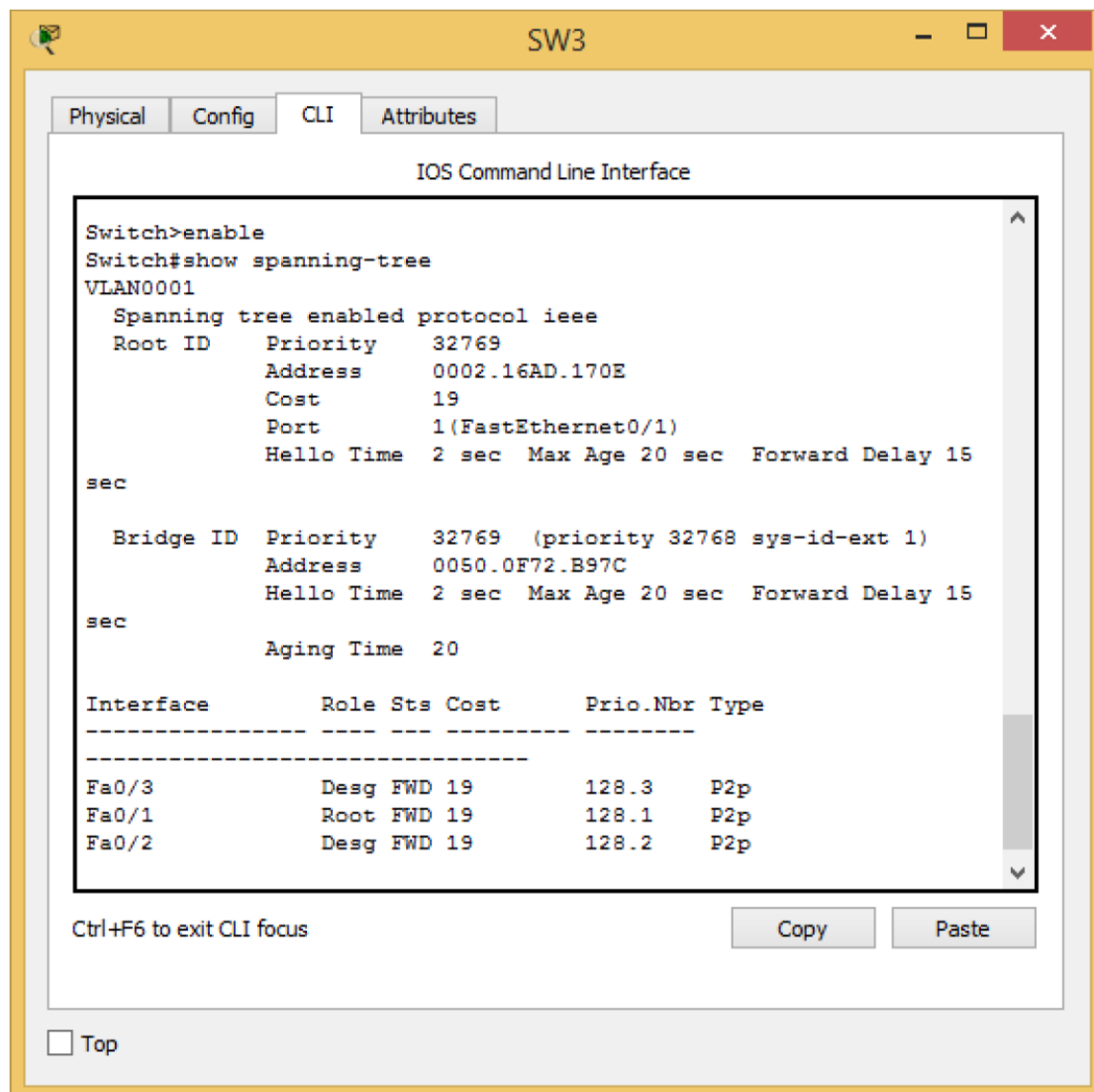
Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

- SW3



#### Tugas 4B : Tabel tiap switch

- SW1

No	Variabel	Nilai
1	Root ID	32769 : 0002.16AD.170E
2	Priority	32769
3	MAC Address	00D0.9793.688A
4	Bridge ID	32769 : 00D0.9793.688A
5	Cost (0/1 ; 0/2 ; 0/3)	19

