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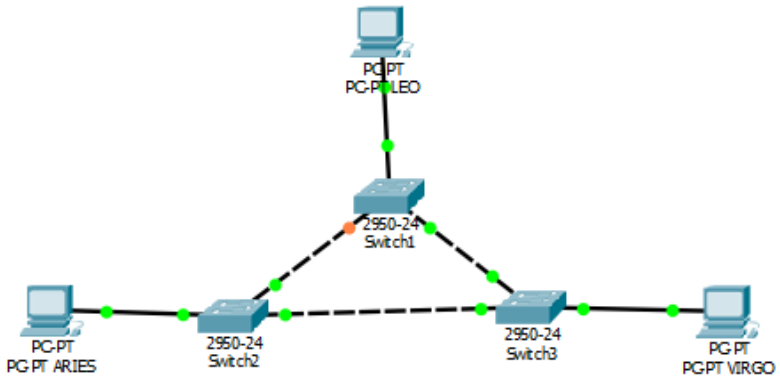
Prak-Jarkom

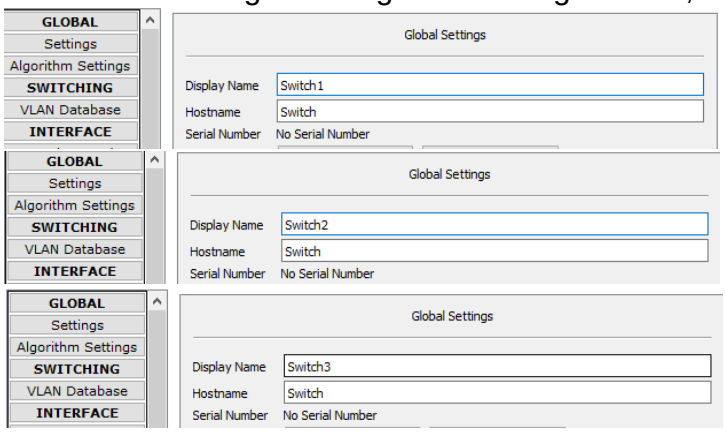
Modul 6

Kegiatan 1. Topologi 1

1. Menggunakan Packet Tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950
   Tulis langkah pembuatan topologi.
   - Masuk Cisco Packet Tracer
   - Lalu masuk ke tab “Switches”
   - Pilih switch catalyst 2950 dan drag ke dalam cisco sebanyak 3 kali
   - Masuk ke tab “End Device”
   - Lalu pilih PC, setelah itu drag ke dalam cisco sebanyak 3 kali
   - Mengganti nama sesuai keinginan dan mengisi IP Address tiap PC
   - Terakhir hubungkan dengan kabel



2. Beri nama masing - masing switch dengan SW1,SW2,dan SW3



Tulis langkah pemberian nama switch mulai dari mode user.

Sw1

```
Switch#
%SYS-5-CONFIG_I: Configured from console by console
conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname SW1
SW1(config)#end
SW1#
%SYS-5-CONFIG_I: Configured from console by console
```

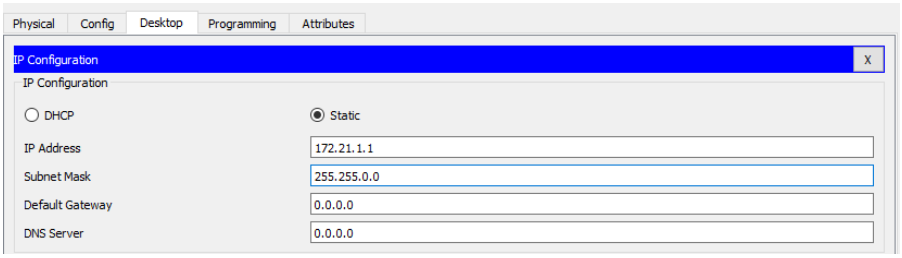
Sw2

```
Switch(vlan)#exit
APPLY completed.
Exiting....
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname SW2
SW2(config)#end
SW2#
%SYS-5-CONFIG_I: Configured from console by console
```

