Nama : Nugroho Prihananto

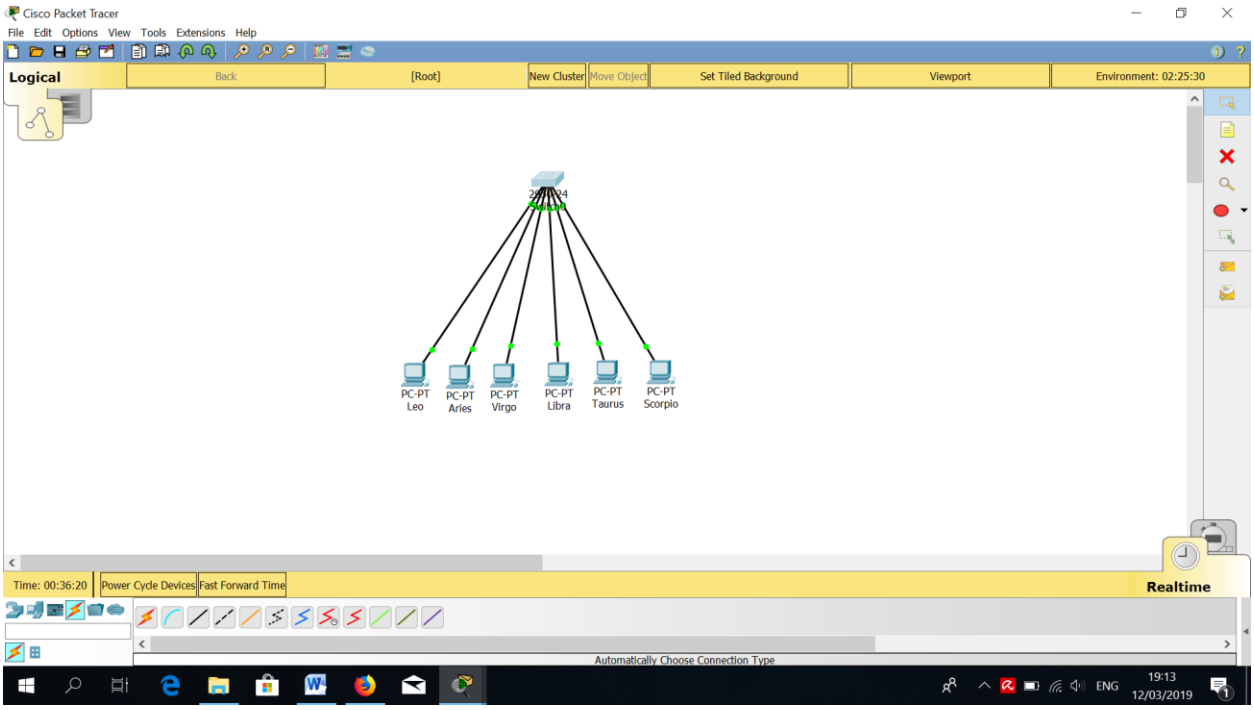
NIM : L200170186

Kelas : D

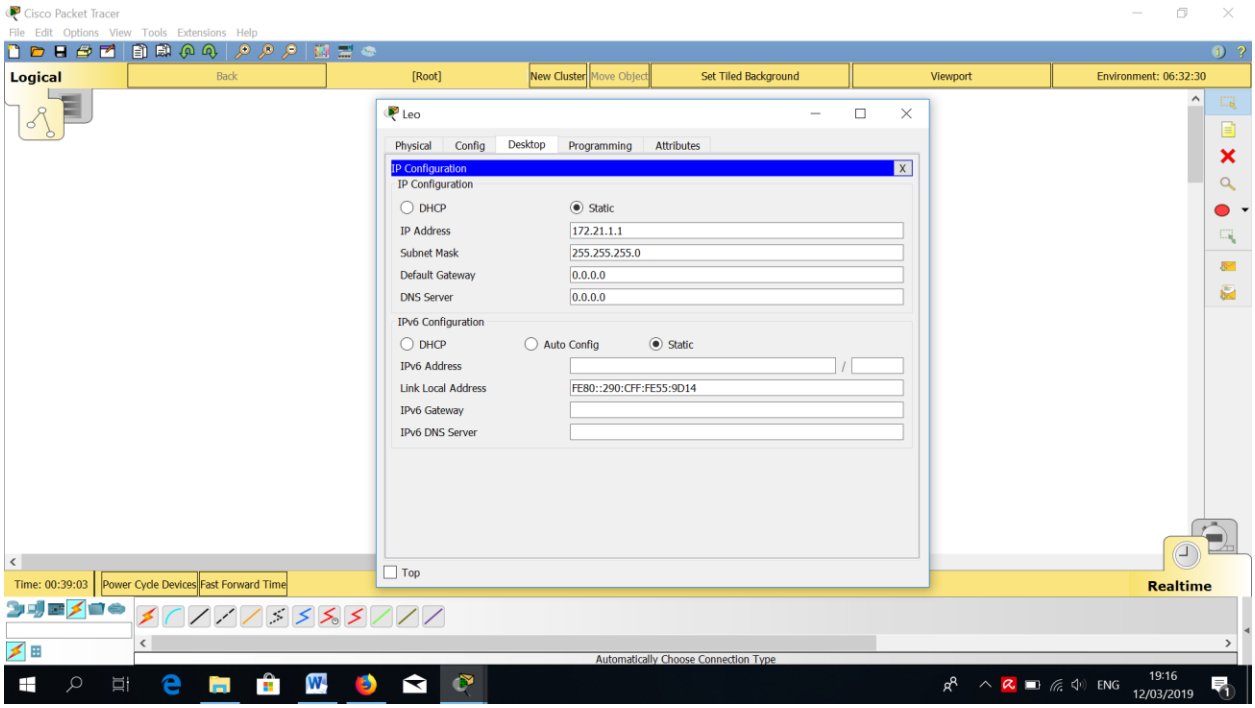