6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

- SW2

No	Variabel	Nilai
1	Root ID	32769 : 0002.16AD.170E
2	Priority	32769
3	MAC Address	0002.16AD.170E
4	Bridge ID	32769 : 0002.16AD.170E
5	Cost (0/1 ; 0/2 ; 0/3)	19
6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

- SW3

No	Variabel	Nilai
1	Root ID	32769 : 0002.16AD.170E
2	Priority	32769
3	MAC Address	0050.0F72.B97C
4	Bridge ID	32769 : 0050.0F72.B97C
5	Cost (0/1 ; 0/2 ; 0/3)	19
6	Hello Time	2 sec

7	MaxAge	20 sec
8	Forward Delay	15 sec

#### **Tugas 4C :**

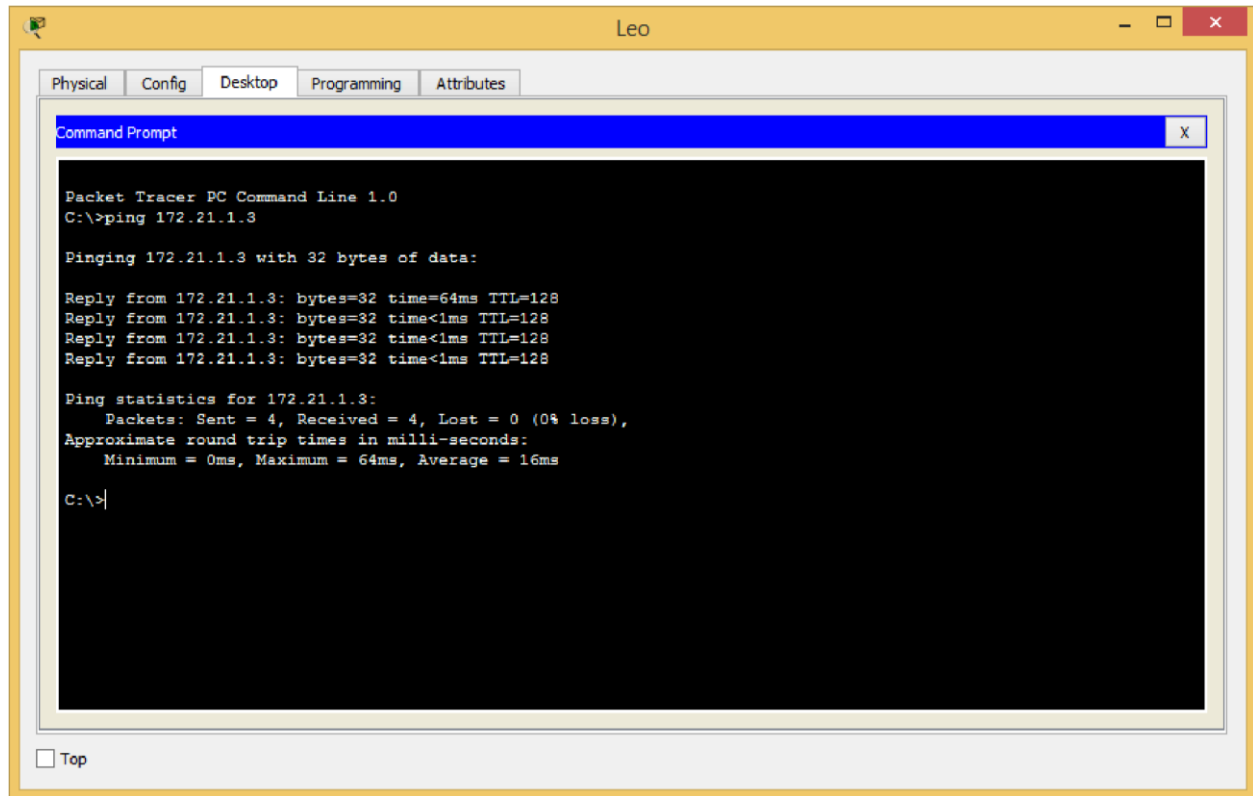
- Root bridge : SW2
- Designated bridge : SW3
- Root port : SW1 (Fa0/1), SW3 (Fa0/1)
- Designated port : SW1 (Fa0/3), SW2 (Fa0/1, Fa0/2, Fa0/3), SW3 (Fa0/2, Fa0/3)

