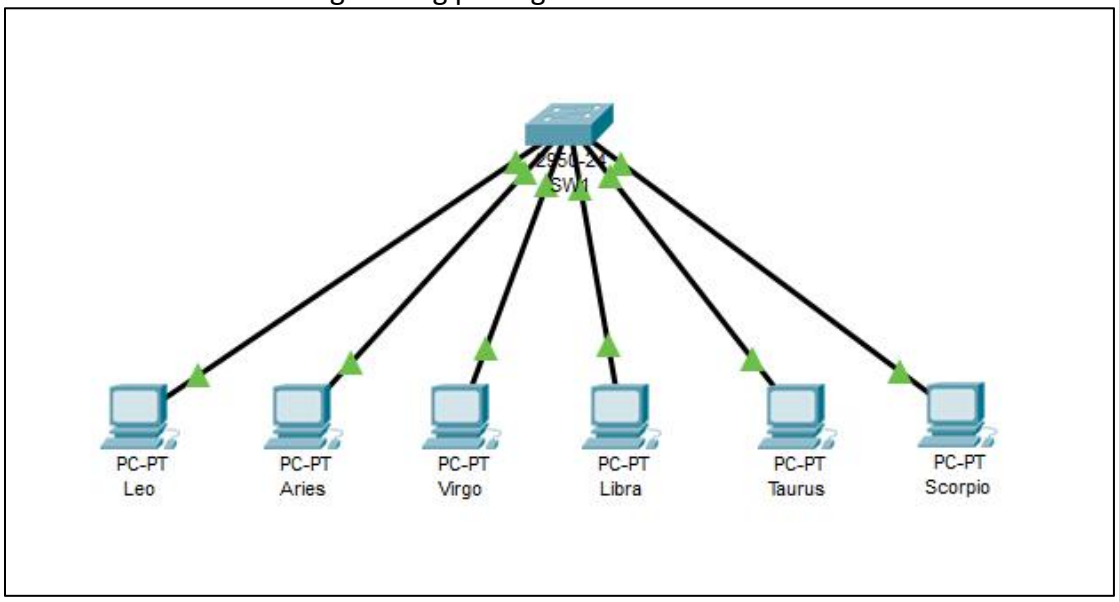
LAPORAN PRAKTIKUM
JARINGAN KOMPUTER
MODUL 4. VIRTUAL LAN DAN TRUNKING

C. Kegiatan Praktikum

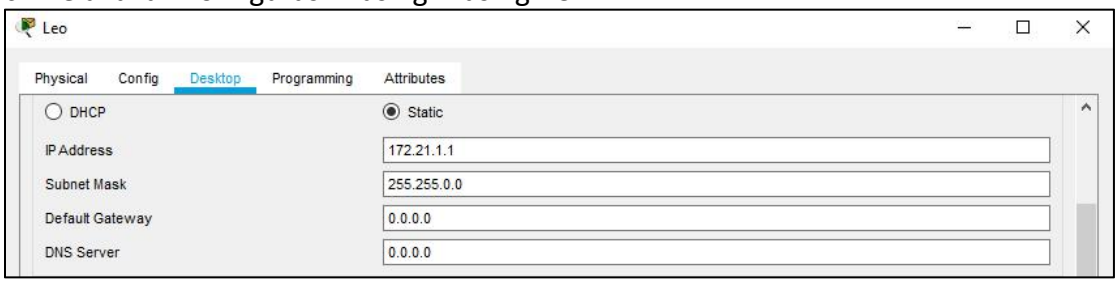
Kegiatan 1. Topologi 1

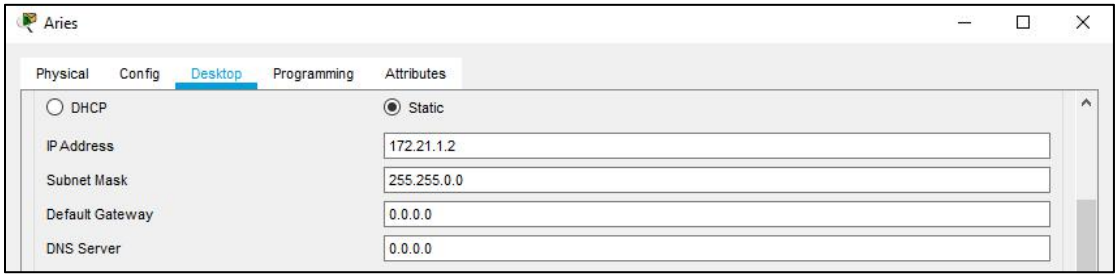
a. Membuat topologi berikut

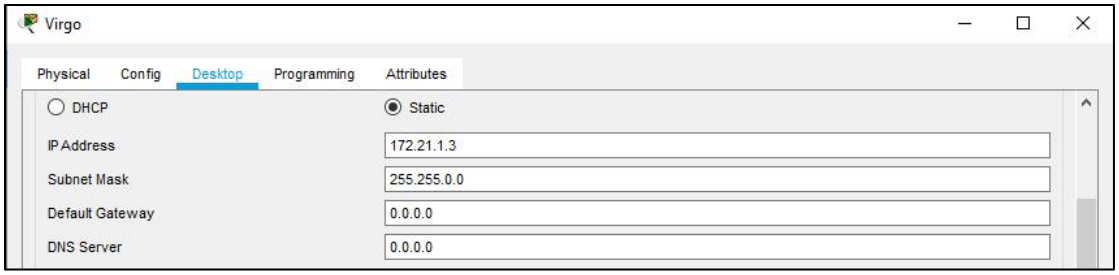
