NAMA   : ROSSANTI KUSUMADEWI
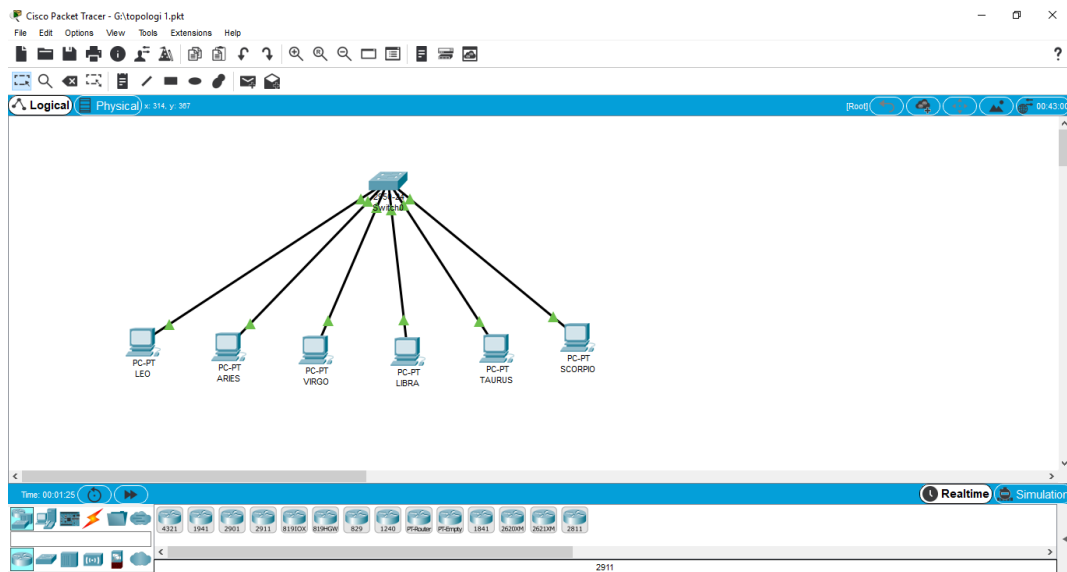
NIM   : L200170092
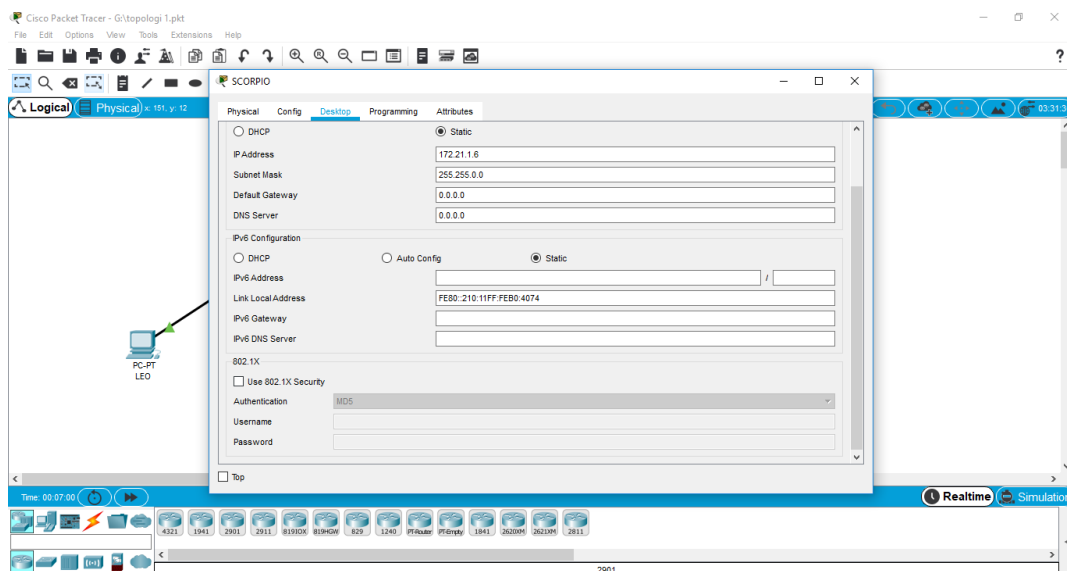
KELAS   : B