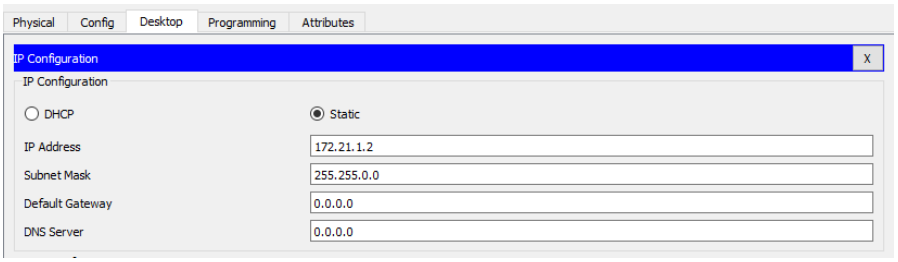
Sw3

```
Switch(vlan)#exit
APPLY completed.
Exiting....
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname SW3
SW3(config)#end
SW3#
%SYS-5-CONFIG_I: Configured from console by console
```

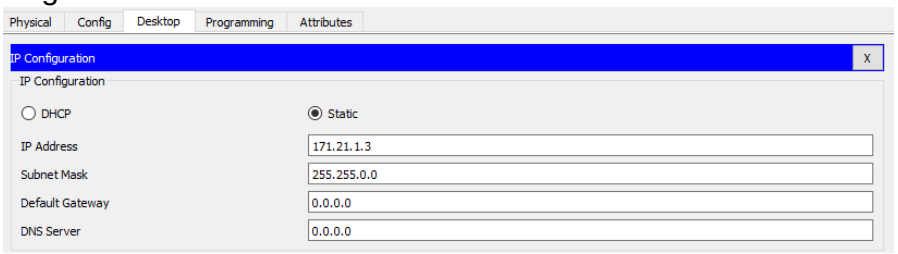
3. Tulis langkah pemberian nama switch mulai dari mode user.
4. Konfigurasi masing-masing PC dengan IP :
   - Leo = 172.21.1.1/24



   - Aries = 172.21.1.2/24



   - Virgo = 172.21.1.3/24



5. 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

Sw1

```
SW1>enable
SW1#
SW1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
SW1(config)#interface FastEthernet0/1
SW1(config-if)#
SW1(config-if)#exit
SW1(config)#interface FastEthernet0/1
SW1(config-if)#exit
SW1(config)#exit
SW1#
%SYS-5-CONFIG_I: Configured from console by console
show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000C.857D.DC34
             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     0040.0B4E.278C
             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            Root FWD 19        128.3    P2p
Fa0/1            Desg FWD 19        128.1    P2p

SW1#
```

Sw2

```
SW2>enable
SW2#
SW2#vlan database
% Warning: It is recommended to configure VLAN from config mode,
  as VLAN database mode is being deprecated. Please consult user
  documentation for configuring VTP/VLAN in config mode.

SW2(vlan)#exit
APPLY completed.
Exiting....
SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000C.857D.DC34
             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     0010.11B8.5078
             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            Desg FWD 19        128.2    P2p

SW2#
```

Sw3

```
SW3>enable
SW3#
SW3#vlan database
% Warning: It is recommended to configure VLAN from config mode,
  as VLAN database mode is being deprecated. Please consult user
  documentation for configuring VTP/VLAN in config mode.

SW3(vlan)#exit
APPLY completed.
Exiting....
SW3#write
Building configuration...
[OK]
SW3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000C.857D.DC34
             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     000C.857D.DC34
             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            Desg FWD 19        128.2    P2p

SW3#
```

6. Untuk tiap switch isikan tabel berikut :

Sw 1

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0040.0B4E.278C
4	Bridge ID	32769 :0040.0B4E.278C
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