MODUL 4

Kegiatan 1. Topologi 1

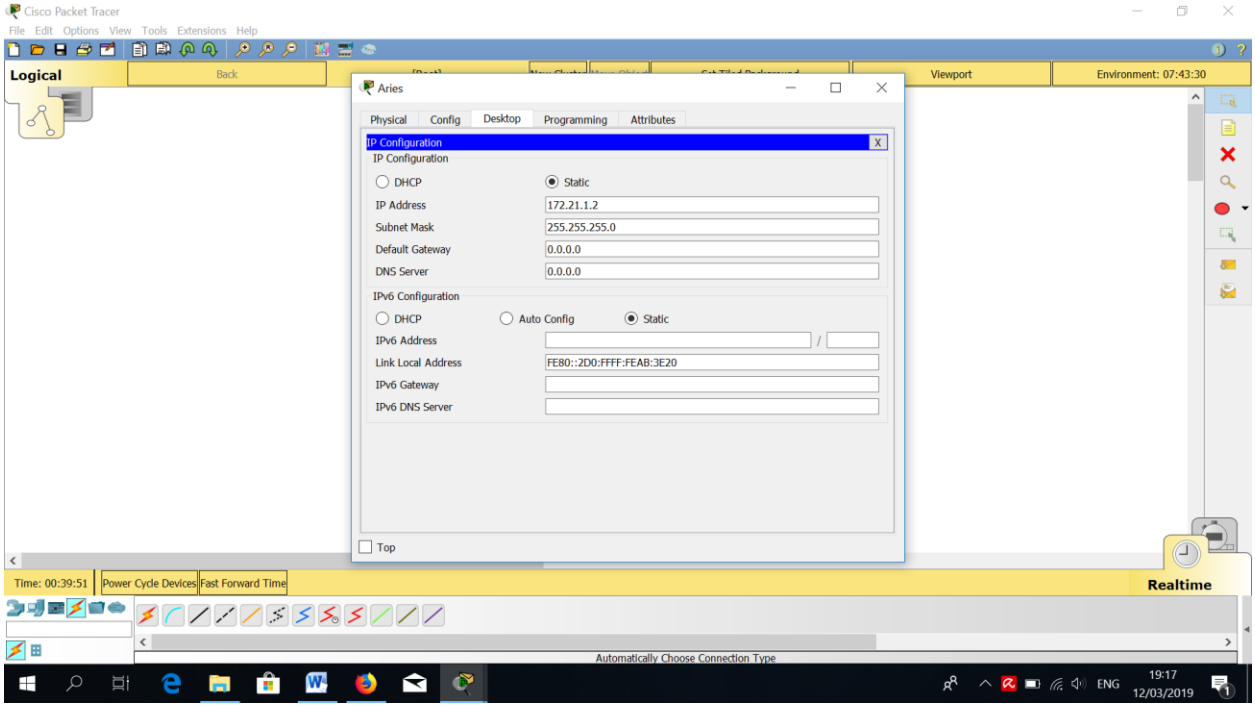
1. Membuat topologi dengan switch menggunakan *packet tracer*



