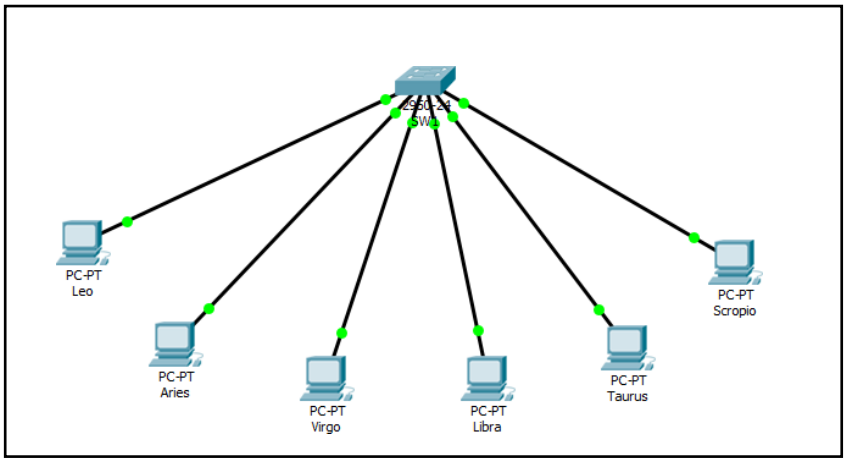
Nama : Galih Prayoga
NIM : L200180006
Kelas : A

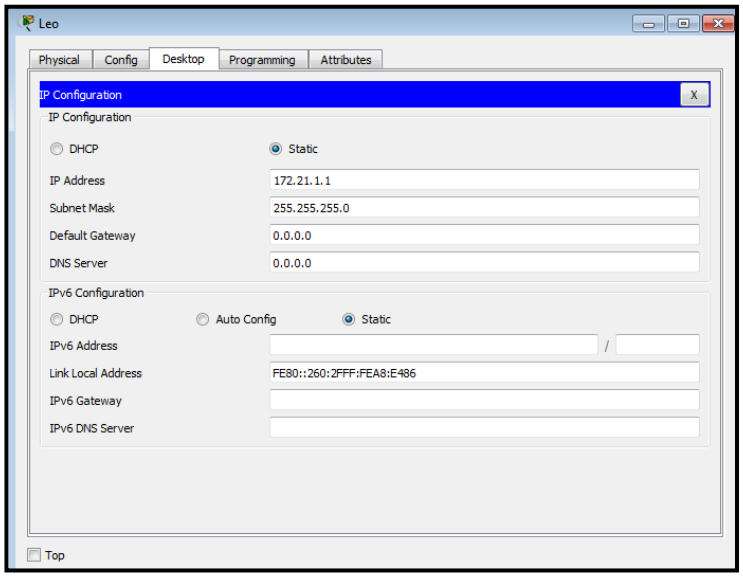
**TUGAS MODUL 4 VIRTUAL LAN DAN TRUNKING**

**Kegiatan1. Topologi 1**

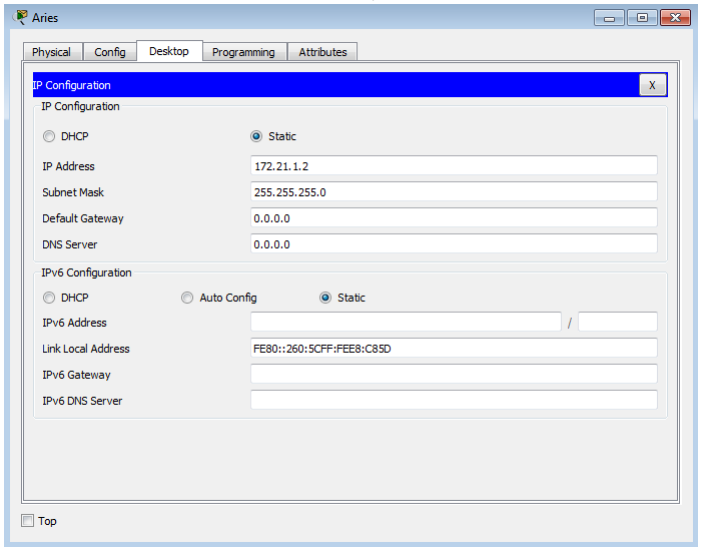
1. Menggunakan paket tracer buat topologi berikut ini dengan menggunakan switch :
2. Beri nama masing-masing perangkat dengan SW1(switch), Leo(PC0), Aries(PC1), Virgo(PC2), Pisces(PC3), Libra(PC4), dan Scorpio(PC5)