b. Memberi nama masing-masing perangkat

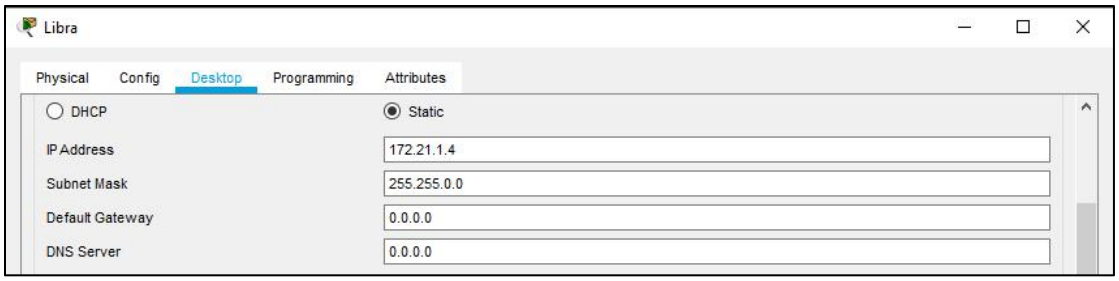


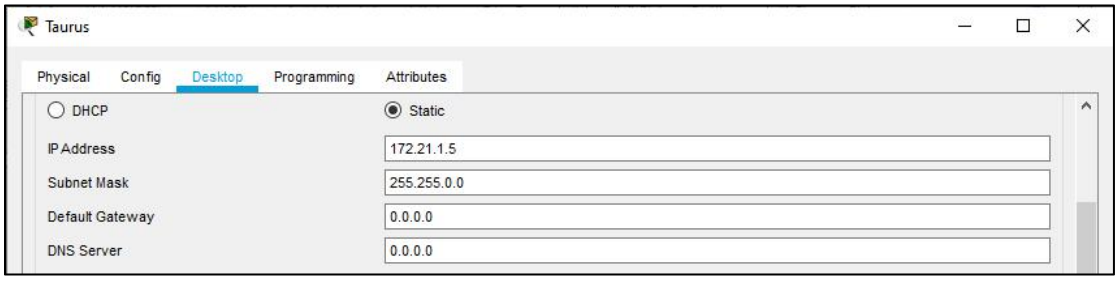
c. Melakukan konfigurasi masing-masing PC

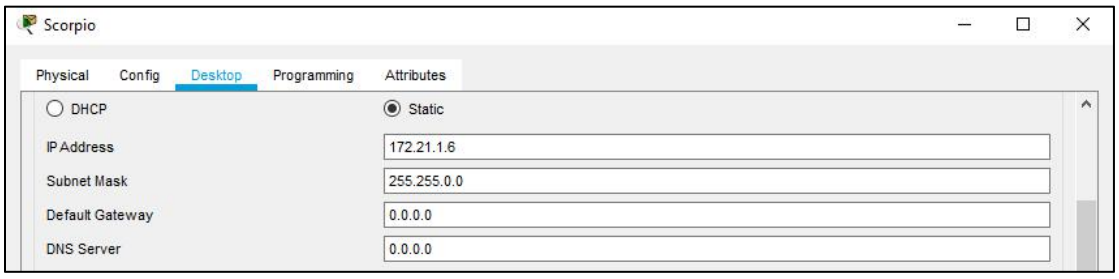












d. Melakukan konfigurasi switch: membuat VLAN

```
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
```