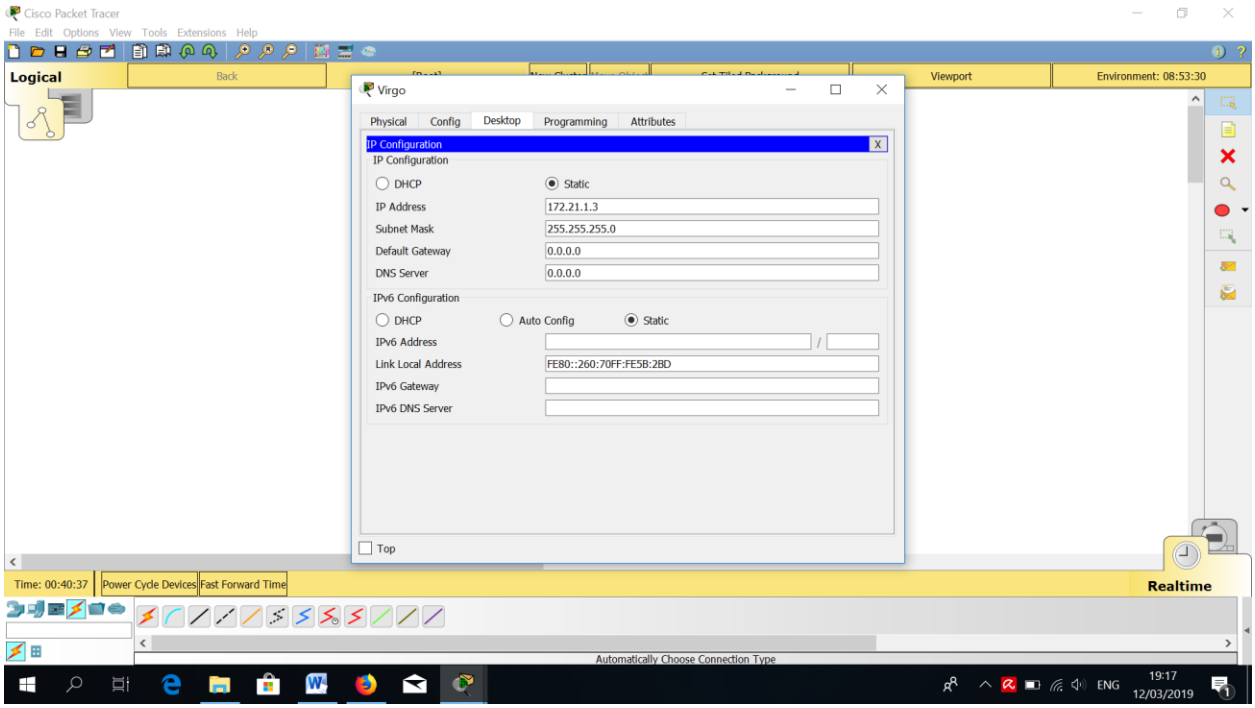
2. Konfigurasi masing-masing PC dengan nama dan alamat IP berikut ini:
   - Leo = 172.21.1.1/24