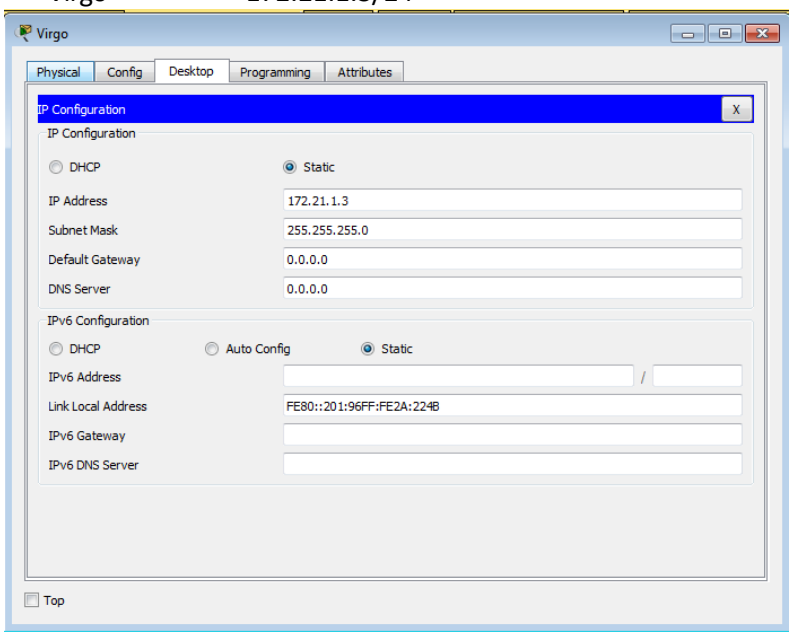

3. Konfigurasi masing-masing PC dengan nama dan alamat IP berikut ini :
   - Leo = 172.21.1.1/24



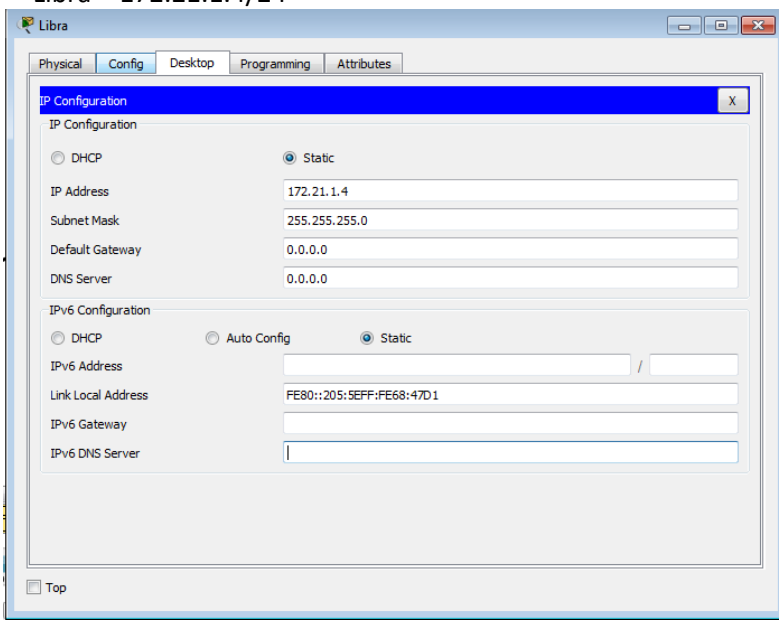
- Aries = 172.21.1.2/24



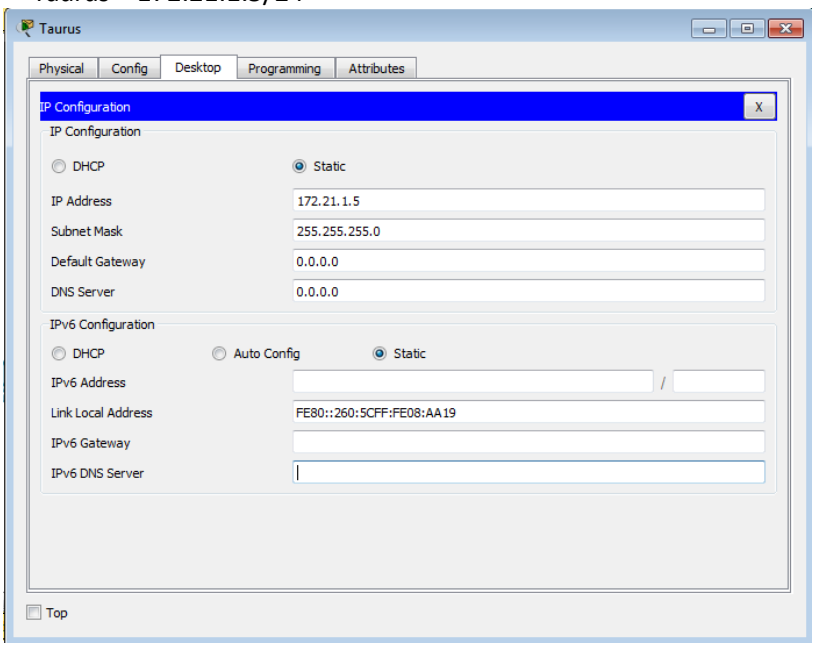

- Virgo = 172.21.1.3/24



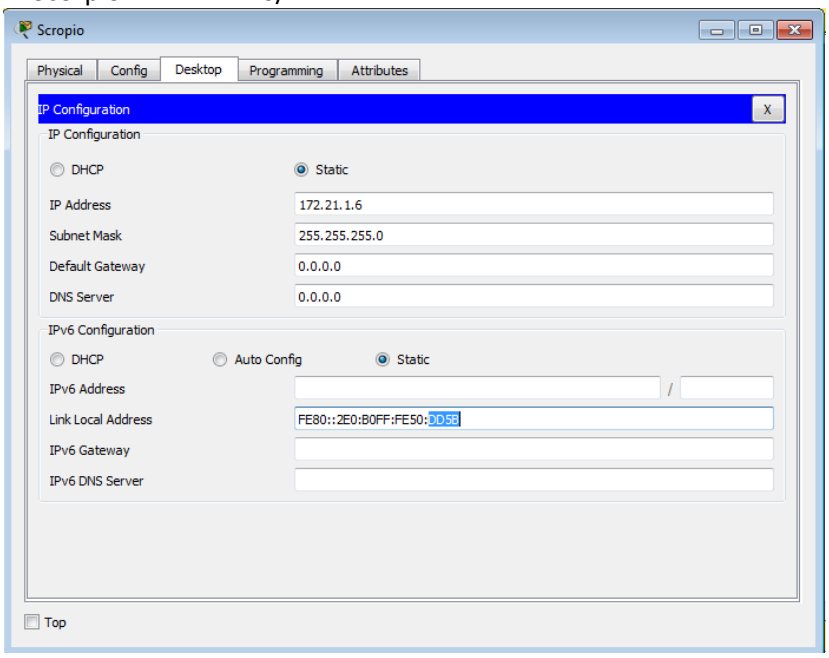
- Libra = 172.21.1.4/24



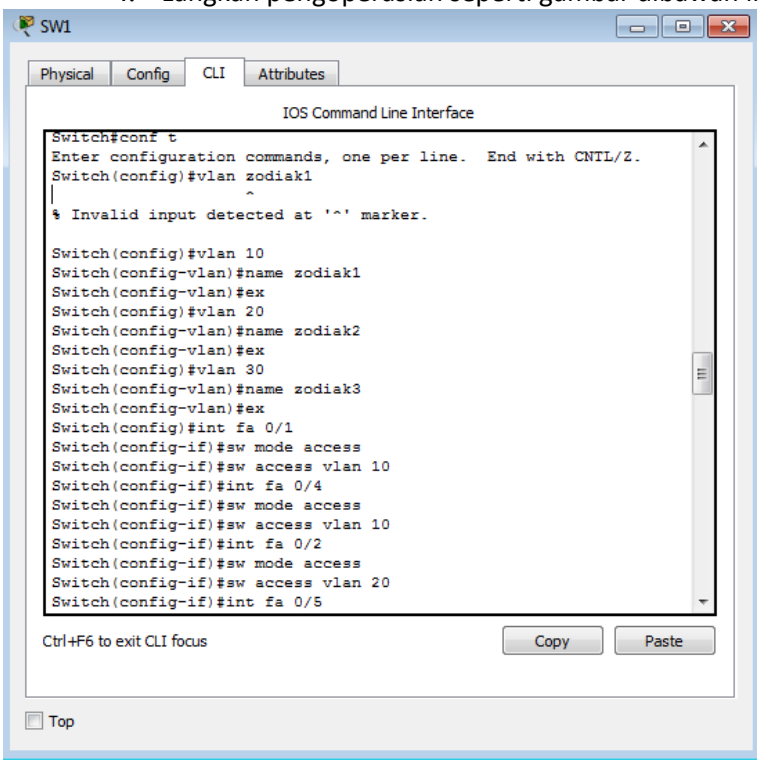

- Taurus = 172.21.1.5/24



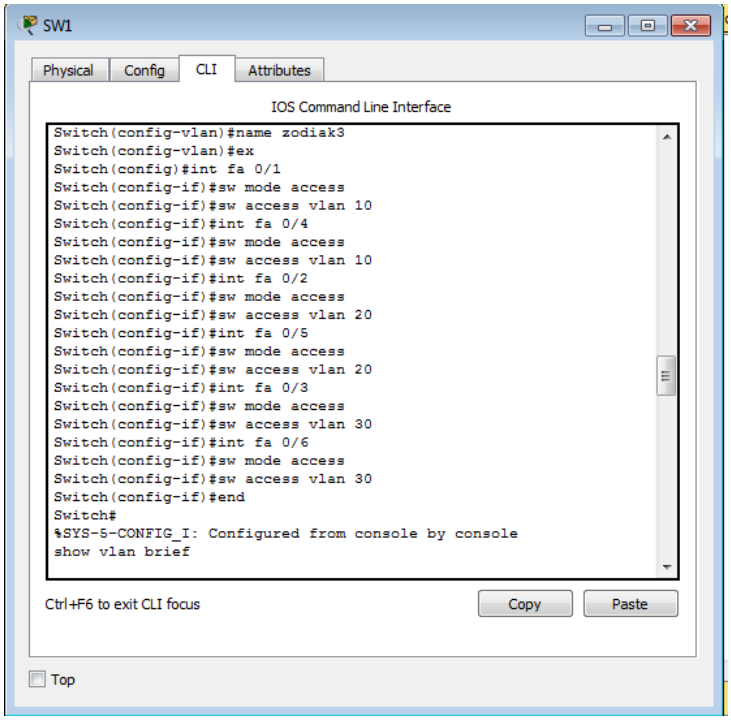
- Scorpio = 172.21.1.6/24



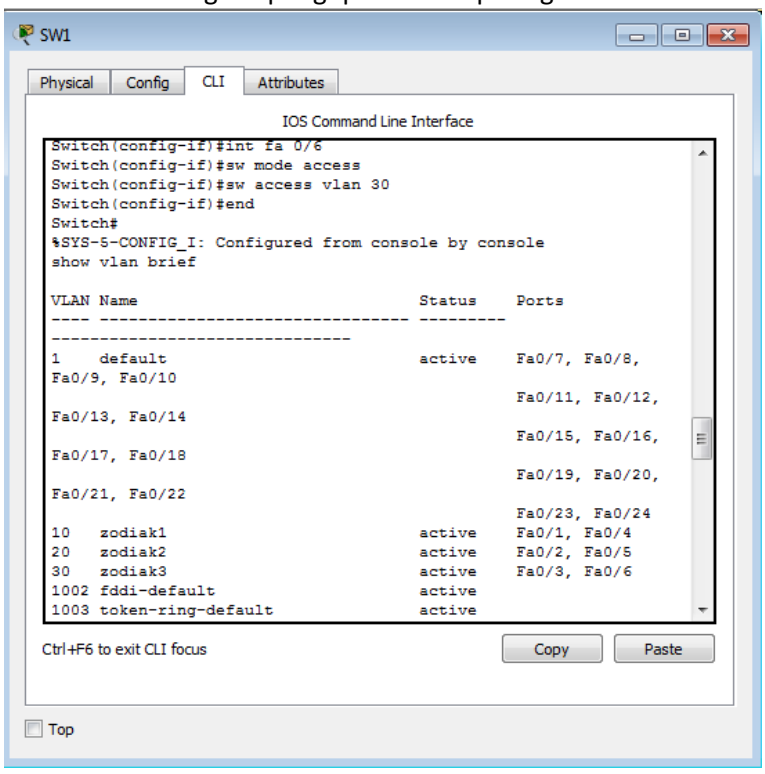

4. Langkah pengoperasian seperti gambar dibawah ini :

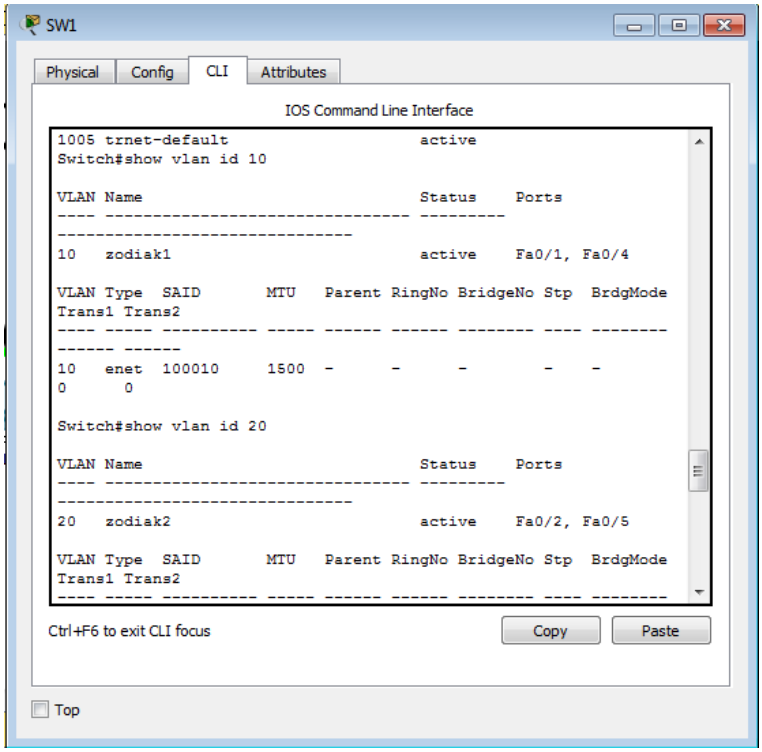



5. Langkah pengoperasian seperti gambar dibawah ini :




6. Langkah pengoperasian seperti gambar dibawah ini :






## Tugas 6A Capture masing-masing tampilan informasi vlan

- Zodiak 1

| No | Variabel | Nilai |
