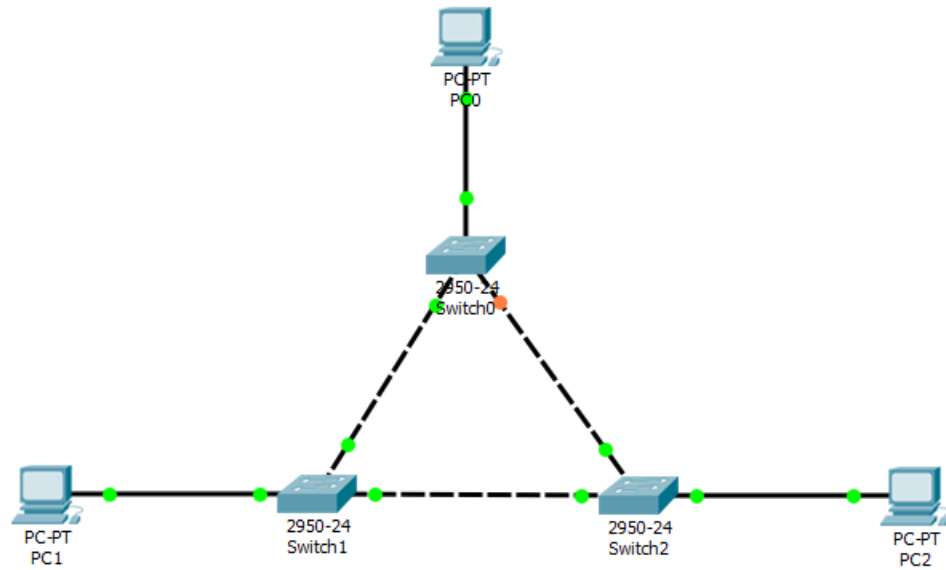


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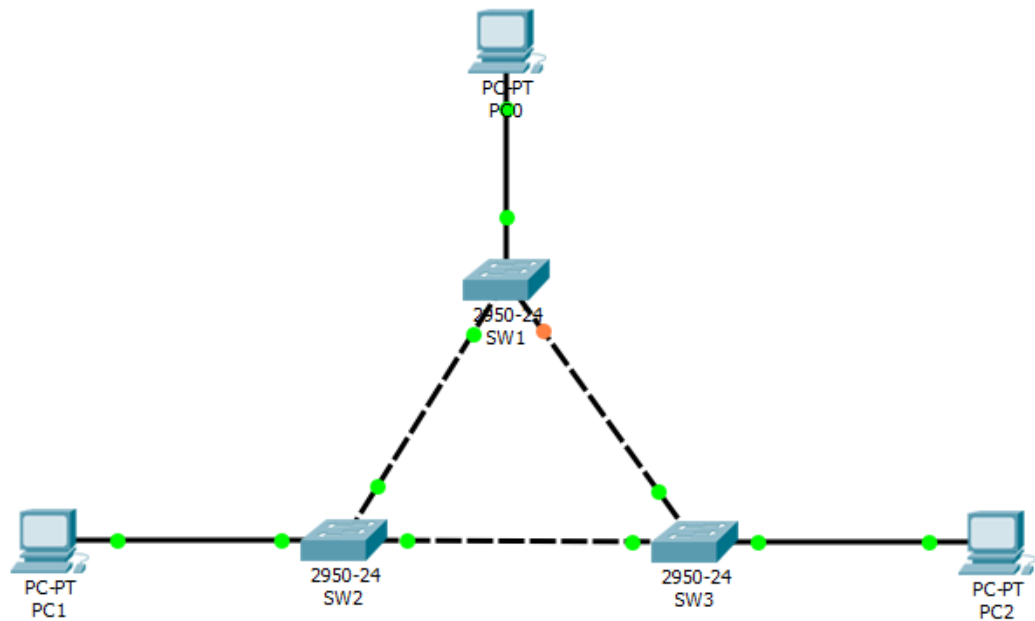
## MODUL VI Spanning Tree Protocol