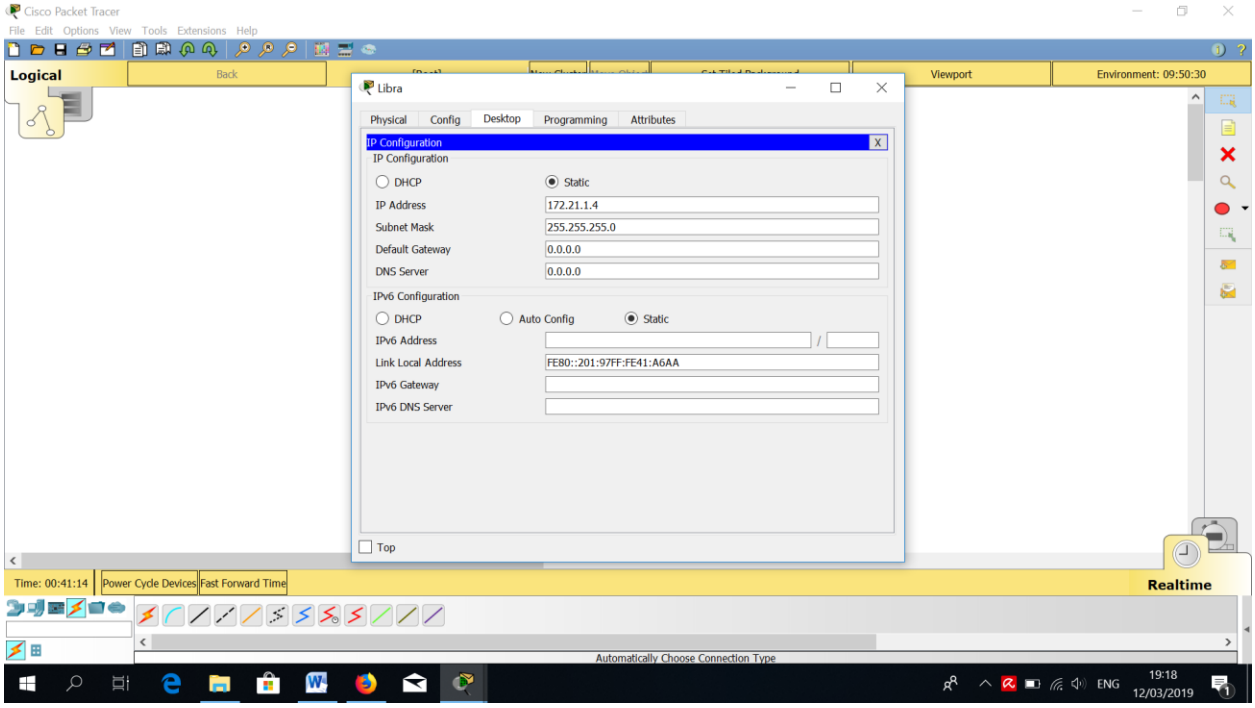
- Aries = 172.21.1.2/24



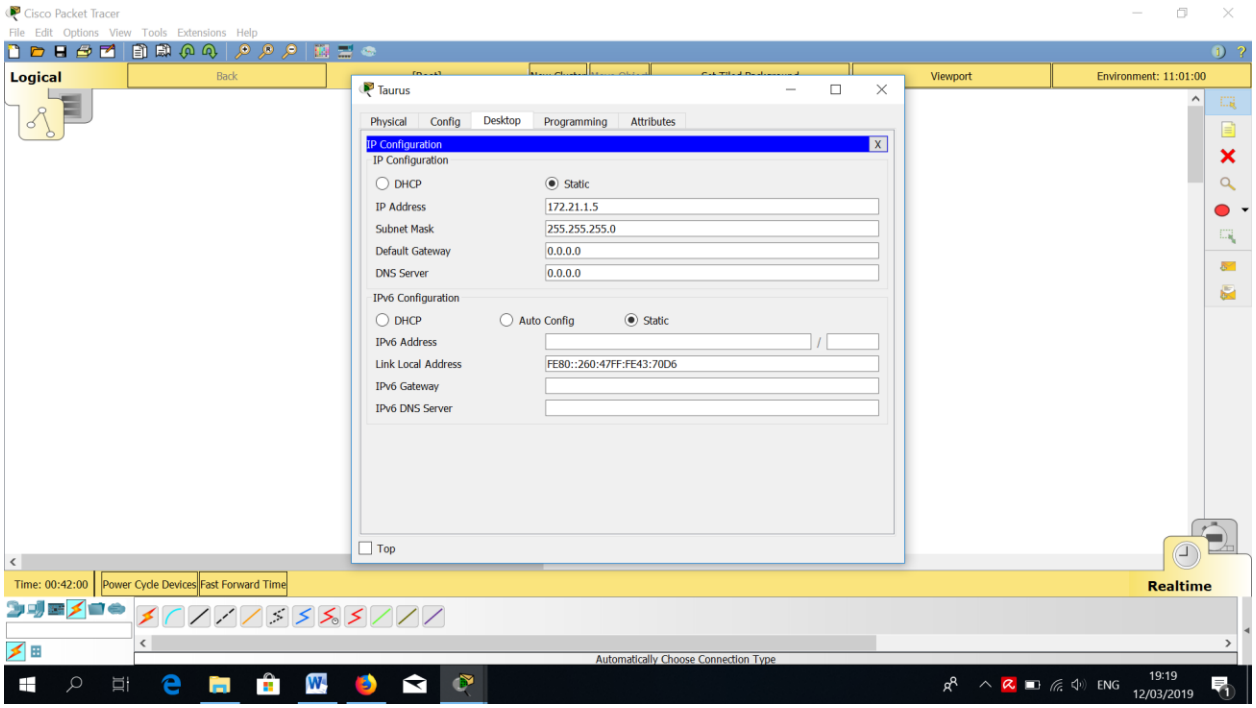
- Virgo = 172.21.1.3/24



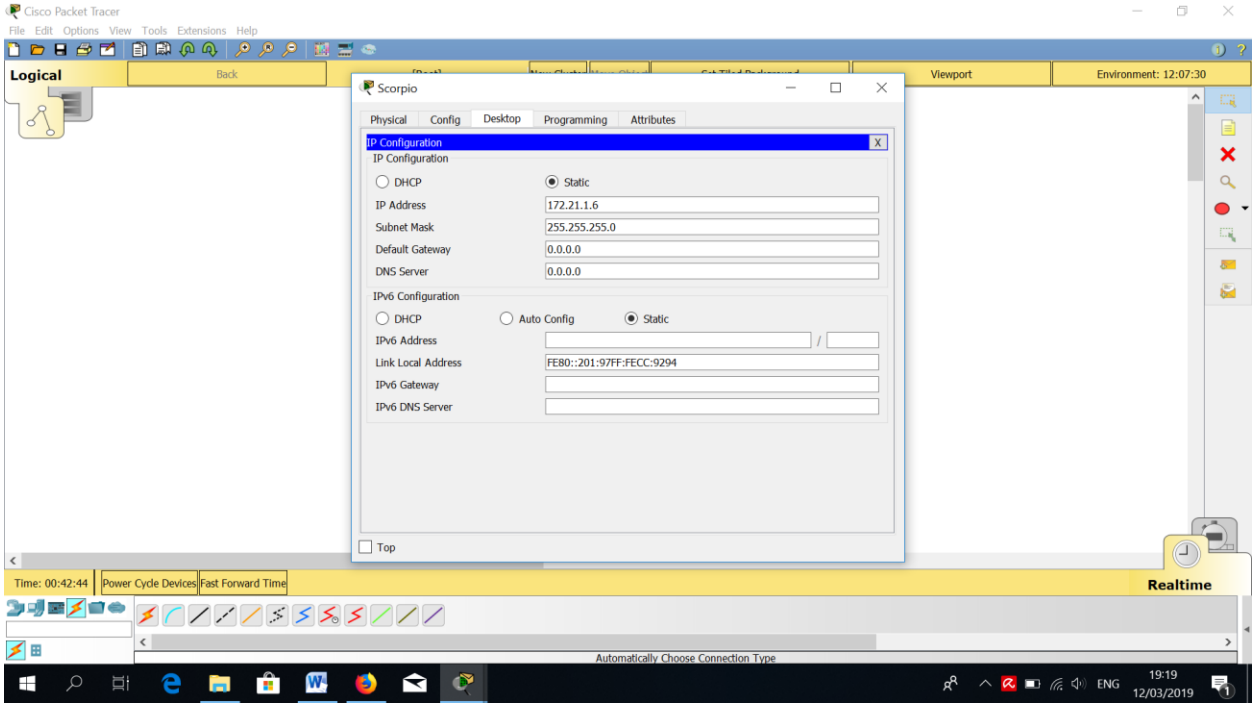
- Libra = 172.21.1.4/24



- Taurus = 172.21.1.5/24



- Scorpio = 172.21.1.6/24



3. Konfigurasi pada switch dengan mode user atau mode privileged, buat 3 VLAN dengan nama zodiak1, zodiak2, dan zodiak3.

```
Switch>enable
Switch#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
```