e. Melakukan konfigurasi port-port switch ke dalam VLAN

```
Switch(config)#interface fastethernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface fastethernet 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#
```

```
Switch(config)#interface fastethernet 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface fastethernet 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface fastethernet 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#interface fastethernet 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
```

f. Melihat konfigurasi VLAN

```
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
```

```
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
```

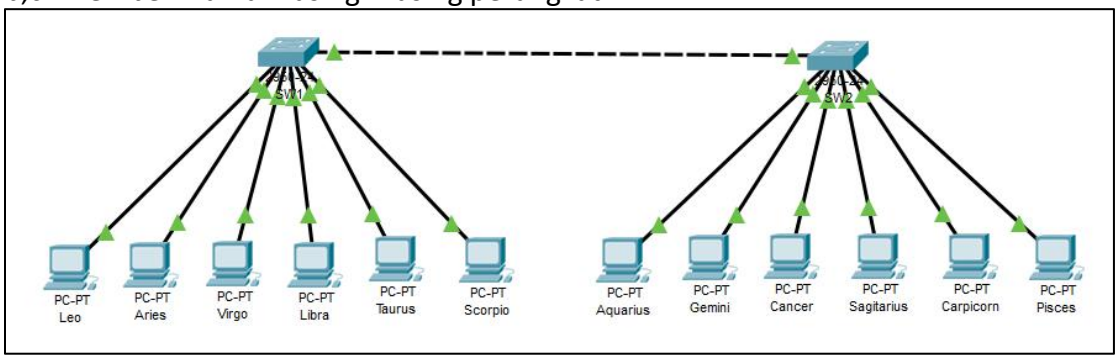
```
Switch#show vlan id 20

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
```

```
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
```