|---|---|---|
| 1 | Nomor VLAN | 10 |
| 2 | Nama VLAN | Zodiak1 |
| 3 | Port | Fa 0/1, Fa 0/4 |
| 4 | Status | Active |

- Zodiak 2

| No | Variabel | Nilai |
|---|---|---|
| 1 | Nomor VLAN | 20 |
| 2 | Nama VLAN | Zodiak2 |
| 3 | Port | Fa 0/2, Fa 0/5 |
| 4 | Status | Active |

- Zodiak 3

| No | Variabel | Nilai |
|---|---|---|
| 1 | Nomor VLAN | 30 |
| 2 | Nama VLAN | Zodiak3 |
| 3 | Port | Fa 0/3, Fa 0/6 |
| 4 | Status | Active |

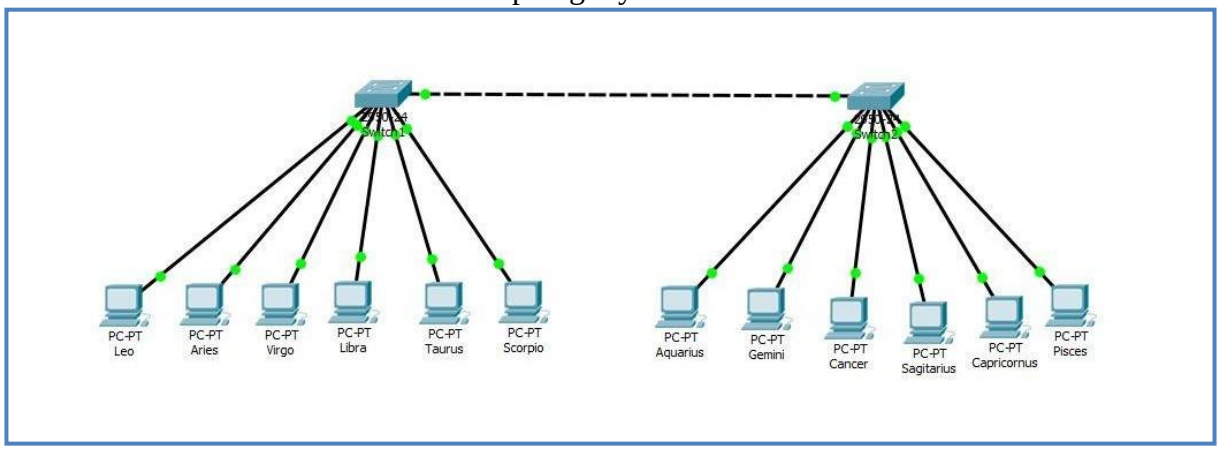
## TUGAS 6B

Penjelasan :

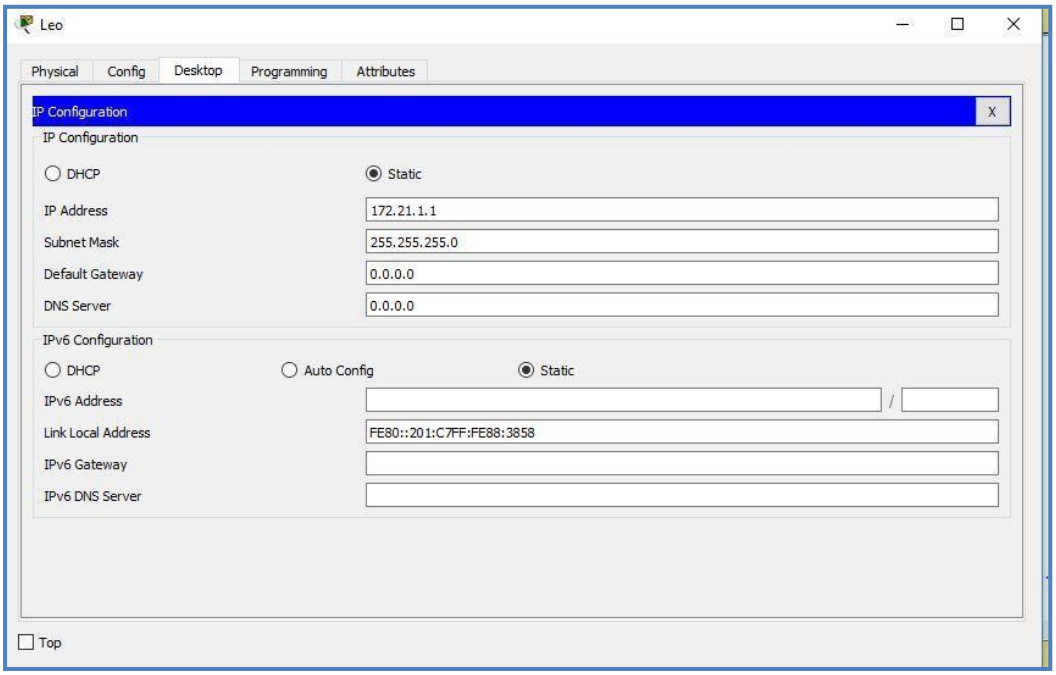
- Nomor VLAN 10 dengan nama VLAN zodiak1 memiliki port fa 0/1 dan fa 0/4 status VLAN nya active.
- Nomor VLAN 20 dengan nama VLAN zodiak2 memiliki port fa 0/2 dan fa 0/5 status VLAN nya active.
- Nomor VLAN 30 dengan nama VLAN zodiak3 memiliki port fa 0/3 dan fa 0/6 status VLAN nya active.