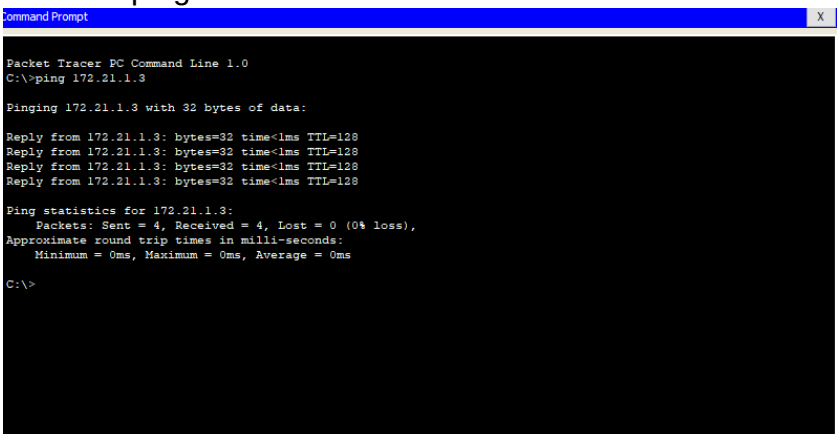
No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0010.11B8.5078
4	Bridge ID	32769 : 0010.11B8.5078
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa03--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 3

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	000C.857D.DC34
4	Bridge ID	32769 : 000C.857D.DC34
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

7. Tentukan
   Root Bridge : SW3
   Designated bride : SW2
   Root Port : SW1 Fa 0/3, SW 2 Fa0/3
   Designated Port : SW1 Fa 0/1 , SW 2 Fa 0/1 Fa 0/2, SW 3 Fa0/1 Fa 0/2 Fa 0/3
   Port yang berada pada keadan forwarding : SW1(Fa 0/1;0/3) ,SW2(Fa 0/1;0/2;0/3), dan SW3(Fa 0/1;0/2;0/3)
   Port yang berada pada keadan blocking : SW1 (Fa 0/2)

8. Test ping pc leo ke virgo
    - Klik pada pc leo
    - Pilih tab desktop
    - Pilih command prompt
    - Tuliskan ping 172.21.1.3



9. Simpan konfigurasi jaringan dengan nama lab2.nwc

    Lakukan perintah dibawah untuk setiap switch

    Sw1

```
SW1#
SW1#write
Building configuration...
[OK]
```

    Sw2

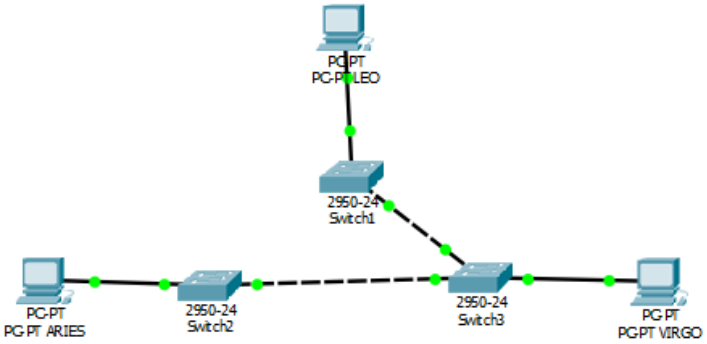
```
SW2#
SW2#write
Building configuration...
[OK]
SW2#
```

    Sw3

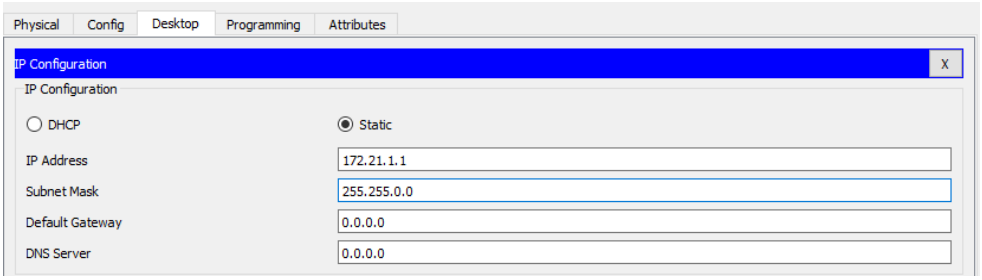
```
SW3(vlan)#exit
APPLY completed.
Exiting....
SW3#write
Building configuration...
[OK]
SW3#
```