MODUL   : 4

KEGIATAN PRAKTIKUM

Kegiatan 1. Topologi 1

- Konfigurasi masing-masing PC dgn alamat IP

- Membuat 3 VLAN dengan nama zodiak 1, zodiak 2, zodiak 3

```
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)#
```

- Konfigurasi port-port switch ke dalam VLAN zodiak1, zodiak2, zodiak 3

```
Switch(config)#interface FastEthernet0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#interface Fastethernet0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit

Switch(config)#interface fastethernet0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#interface Fastethernet0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit

Switch(config)#interface Fastethernet0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#interface Fastethernet0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
```

- Show 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
```

- Capture masing-masing tampilan informasi VLAN
- Zodiak 1

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

- Zodiak 2

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

- Zodiak 3

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

Kesimpulan Praktikum topologi 1 : Terdapat 6 komputer yang terbagi dalam 3 vlan yang berbeda dengan masing-masing nama zodiak 1, zodiak,2 zodiak . Dengan nomor vlan 10, vlan 20, vlan 30 terdapat port Fa 0/1 (Leo) dan Fa 0/4 (Libra), Vlan 20 terdapat port Fa 0/2 (Aries) dan Fa 0/5 (Taurus), dan Vlan 30 terdapat port Fa 0/3 (Virgo) dan Fa 0/6 (Scorpio), dan semua VLAN tersebut dalam kondisi aktif.

Kegiatan 2. Topologi 2
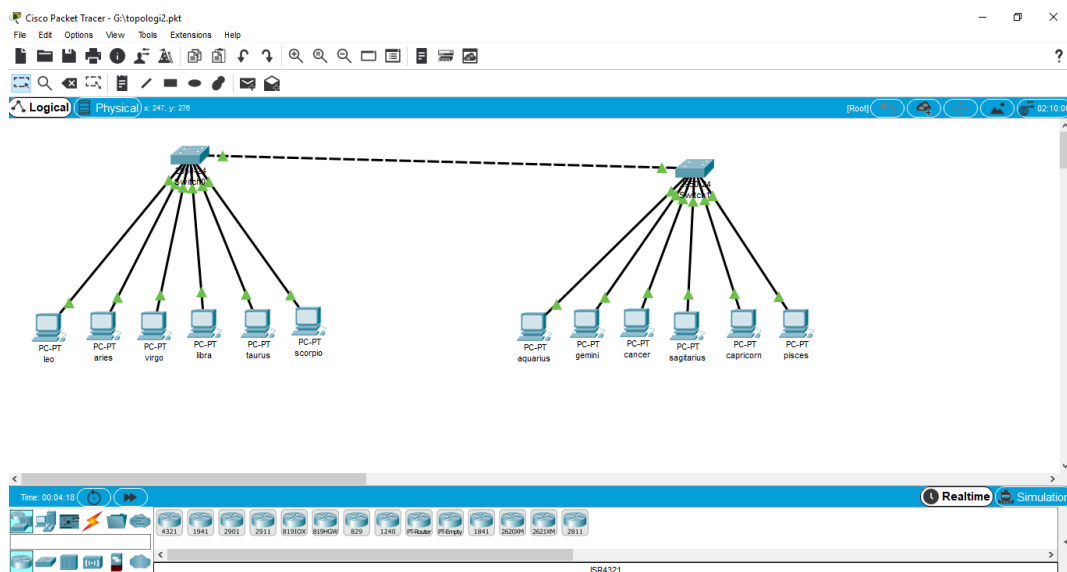
- Memberi nama dan alamat IP pada masing-masing PC
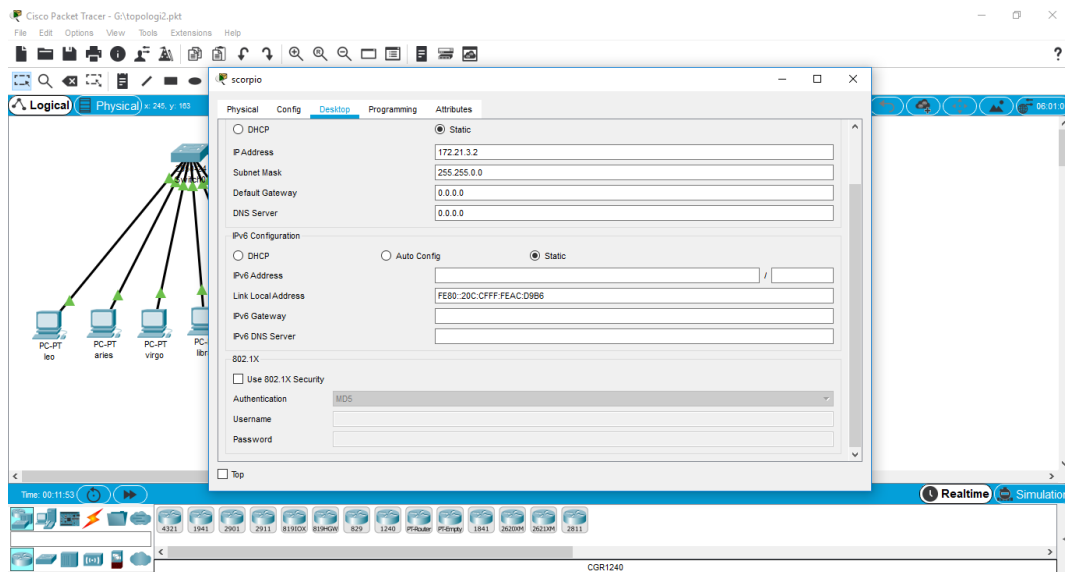
- Membuat VLAN dan mengkonfigurasi port-port pada switch ke VLAN