#### **Tugas 4D :**

- Keadaan forwarding :
  - SW1 (Fa0/1, Fa0/3),
  - SW2 (Fa0/1, Fa0/2, Fa0/3),
  - SW3 (Fa0/1, Fa
- Keadaan Blocking : SW1 (Fa0/2)



PC Leo melakukan ping ke PC Virgo

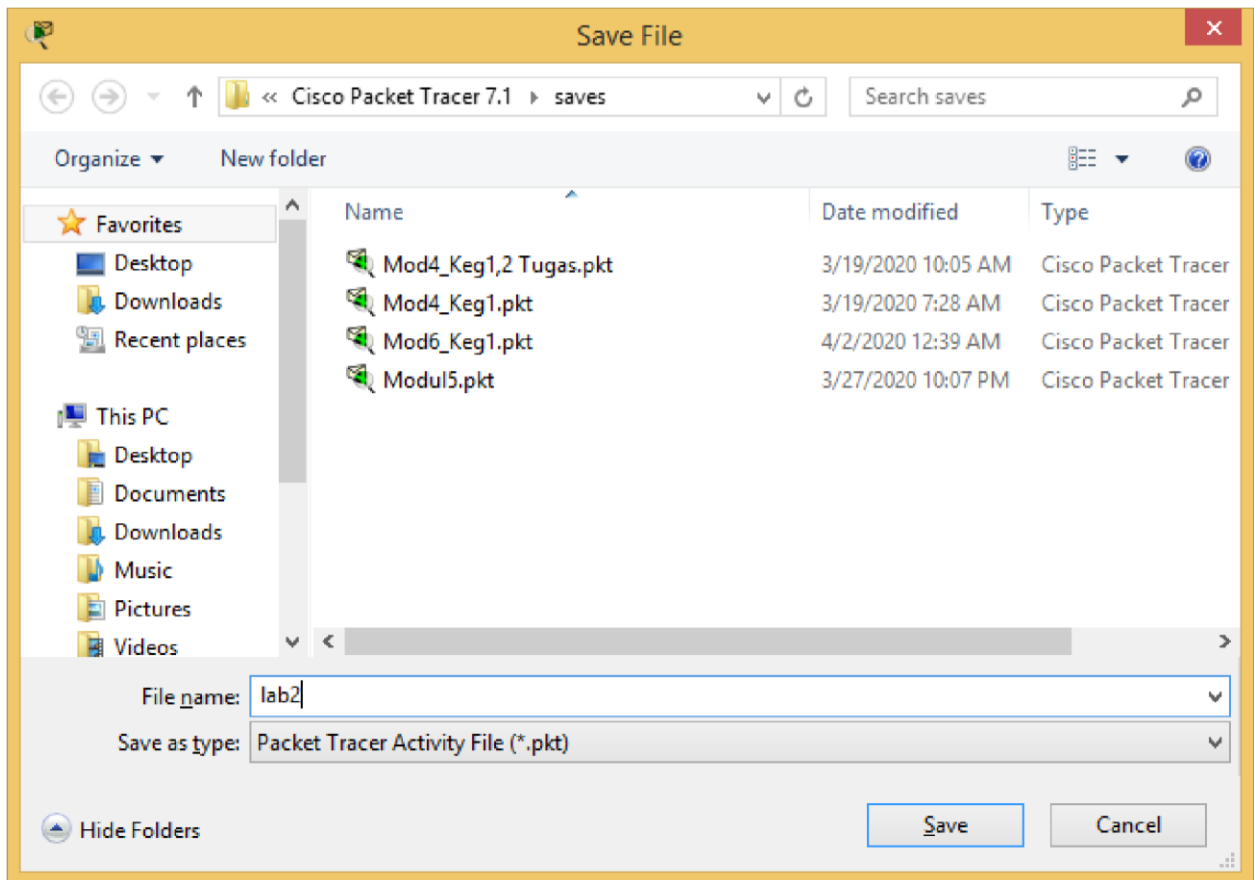