**Kegiatan 2. Topologi 2**

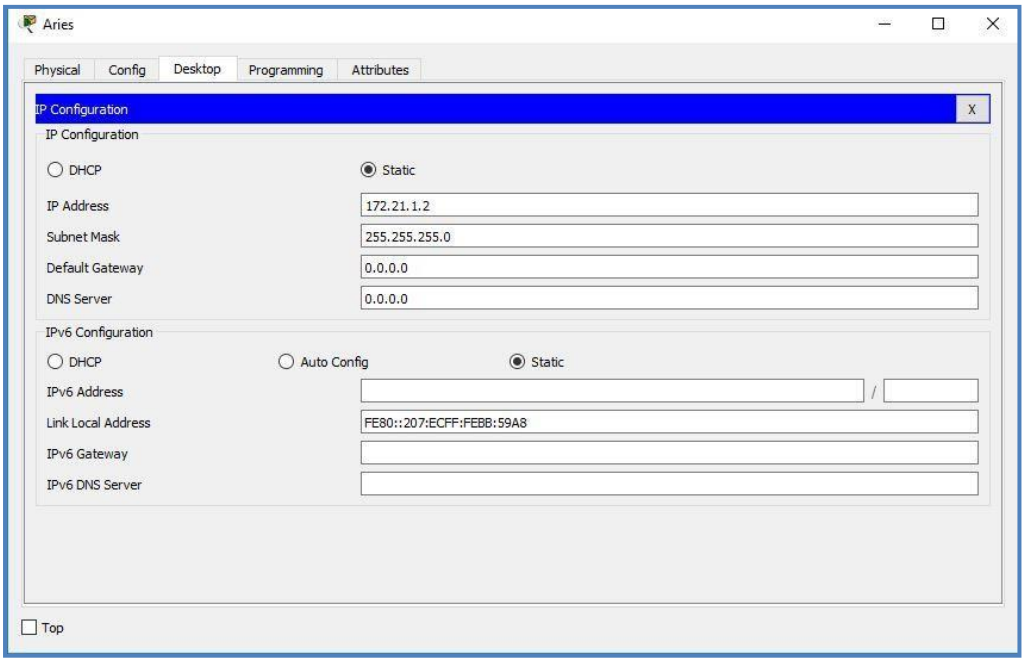
1. Menggunakan cisco packet tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950.
2. Beri nama masing-masing perangkat sesuai dengan perintah dibuku.
   Berikut adalah contoh bentuk topologi nya :