Kegiatan 2. Topologi 2

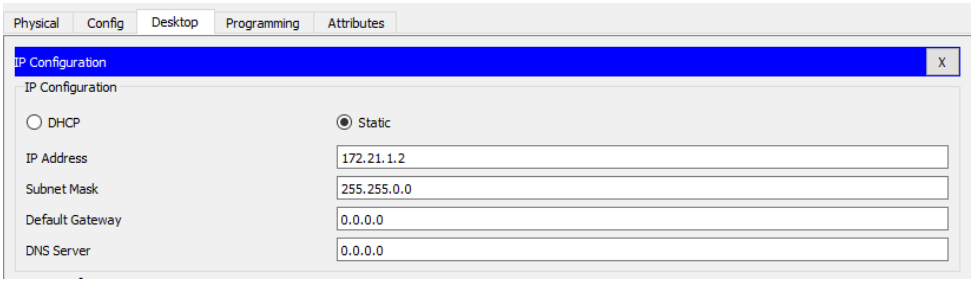
1) Menggunakan PACKET TRACER ubah topologi menjadi seperti topologi berikut ini:



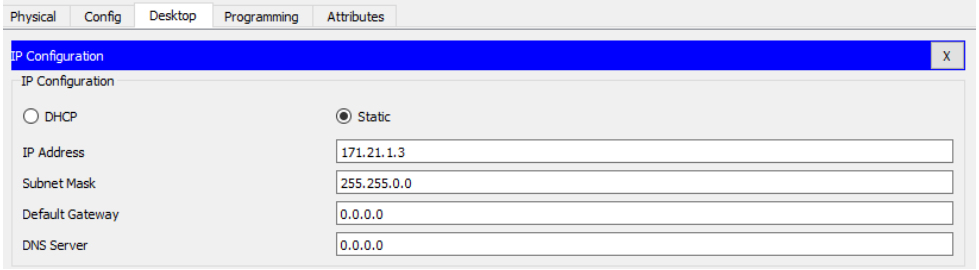
2) Konfigurasi masing-masing PC dengan IP :
   Leo = 172.21.1.1/24



   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

Sw 1

```
SW1#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID     Priority    32769
              Address     000C.857D.DC34
              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     0040.0B4E.278C
              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

SW1#
```

Sw 2

```
SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID     Priority    32769
              Address     000C.857D.DC34
              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     0010.11B8.5078
              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

SW2#
```

Sw 3

```
SW3#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID     Priority    32769
              Address     000C.857D.DC34
              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     000C.857D.DC34
              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            Desg FWD 19        128.2    P2p

SW3#
```

4) Untuk tiap switch isikan tabel berikut :

Sw 1

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0040.0B4E.278C
4	Bridge ID	32769 :0040.0B4E.278C
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/3--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 2

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	0010.11B8.5078
4	Bridge ID	32769 : 0010.11B8.5078
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/3--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

Sw 3

No	Variable	Nilai
1	Root ID	32769 : 000C.857D.DC34
2	Priority	32769
3	MAC Address	000C.857D.DC34
4	Bridge ID	32769 : 000C.857D.DC34
5	Cost (0 / 1 ; 0 / 2 ; 0 / 3)	Fa0/1 --> 19, Fa0/2 --> 19, Fa0/3--> 19
6	Hello Time	2 Sec
7	MaxAge	20 Sec
8	Forward Delay	15 Sec

5) Kemudian Tentukan
   Root Bridge : SW3
   Designated bride : SW2
   Root Port : SW1 Fa 0/3, SW 2 Fa 0/3
   Designated Port : SW1 Fa 0/1 , SW 2 Fa0/1 , SW 3 (Fa0/1,Fa 0/2,Fa0/3)
   Port yang berada pada keadanforwarding : SW1(Fa 0/1;0/3) ,SW2(Fa 0/1;0/3), dan SW3(Fa 0/1;0/2;0/3)
   Port yang berada pada keadan blocking : tidak ada yang terblock

6) Test ping pc leo ke pc virgo
   - Klik pada pc leo
   - Pilih tab desktop
   - Pilih command prompt
   - Tuliskan ping 172.21.1.3