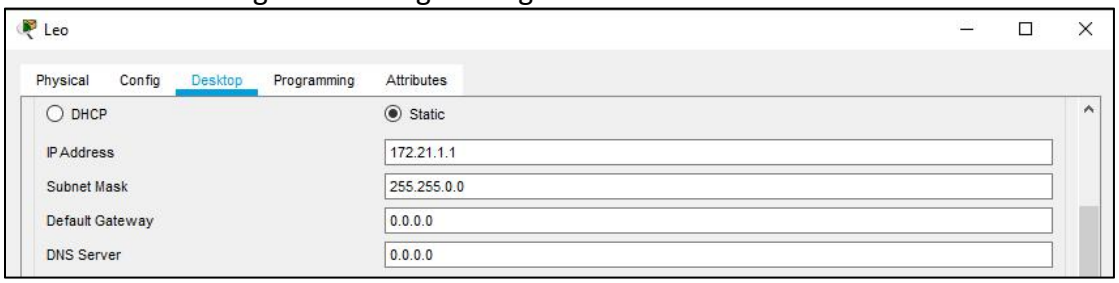
Kegiatan 2. Topologi 2

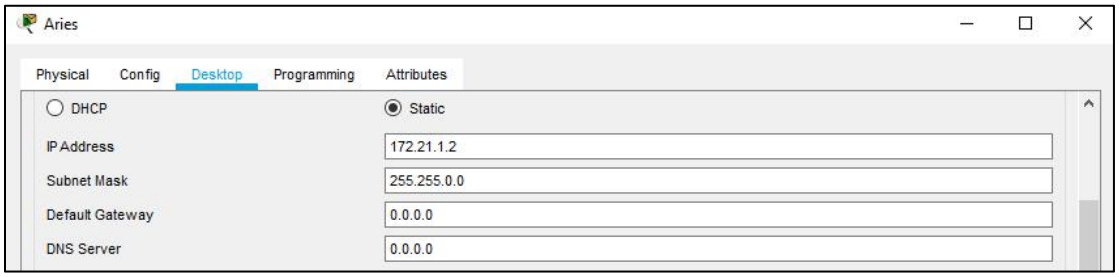
a. Membuat topologi berikut

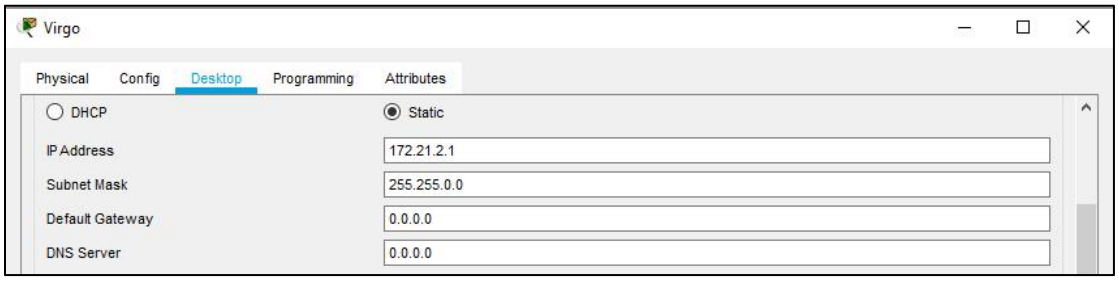
b,c. Memberi nama masing-masing perangkat

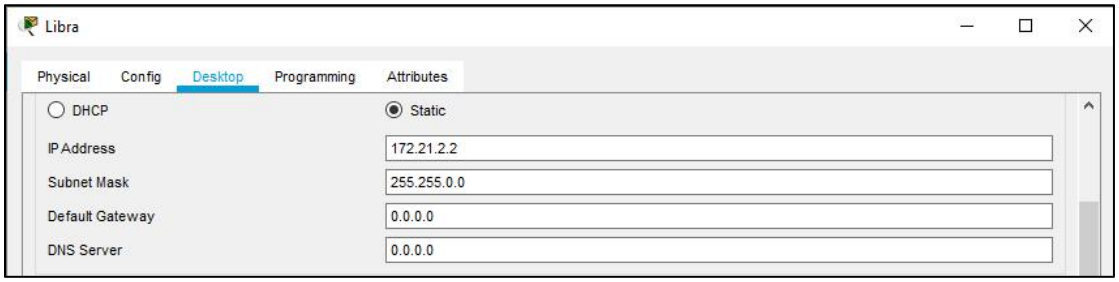


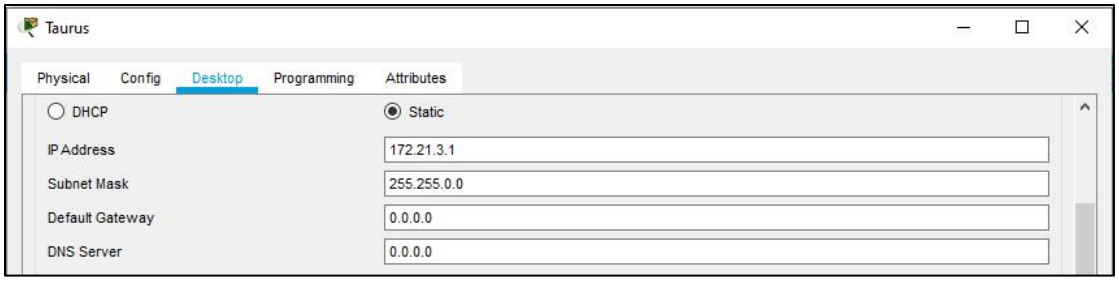
d. Melakukan konfigurasi masing-masing PC