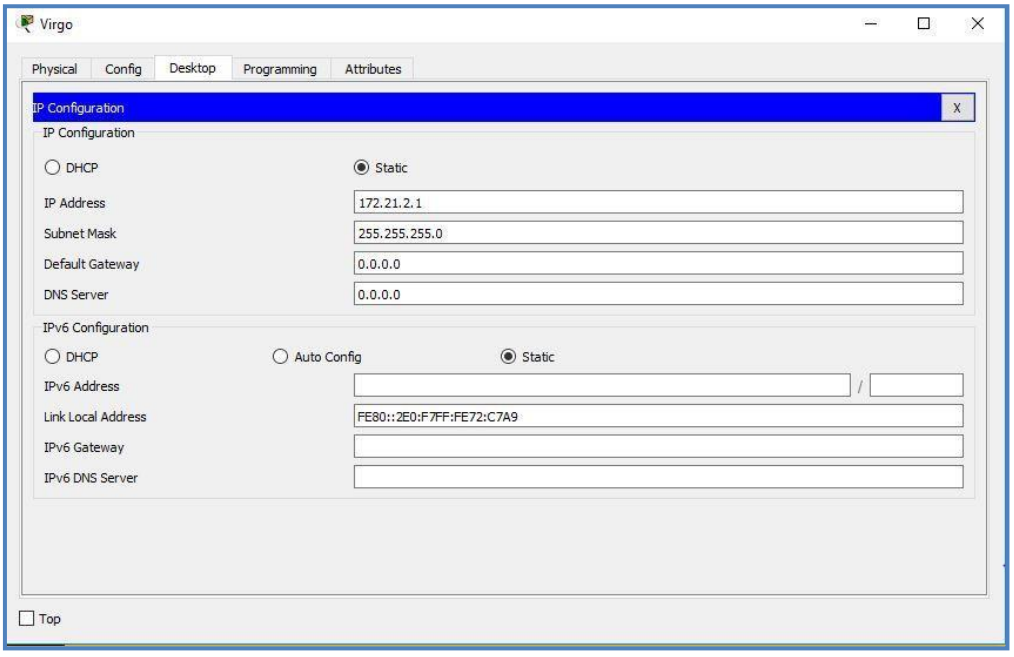

3. Konfigurasi masing-masing PC dengan nama dan alamat IP berikut ini :
   - Leo = 172.21.1.1/24



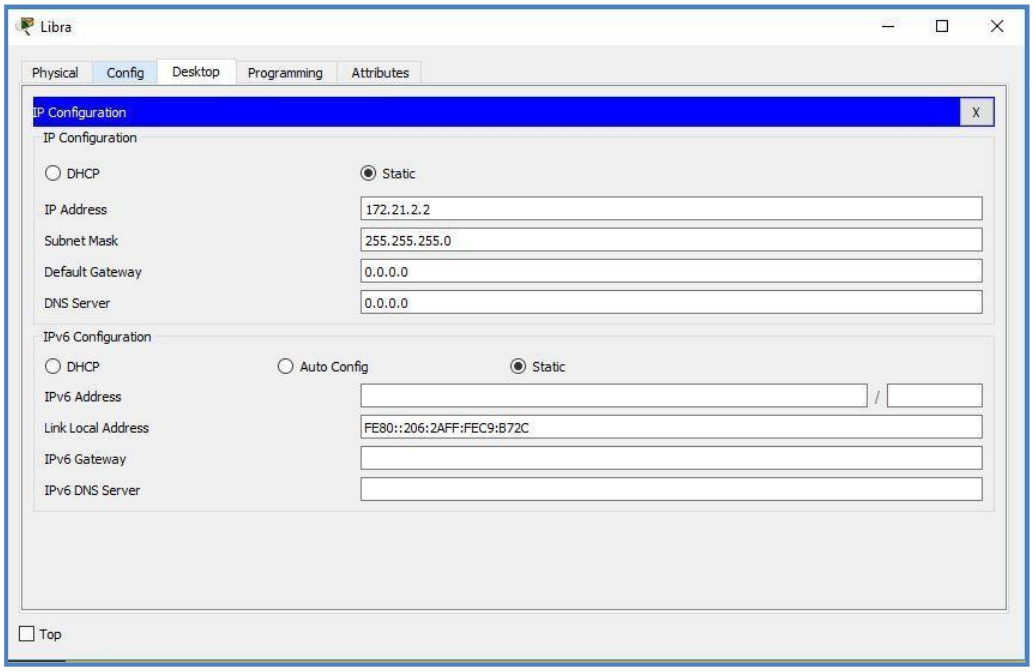
- Aries = 172.21.1.2/24



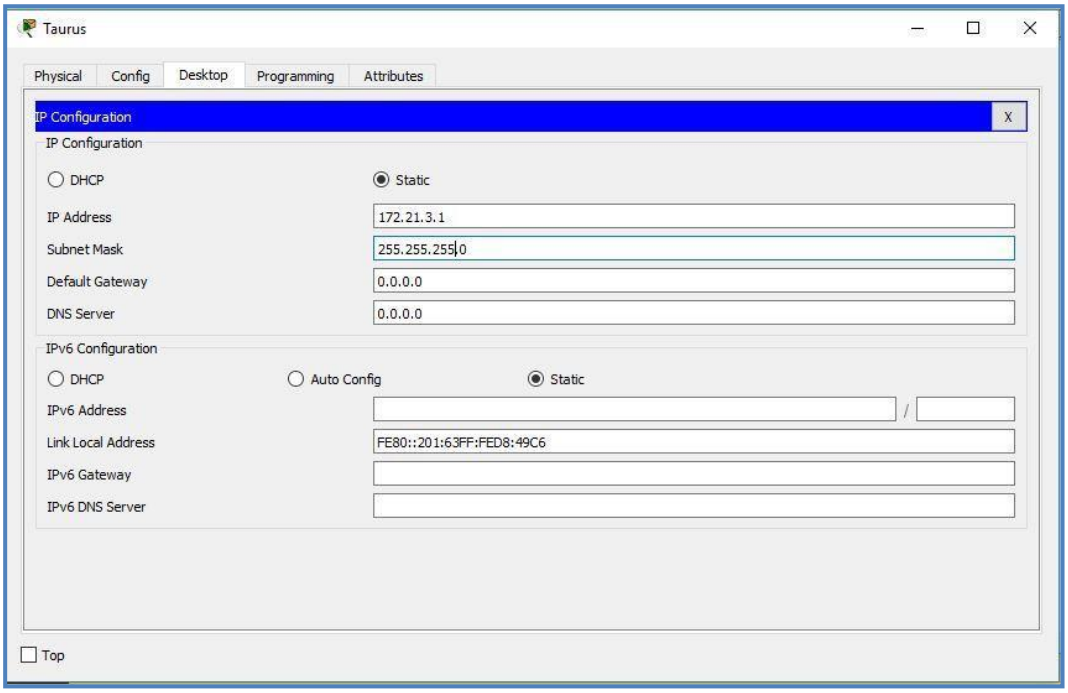

- Virgo = 172.21.2.1/24



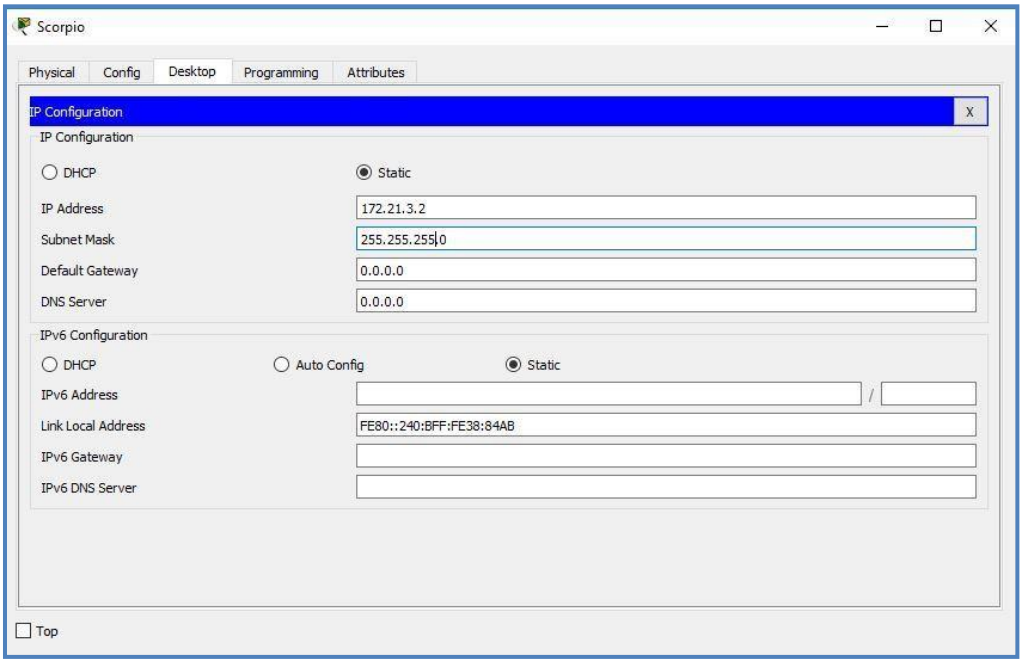
- Libra = 172.21.2.2/24



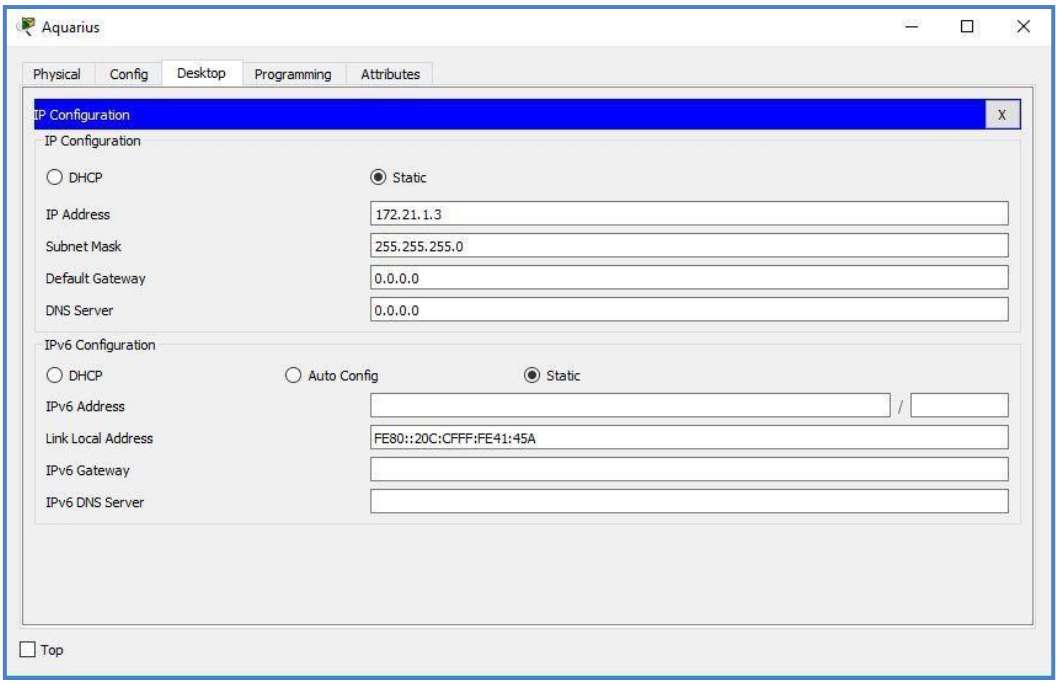

- Taurus = 172.21.3.1/24



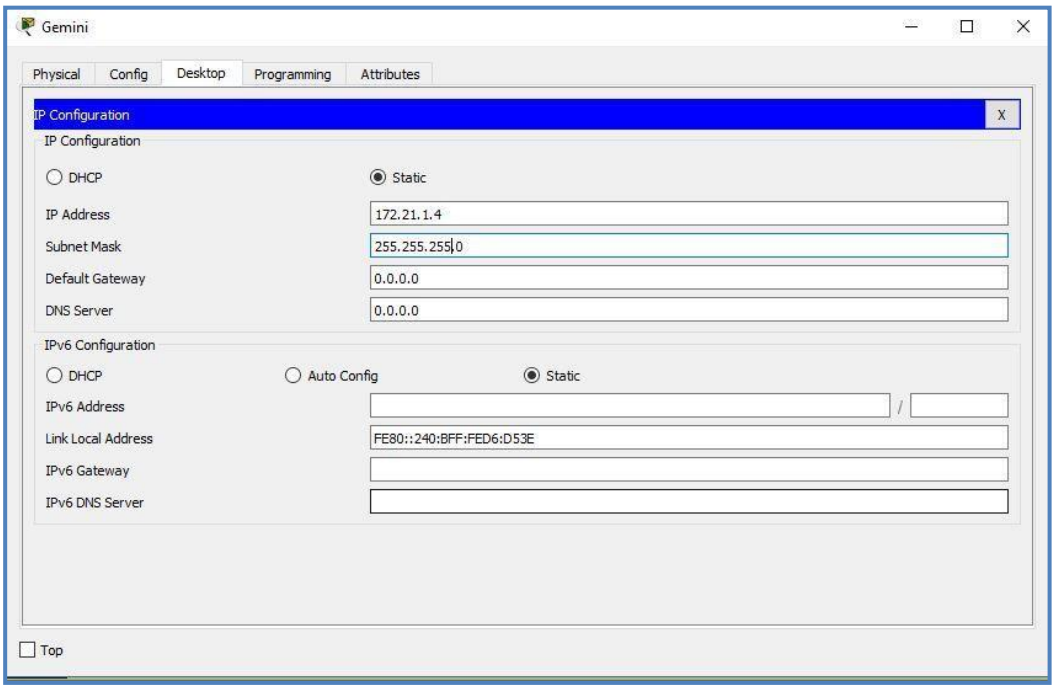
- Scorpio = 172.21.3.2/24



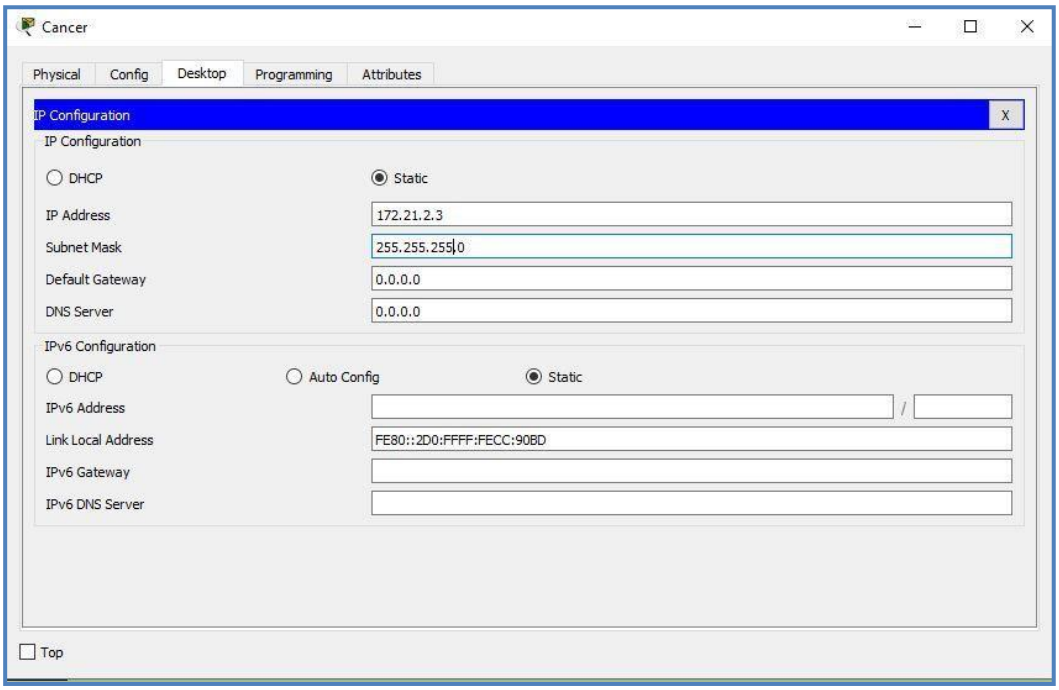

- Aquarius = 172.21.1.3/24



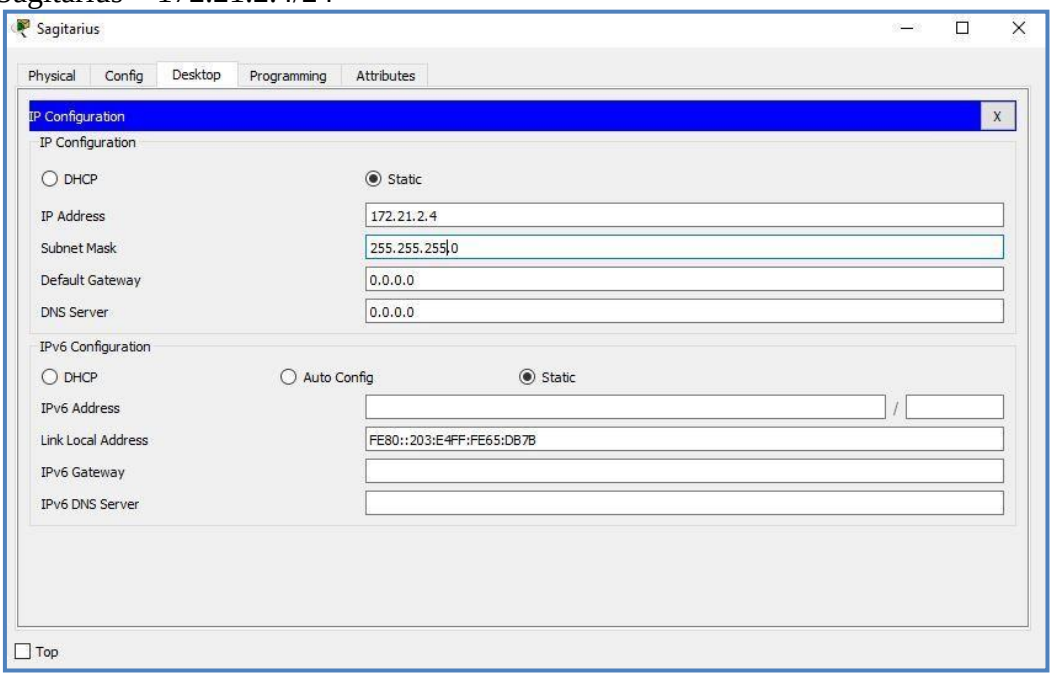
- Gemini = 172.21.1.4/24



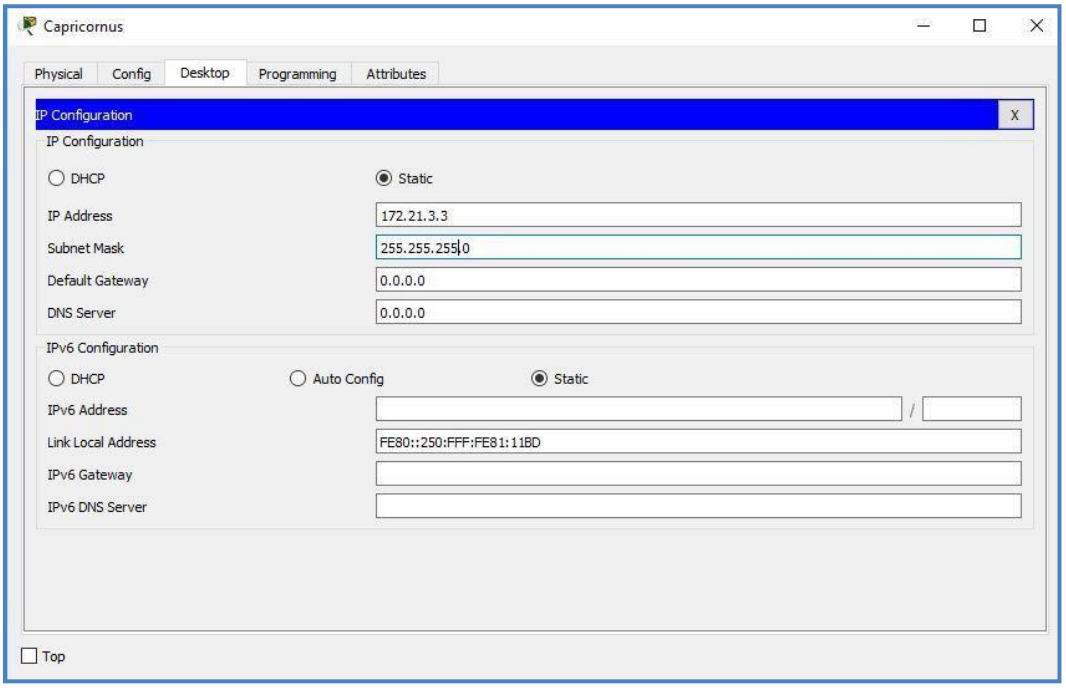

- Cancer = 172.21.2.3/24



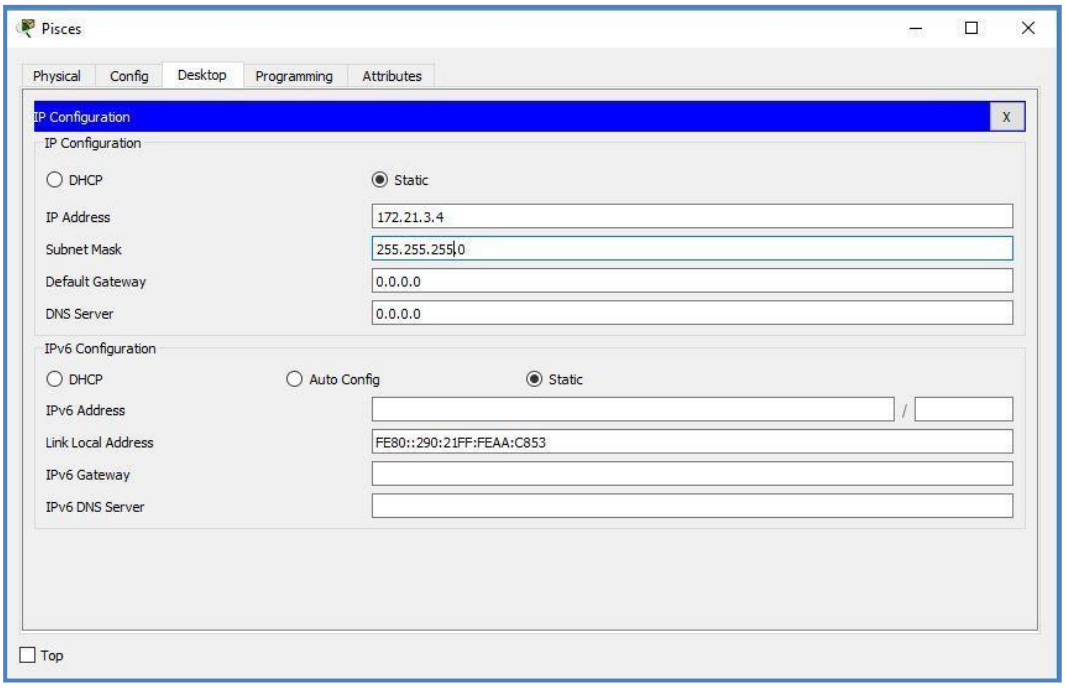
- Sagitarius = 172.21.2.4/24




- Capricornus = 172.21.3.3/24



- Pisces = 172.21.3.4/24




4. Lakukan langkah 4 dan 5 kegiatan 1 untuk switch 1.

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#ex
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#ex
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#ex
Switch(config)#int fa 0/1
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int fa 0/4
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int fa 0/2
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#int fa 0/5