```
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)#
```

```
Switch#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface Fastethernet0/1
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 10
Switch(config-if)#interface Fastethernet0/4
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 10
Switch(config-if)#
```

```
Switch(config)#interface Fastethernet0/2
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 20
Switch(config-if)#interface Fastethernet0/5
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 20
Switch(config-if)#exit
Switch(config)#
```

```
Switch(config)#interface Fastethernet0/3
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 30
Switch(config-if)#interface Fastethernet0/6
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 30
Switch(config-if)#exit
Switch(config)#
```

- Melakukan konfigurasi VLAN Trunking pada switch pertama (switch 0)

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface fa0/24
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan all
Switch(config-if)#exit
Switch(config)#
```

- Melihat konfigurasi Trunking VLAN

```
Switch#show interface fastethernet0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dotlq
Operational Trunking Encapsulation: dotlq
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: dotlq
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 interface fastethernet0/24
FastEthernet0/24 is up, line protocol is up (connected)
  Hardware is Lance, address is 00d0.bc7b.ea18 (bia 00d0.bc7b.ea18)
 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 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                     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
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 Transl Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

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


Primary Secondary Type             Ports
------- --------- ---------------- ------------------------------------------
```
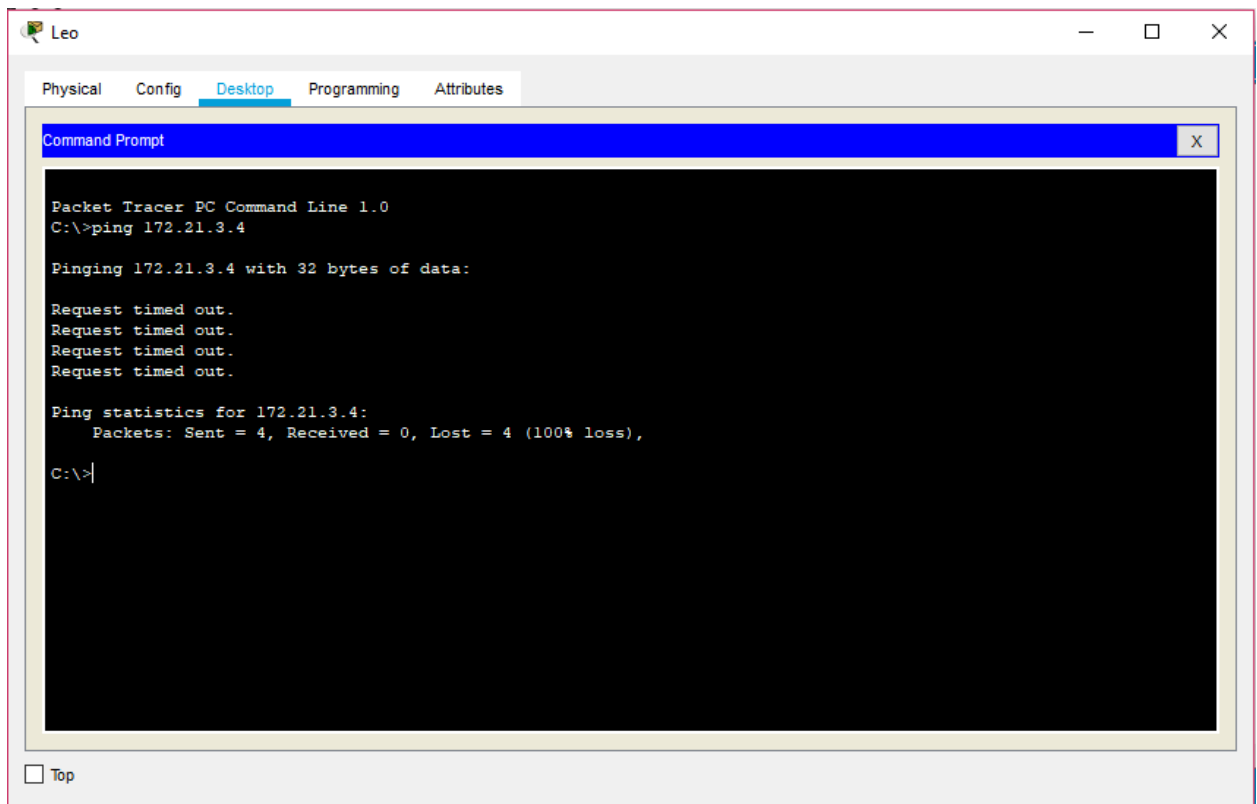
Kesimpulan : Setelah melakukan praktikum di atas menunjukkan bahwa, Vlan pada port 0/1 sampai 0/6 sudah terkonvigurasi dan telah di Trunking pada port 0/24.

- Melakukan Ping pada PC Leo ke PC Pisces

- Membuat VLAN Trunking pada switch kedua (switch 1)

```
Switch>enable
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface fa0/24
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan all
Switch(config-if)#exit
Switch(config)#
```

- Melihat konfigurasi Trunking VLAN (switch 1)

```
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                     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
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 Transl Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------

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

Primary Secondary Type              Ports
------- --------- ----------------- -------------------------------------------
```

Kesimpulan : Pada hasil yang tertera di atas menunjukkan bahwa, Vlan pada port 0/1 sampai 0/6 sudah terkonvigurasi dan telah di Trunking pada port 0/24