### Kegiatan 1. Topologi 1

1. Membuat topologi dengan Packet Tracer

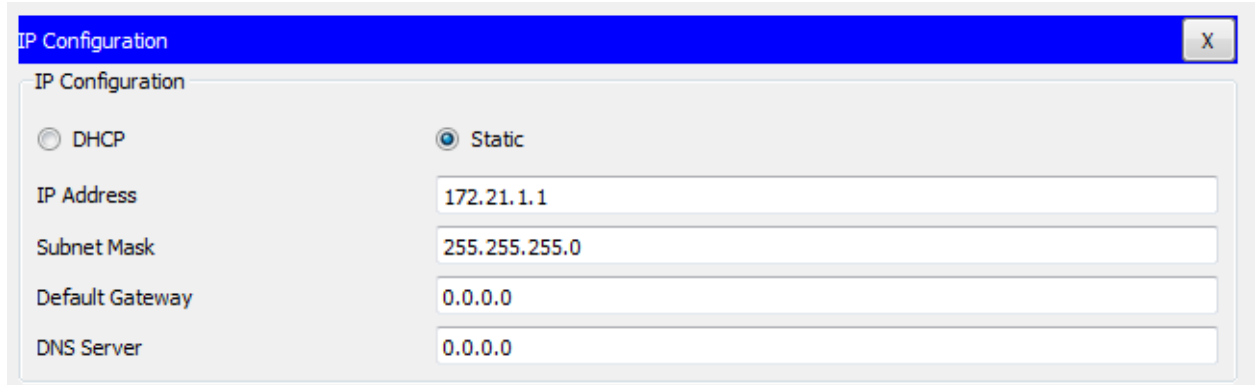


2. Memberi nama masing-masing switch.



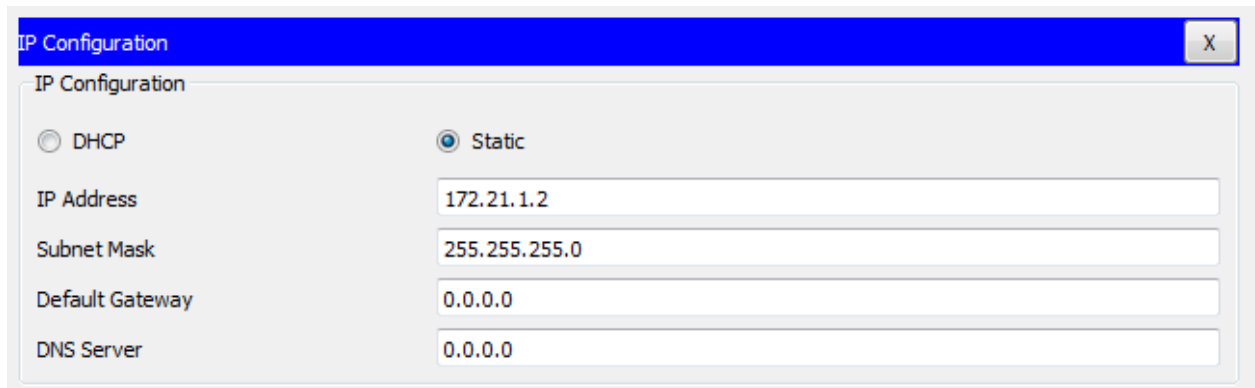
3. Mengkonfigurasi IP Address masing-masing PC

a. Leo : 172.21.1.1/24



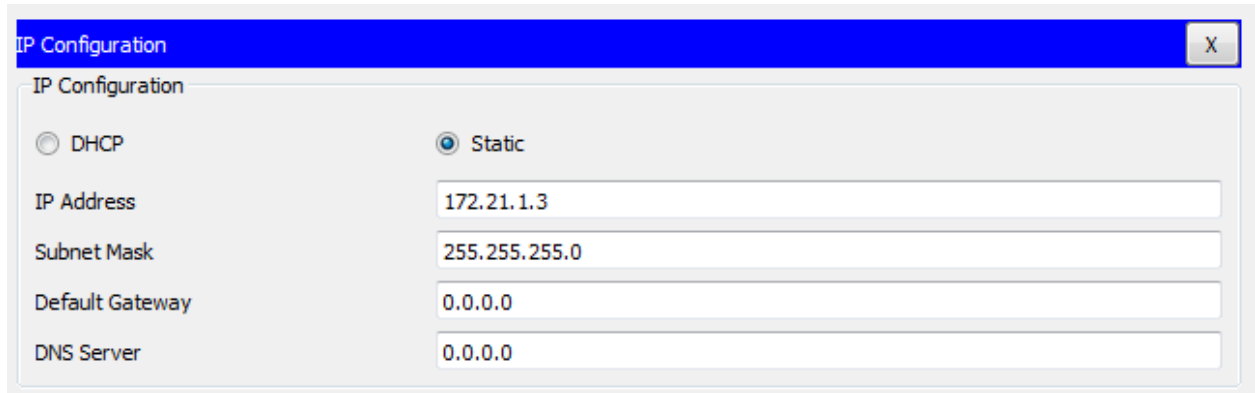
The screenshot shows a window titled "IP Configuration" with a close button (X) in the top right corner. Inside the window, there is a section labeled "IP Configuration" with two radio buttons: "DHCP" and "Static". The "Static" radio button is selected. Below the radio buttons, there are four text input fields: "IP Address" with the value "172.21.1.1", "Subnet Mask" with the value "255.255.255.0", "Default Gateway" with the value "0.0.0.0", and "DNS Server" with the value "0.0.0.0".