#### **Tugas 5A : Langkah perintah ping**

1. Klik PC Leo
2. Pilih tab desktop
3. Pilih command promp
4. Ketikkan ping 172.21.1.3

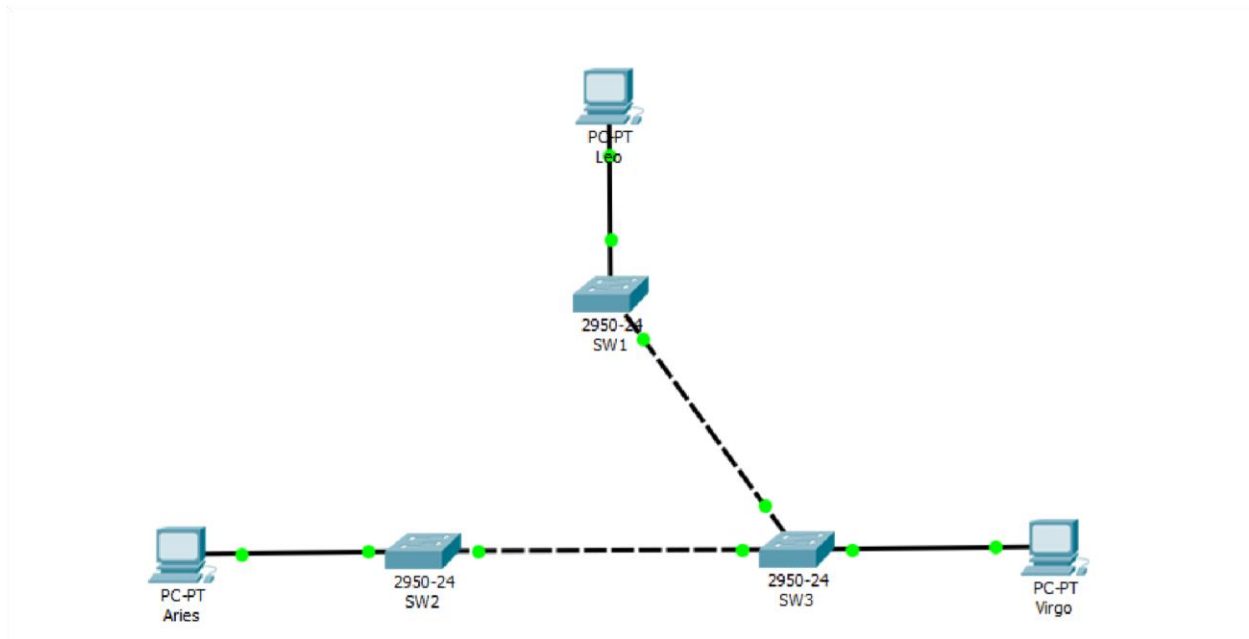
#### **Tugas 6A : Langkah menyimpan konfigurasi jaringan**