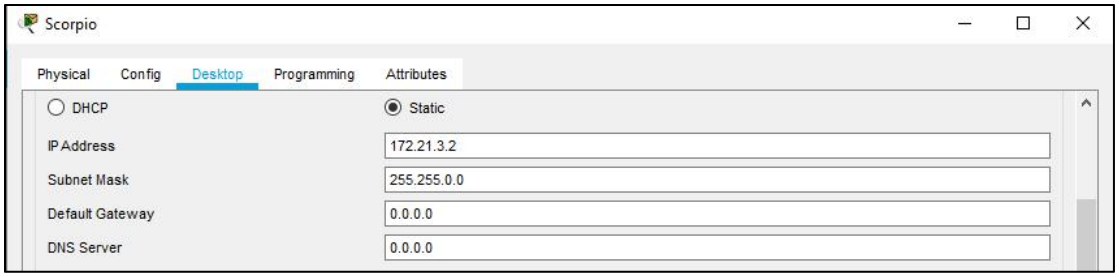


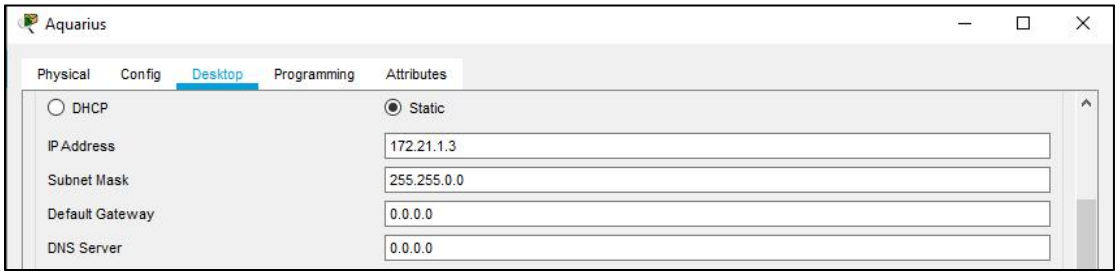


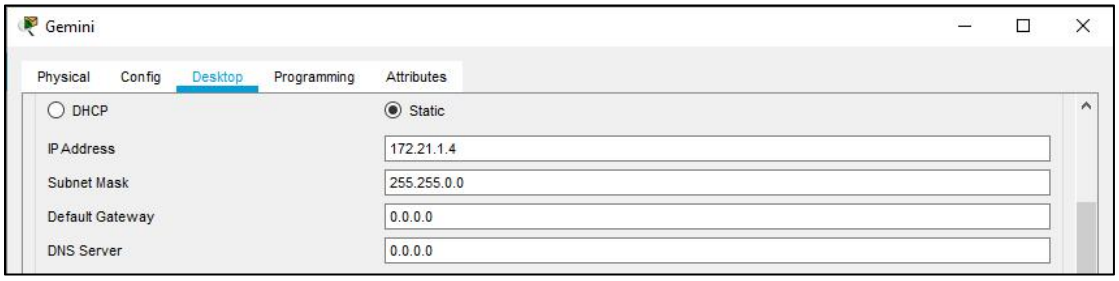


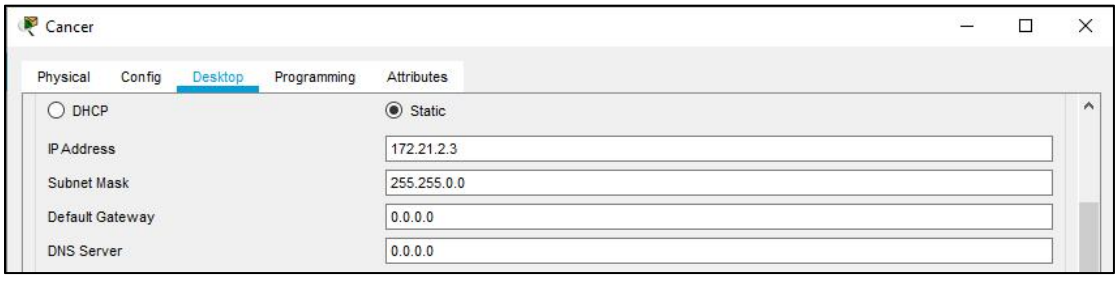


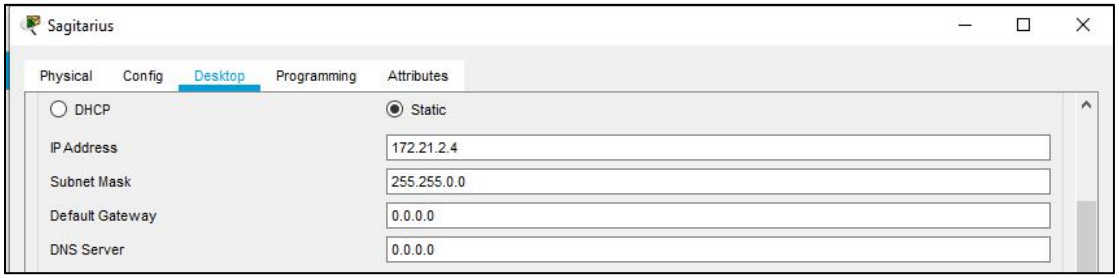

Taurus
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
172.21.3.1
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0