b. Aries : 172.21.1.2/24



The screenshot shows a window titled "IP Configuration" with a close button (X) in the top right corner. Inside the window, there is a section labeled "IP Configuration" with two radio buttons: "DHCP" and "Static". The "Static" radio button is selected. Below the radio buttons, there are four text input fields: "IP Address" with the value "172.21.1.2", "Subnet Mask" with the value "255.255.255.0", "Default Gateway" with the value "0.0.0.0", and "DNS Server" with the value "0.0.0.0".

c. Virgo : 172.21.1.3/24



The screenshot shows a window titled "IP Configuration" with a close button (X) in the top right corner. Inside the window, there is a section labeled "IP Configuration" with two radio buttons: "DHCP" and "Static". The "Static" radio button is selected. Below the radio buttons, there are four text input fields: "IP Address" with the value "172.21.1.3", "Subnet Mask" with the value "255.255.255.0", "Default Gateway" with the value "0.0.0.0", and "DNS Server" with the value "0.0.0.0".

4. Melihat status STP masing-masing switch

a. SW 1

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000A.41BE.5456
             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     0090.2195.DC82
             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	Altn	BLK	19	128.3	P2p

```
Switch#
```

b. SW 2

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000A.41BE.5456
             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     000A.41BE.5456
             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#
```

c. SW 3

```
Switch>enable
Switch#show spanning-tree
^
% Invalid input detected at '^' marker.

Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID    Priority    32769
              Address     000A.41BE.5456
              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     0060.5CA5.8396
              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#
```

5. Melakukan Ping dari PC Leo ke PC Virgo.

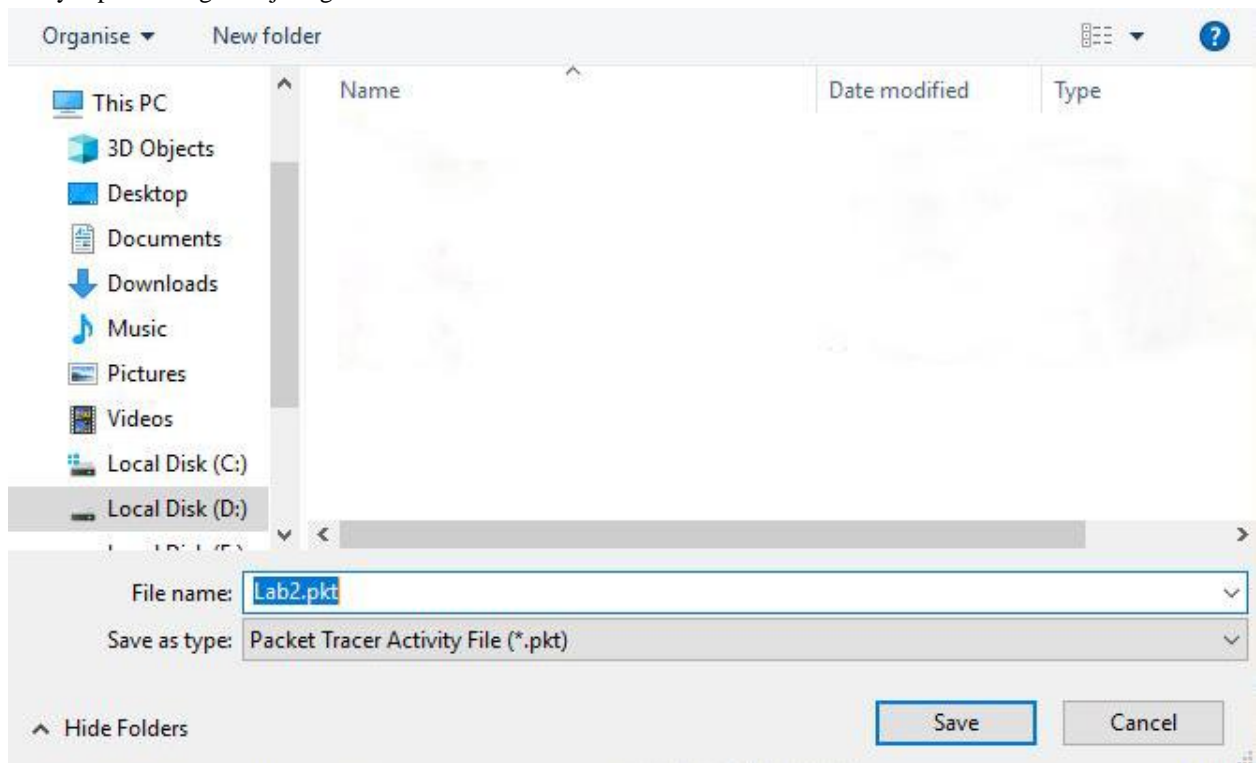
```
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=16ms 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