1. Klik File
2. Pilih Save
3. Beri nama lab2.ekstensi akan menyesuaikan dengan aplikasi yg digunakan



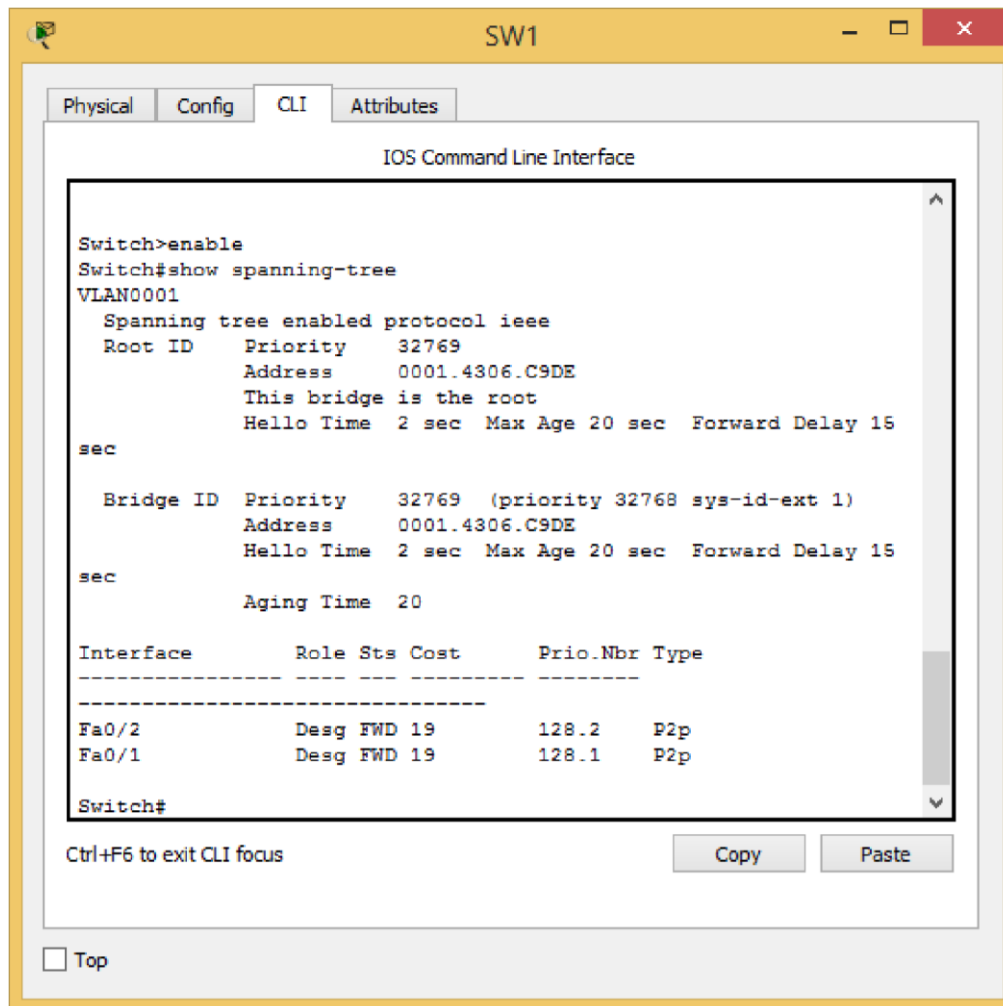
## Kegiatan 2. Topologi 2

## Membuat topologi



### **Tugas 9A : Status STP masing-masing switch**

- SW1



No	Variabel	Nilai
1	Root ID	32769 : 0001.4306.C9DE
2	Priority	32769
3	MAC Address	0001.4306.C9DE
4	Bridge ID	32769 : 0001.4306.C9DE
5	Cost	19
6	Hello Time	2 sec
7	MaxAge	20 sec

8	Forward Delay	15 sec
---	---------------	--------

- 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     0001.4306.C9DE
            Cost        38
            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     0040.0B72.1317
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

            Aging Time  20

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

```

Ctrl+F6 to exit CLI focus

Copy
Paste

☐ Top

No	Variabel	Nilai
1	Root ID	32769 : 0001.4306.C9DE
2	Priority	32769
3	MAC Address	0040.0B72.1317
4	Bridge ID	32769 : 0040.0B72.1317
5	Cost	19

6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

- SW3

The screenshot shows the CLI of a switch named SW3. The user has entered the command `show spanning-tree` for VLAN0001. The output displays the spanning tree configuration, including the root ID, priority, address, cost, port, and hello time. It also shows the bridge ID, priority, address, and aging time. A table at the bottom lists the interfaces and their roles in the spanning tree.

```

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     0001.4306.C9DE
              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     00D0.D304.0971
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

              Aging Time  20

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

Below the CLI window, there are buttons for "Copy" and "Paste", and a "Top" button.

No	Variabel	Nilai
1	Root ID	32769 : 0001.4306.C9DE
2	Priority	32769
3	MAC Address	00D0.D304.0971

4	Bridge ID	32769 : 00D0.D304.0971
5	Cost	19
6	Hello Time	2 sec
7	MaxAge	20 sec
8	Forward Delay	15 sec

**Menentukan :**

- Root bridge : SW1
- Designated bridge : SW3
- Root Port : SW2 (Fa0/1), SW3(Fa0/1)
- Designated Port : SW1 (Fa0/1, Fa0/2), SW2 (Fa0/2), SW3 (Fa0/2, Fa0/3)

**Menentukan :**

- Keadaan forwarding :
  - SW1 (Fa0/1, Fa0/2)
  - SW2 (Fa0/1, Fa0/2)
  - SW3 (Fa0/1, Fa0/2, Fa0/3)
- Keadaan blocking : tidak ada

## Ping PC Leo ke PC Virgo