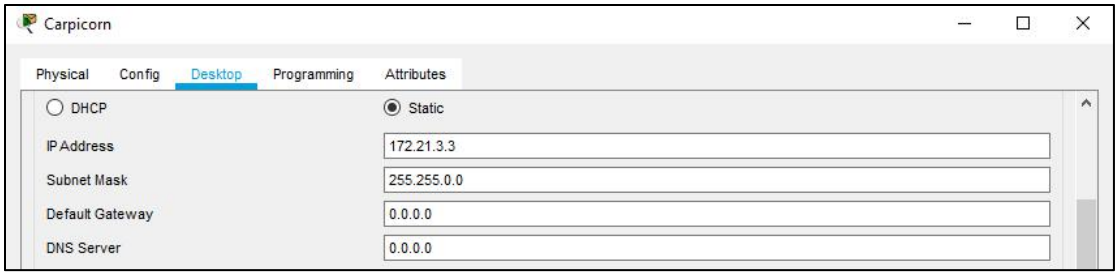

Scorpio
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
172.21.3.2
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0

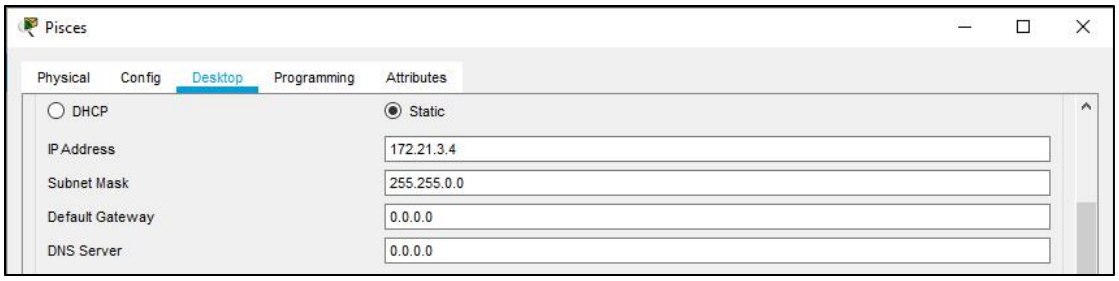

Aquarius
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
172.21.1.3
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0


Gemini
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
172.21.1.4
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0


Cancer
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
172.21.2.3
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0


Sagitarius
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
172.21.2.4
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0





e. Melakukan konfigurasi pada switch1: membuat VLAN dan melakukan konfigurasi port-port switch1 ke dalam VLAN

```
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)#interface Fastethernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
```

```
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
Switch#
```

```
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
```

```
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
```

```
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
```

f. Melakukan konfigurasi VLAN trungking pada switch 1

```
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
```

g. Melihat konfigurasi VLAN trungking pada switch 1

```
Switch#show interface fastethernet 0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: down
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#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, 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
```

```
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
```

h. Melakukan ping dari PC Leo ke PC Pisces

```
Packet Tracer PC Command Line 1.0
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),

C:\>
```

i. Melakukan konfigurasi VLAN trungking pada switch 2

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

j. Melihat konfigurasi VLAN trungking pada switch 2

```
Switch#show vlan

VLAN Name                                Status    Ports
---- ----------------------------------- ---------
-------------------------------
1    default                             active    Fa0/1, Fa0/2, Fa0/3,
Fa0/4
                                                   Fa0/5, Fa0/6, 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
1002 fddi-default                        active
1003 token-ring-default                  active
1004 fddinet-default                     active
1005 trnet-default                       active
```

```
VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode
Transl 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

 --More--
```

k. Melakukan konfigurasi pada switch2: membuat VLAN dan melakukan konfigurasi port-port switch2 ke dalam VLAN

```
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)#interface Fastethernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#interface Fastethernet 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
```

l. Melakukan ping:

- dari 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),
```

- dari PC Leo ke PC Aquarius

```
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

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

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

- dari 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),
```

- dari 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),
```

- dari PC Libra ke PC Leo

```
C:\>ping 172.21.1.1

Pinging 172.21.1.1 with 32 bytes of data:

Reply from 172.21.1.1: bytes=32 time<1ms TTL=128
Reply from 172.21.1.1: bytes=32 time<1ms TTL=128
Reply from 172.21.1.1: bytes=32 time<1ms TTL=128
Reply from 172.21.1.1: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```