4. Konfigurasi port-port switch ke dalam VLAN zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut.
   - Zodiak1 = leo dan libra

```
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)#exit
```

   - Zodiak2 = aries dan Taurus

```
Switch(config)#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)#exit
```

   - Zodiak3 = virgo dan scorpio

```
Switch(config)#int fa 0/3
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)#exit
```

5. Konfigurasi VLAN yang telah dibuat.
   - Informasi vlan secara keseluruhan

```
Switch#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/7, 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, Fa0/5
30   zodiak3                          active    Fa0/3, Fa0/6
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
```

   - Informasi vlan10

```
Switch#show vlan id 10

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
10   zodiak1                          active    Fa0/1, Fa0/4

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
10   enet  100010     1500  -      -      -        -    -        0      0
```

- Informasi vlan 20

```
Switch#show vlan id 20

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
20   zodiak2                          active    Fa0/2, Fa0/5

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
20   enet  100020     1500  -      -      -        -    -        0      0
```

- Informasi vlan 30

```
Switch#show vlan id 30

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
30   zodiak3                          active    Fa0/3, Fa0/6

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
30   enet  100030     1500  -      -      -        -    -        0      0

Switch#
```

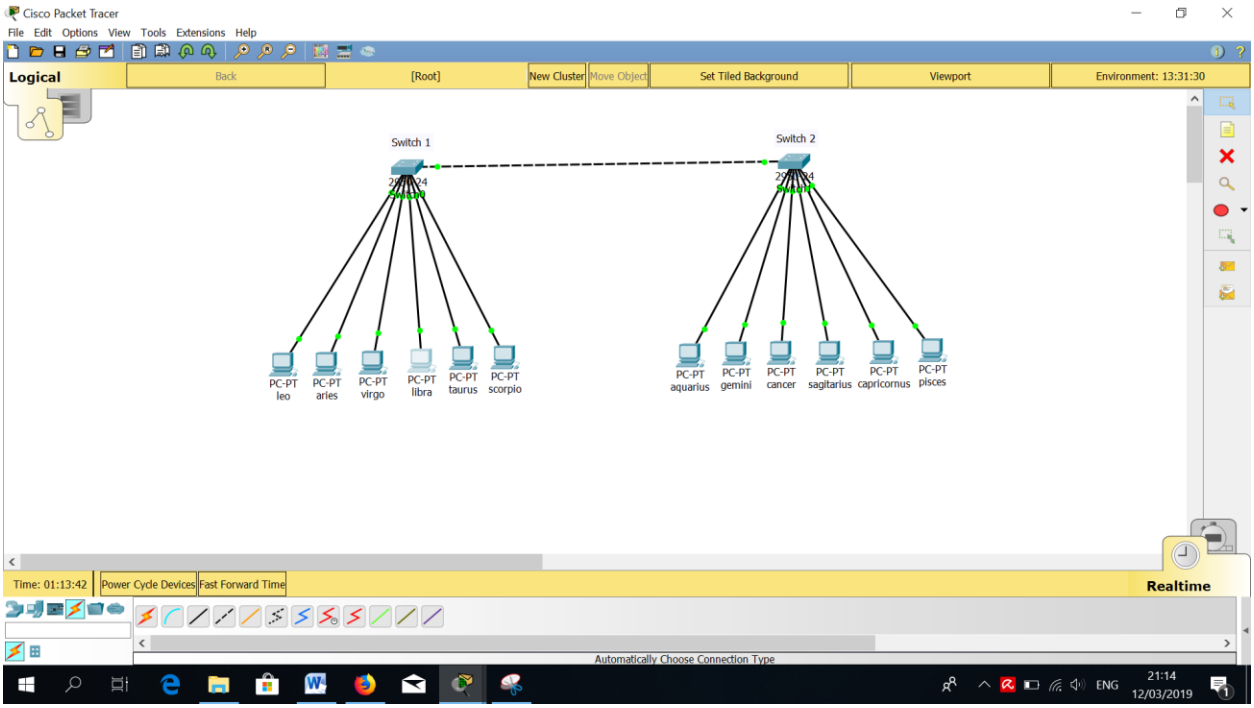
- Tugas 6A :