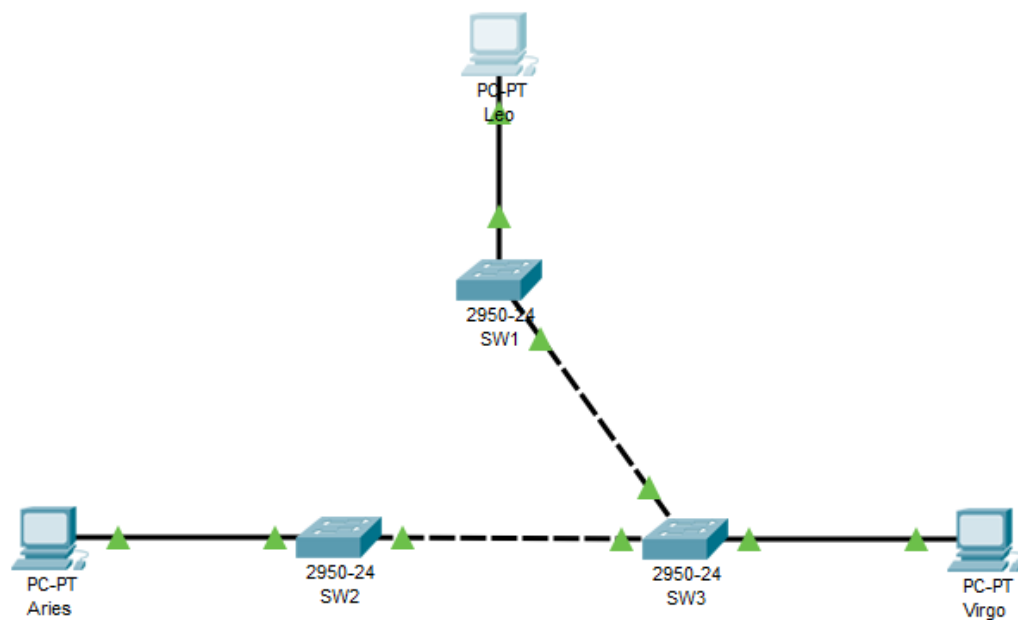
Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 16ms, Average = 4ms
```

6. Menyimpan konfigurasi jaringan



Kegiatan 2. Topologi 2

1. Mengubah topologi.



2. Melihat status STP masing-masing switch.

a. SW 1

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000A.41BE.5456
             Cost        38
             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     0090.2195.DC82
             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

Switch#
```

b. SW 2

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000A.41BE.5456
             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     000A.41BE.5456
             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

Switch#
```

c. SW 3

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address    000A.41BE.5456
             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    0060.5CA5.8396
             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#
```

3. Melakukan 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=12ms 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 = 12ms, Average = 3ms
```