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#int fa 0/3
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30
Switch(config-if)#int fa 0/5
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

5. Lakukan konfigurasi VLAN trunking pada switch 1.
   Langkah pengoperasian seperti gambar dibawah ini :

```
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fa 0/7
Switch(config-if)#sw mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/7, changed state to up

Switch(config-if)#exit
```

6. Langkah pengoperasian untuk melihat konfigurasi, seperti gambar dibawah ini :

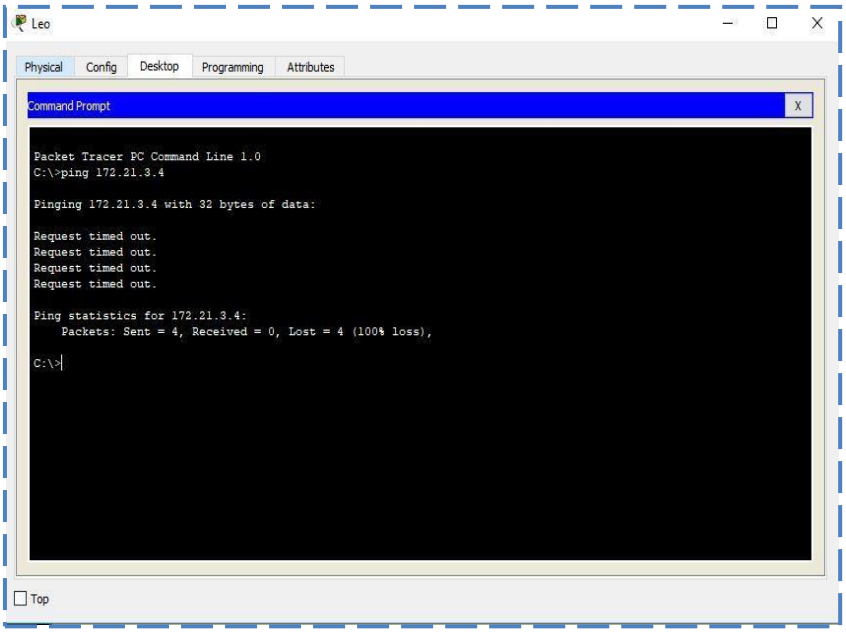
```
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show int fa 0/7 switchport
Name: Fa0/7
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Appliance trust: none

Switch#
```

```
Switch#
Switch#show int trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/7       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/7       1-1005

Port        Vlans allowed and active in management domain
Fa0/7       1,10,20,30

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/7       1,10,20,30
```

```
Switch#show vlan

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/6, Fa0/8, Fa0/9, Fa0/10
                                                 Fa0/11, Fa0/12, Fa0/13, Fa0/14
                                                 Fa0/15, Fa0/16, Fa0/17, Fa0/18
                                                 Fa0/19, Fa0/20, Fa0/21, Fa0/22
                                                 Fa0/23, Fa0/24
10   zodiak1                           active    Fa0/1, Fa0/4
20   zodiak2                           active    Fa0/2
30   zodiak3                           active    Fa0/3, Fa0/5
1002 fddi-default                      act/unsup
1003 token-ring-default                act/unsup
1004 fddinet-default                   act/unsup
1005 trnet-default                     act/unsup

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
10   enet  100010     1500  -      -      -        -    -        0      0
20   enet  100020     1500  -      -      -        -    -        0      0
30   enet  100030     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

Remote SPAN VLANs
------------------------------------------------------------------------------

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
Switch#
```

**<u>TUGAS 7A</u>**: Untuk port 0/7 pada switch 0 telah disetting untuk trunk dan berhasil sehingga port 0/7 tidak tersedia untuk vlan.