NO	Variable	Nilai
1	Nomor VLAN	(10) (20) (30)
2	Nama VLAN	(zodiak1) (zodiak2) (zodiak3)
3	Port	(Fa0/1, Fa0/4) (Fa0/2, Fa0/5) (Fa0/3, Fa0/6)
4	Status	(active) (active) (active)

- Tugas 6B:
  Yang saya dapat dari tugas6A nomor vlan yang dibuat dengan vlan 10, vlan 20 ,vlan 30 menggunakan nama zodiak1, zodiak2, zodiak3 dengan memasukan port yang berjumlah 6 yang dibagi masing – masing 2 port.meggunakan switchport modeaccess lalu switchport access vlan 10 interface fastethernet 0/1 (jika PC 1)

Kegiatan 2. Topologi 2

1. Menggunakan cisco packet tracer buat topologi berikut ini dengan menggunakan switch Catalyst 2950.



2. Konfirmasi masing – masing dengan pc dengan nama dan alamat 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
   - Pices = 172.21.3.4/24
3. Pada switch 1 lakukan langkah 4 dan 5 pada kegiatan 1

```
Switch>enable
Switch#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
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)#exit
Switch(config)#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)#exit
Switch(config)#int fa 0/3
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)#exit
```

4. Konfigurasi VLAN trunking pada switch 1

```
Switch(config)#interface fa 0/24
Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up

Switch(config-if)#exit
```

5. Konfigurasi trunking yang telah dibuat

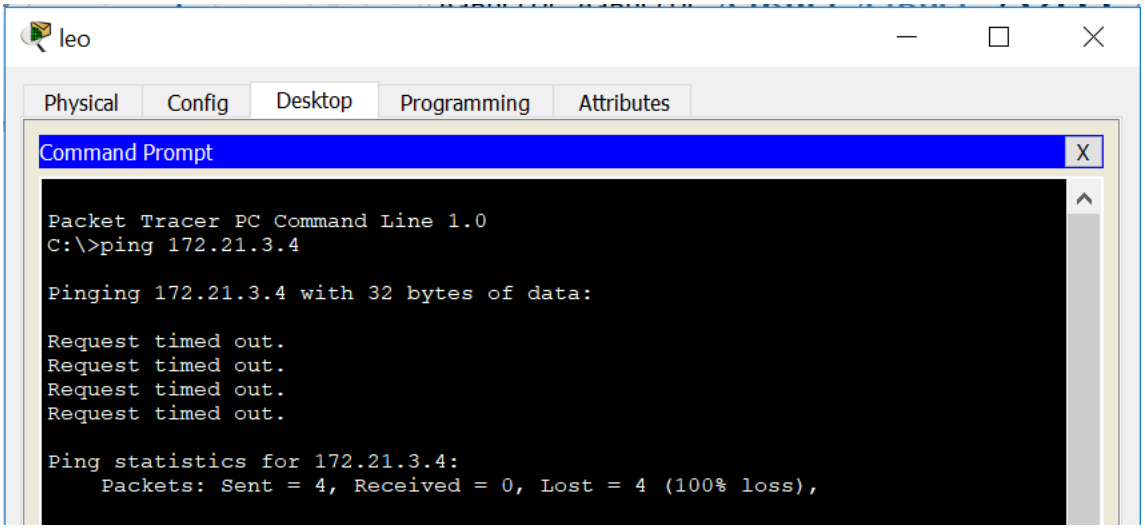
```
Switch#show interface fastethernet 0/24
FastEthernet0/24 is up, line protocol is up (connected)
  Hardware is Lance, address is 0003.e467.3e18 (bia 0003.e467.3e18)
 BW 100000 Kbit, DLY 1000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s
  input flow-control is off, output flow-control is off
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:08, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue :0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     956 packets input, 193351 bytes, 0 no buffer
     Received 956 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
     0 watchdog, 0 multicast, 0 pause input
     0 input packets with dribble condition detected
     2357 packets output, 263570 bytes, 0 underruns
     0 output errors, 0 collisions, 10 interface resets
     0 babbles, 0 late collision, 0 deferred
     0 lost carrier, 0 no carrier
     0 output buffer failures, 0 output buffers swapped out

Switch#show interface fastethernet 0/24 switchport
Name: Fa0/24
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
```

```
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#show interface fastethernet 0/24 trunk
                                        ^
% Invalid input detected at '^' marker.

Switch#show interface fastethernet 0/24 trunk
                                        ^
% Invalid input detected at '^' marker.

Switch#show vlan

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/7, 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
10   zodiak1                          active    Fa0/1, Fa0/4
20   zodiak2                          active    Fa0/2, Fa0/5
30   zodiak3                          active    Fa0/3, Fa0/6
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#




Switch con0 is now available



Press RETURN to get started.
```