7. Melakukan ping dari PC Leo ke PC Pisces




**Tugas 8A**: Hasilnya adalah RTO karena berada pada jaringan yang berbeda dan pada switch 1 belum disetting trunk.

8. Lakukan konfigurasi VLAN trunking pada switch 2 seperti langkah 5.

```
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#int fa 0/7
Switch(config-if)#sw mode trunk
Switch(config-if)#exit
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console
```

9. Langkah pengoperasian untuk melihat konfigurasi, seperti gambar dibawah ini :

```
Switch(config)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#show vlan

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                 Fa0/5, Fa0/6, Fa0/8, Fa0/9
                                                 Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                 Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                 Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                 Fa0/22, Fa0/23, Fa0/24
1002 fddi-default                      act/unsup
1003 token-ring-default                act/unsup
1004 fddinet-default                   act/unsup
1005 trnet-default                     act/unsup

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        ibm  -        0      0

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

Remote SPAN VLANs
------------------------------------------------------------------------------

Primary Secondary Type              Ports
------- --------- ----------------- ------------------------------------------
Switch#
```

## TUGAS 10A

Jelaskan secara singkat hasil yang anda peroleh dari langkah 10.

Jawab: Hasil yang diperoleh berupa informasi mengenai konfigurasi VLAN Trunking pada Switch 2.

10. Pada mode configuration, konfigurasi port-port switch ke dalam VLAN zodiak1, zodiak2, zodiak3 dengan anggota sebagai berikut :
    - Zodiak1 = aquarius dan gemini
    - Zodiak2 = cancer dan sagitarius
    - Zodiak3 = capricornus dan pisces

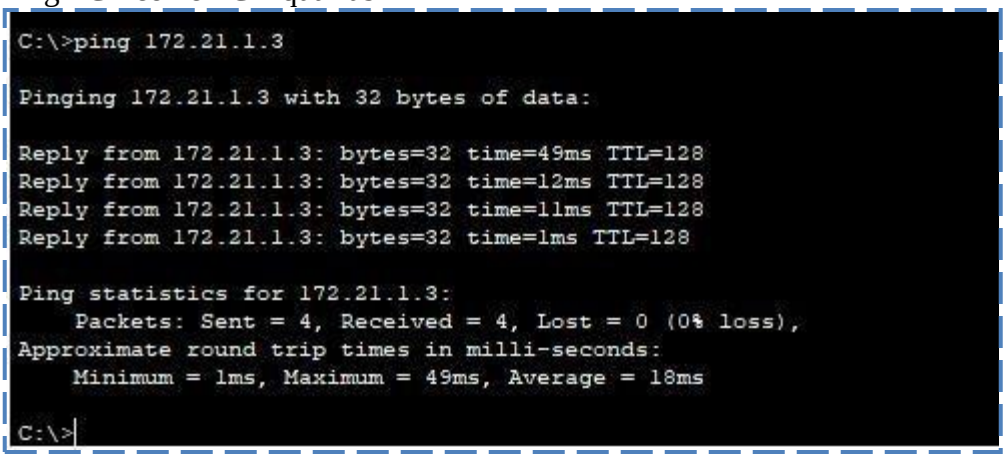
    Langkahnya seperti gambar dibawah ini :

```
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#ex
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#ex
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)# int fa 0/1
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int fa 0/2
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 10
Switch(config-if)#int fa 0/3
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#int fa 0/4
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 20
Switch(config-if)#int fa 0/5
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#sw mode access
Switch(config-if)#sw access vlan 30
Switch(config-if)#end
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

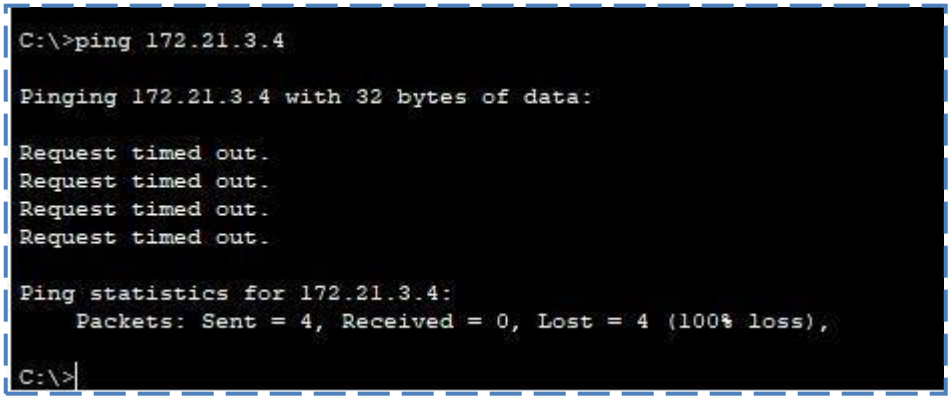
11. Lakukan ping PC Leo ke PC Aries

```
C:\>ping 172.21.1.2

Pinging 172.21.1.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

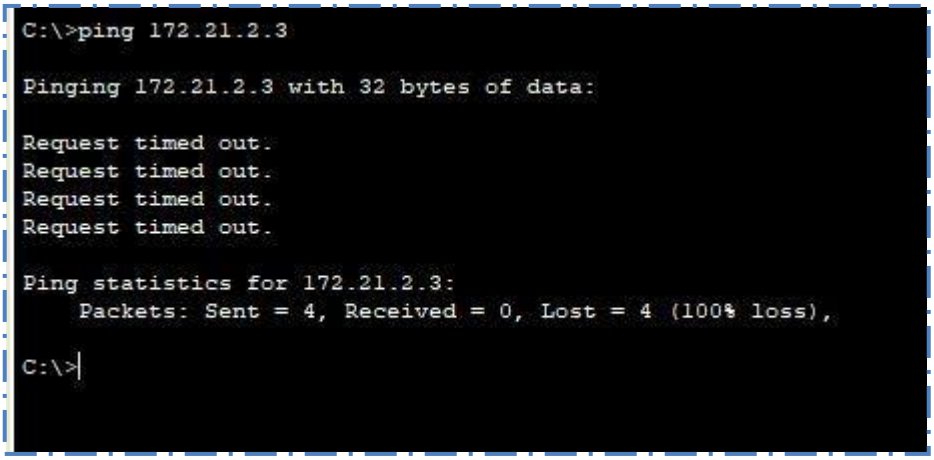
Ping PC Leo ke PC Aquarius



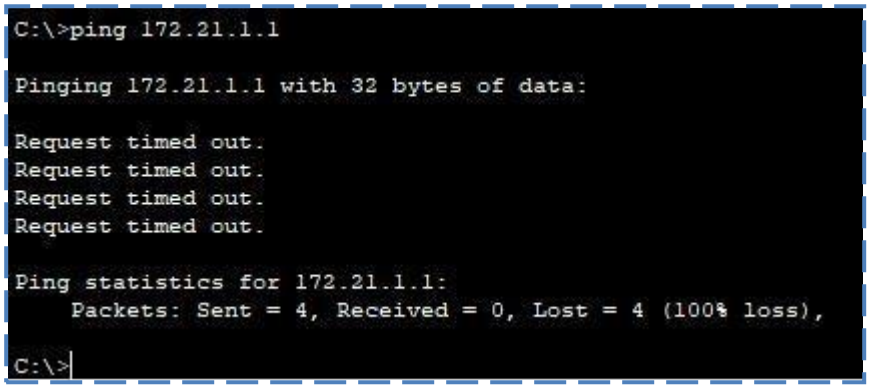

Ping PC Leo ke PC Pisces




Ping PC Libra ke PC Cancer



Ping PC Libra ke PC Leo




**TUGAS 12A**: Dari hasil yang diperoleh bahwa akan mendapatkan hasil reply apabila pc berada pada jaringan dan vlan yang sama. Sedangkan apabila hanya sama dari salah satu vlan atau jaringan maka hasilnya juga akan RTO.