- Tugas 7A: Hasil dari konfigurasi trunk di switch 1 adalah mengaktifkan switch port fa 0/24 (port yang digunakan untuk trunk) dan administrative mode menjadi trunk serta operational mode trunk.

6. Ping PC leo ke PC pices.



- Tugas 8A : hasil dari pc leo ke pc pisces berstatus RTO dikarenakan belum dikonfigurasinya trunking di switch 2.

7. Konfigurasi VLAN pada trunking pada switch 2

```
Switch>enable
Switch#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface fa 0/24
Switch(config-if)#switchport mode trunk
Switch(config-if)#exit
Switch(config)#
```

8. Konfigurasi vlan pada switch 2

```
Switch#show vlan

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/7, 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
10   zodiak1                           active    Fa0/1, Fa0/2
20   zodiak2                           active    Fa0/3, Fa0/4
30   zodiak3                           active    Fa0/5, Fa0/6
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
------- --------- ----------------- ------------------------------------------
```

- Tugas 10A : hasil adalah tidak act/unsup

9.

```
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)#exit
Switch(config)#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)#exit
Switch(config)#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)#exit
```

10. 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),
```

Ping pc leo ke pc aquarius

```
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<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
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 = 0ms, Average = 0ms
```

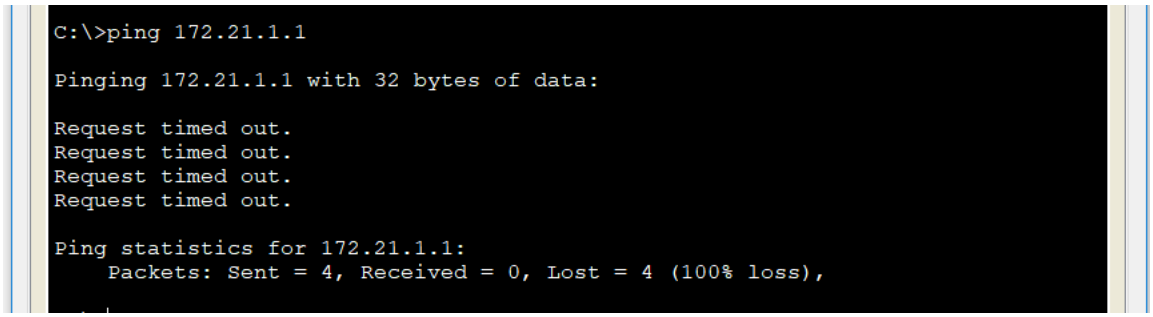
Ping pc leo ke pc pisces

```
C:\>ping 172.21.3.4

Pinging 172.21.3.4 with 32 bytes of data:

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

Ping statistics for 172.21.3.4:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

Ping pc libra ke pc cancer

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.2.3

Pinging 172.21.2.3 with 32 bytes of data:

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

Ping statistics for 172.21.2.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

Ping pc libra ke pc leo



- Tugas 12A : Hasil dari langkah RTO/Request timed out