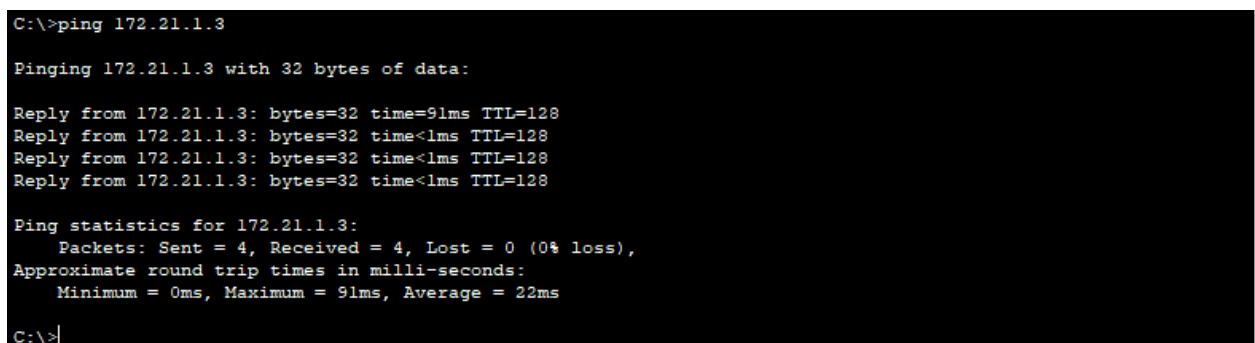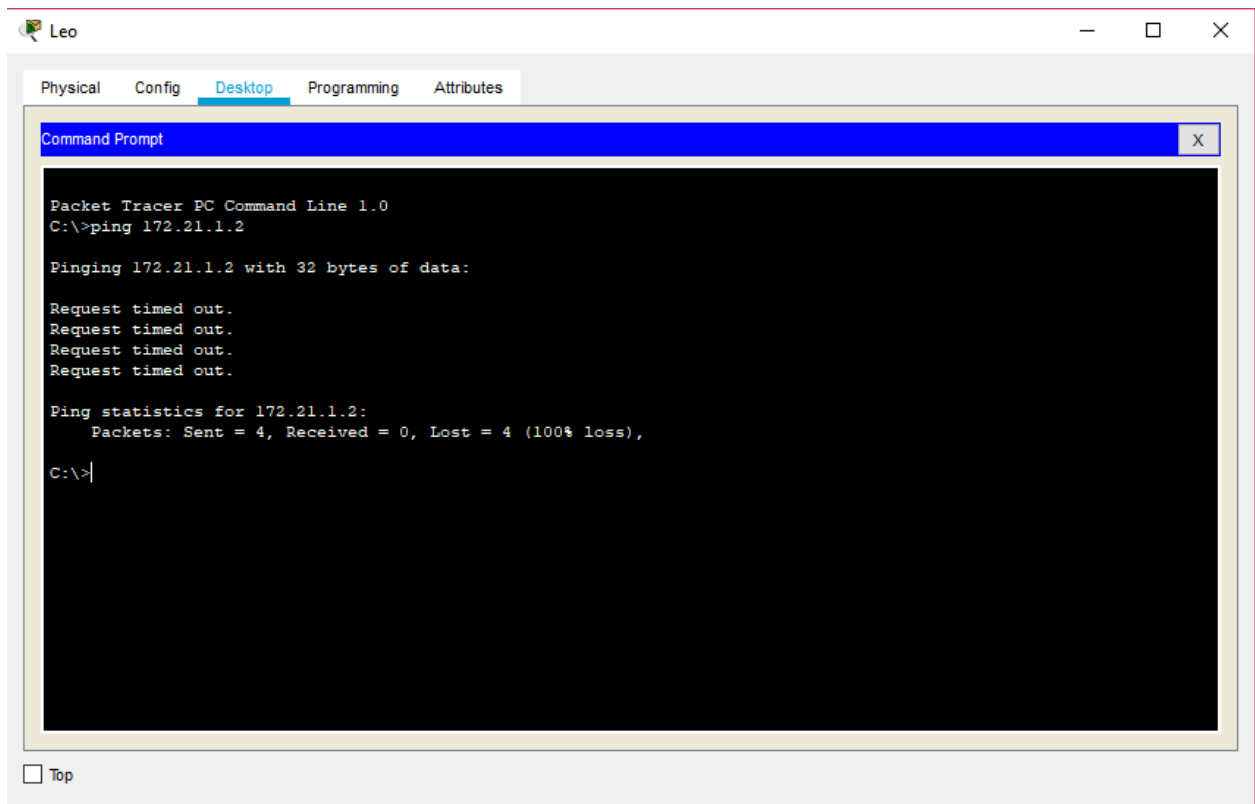- Membuat VLAN dan mengkonfigurasi port-port pada switch ke VLAN (switch 1)

```
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)#
```
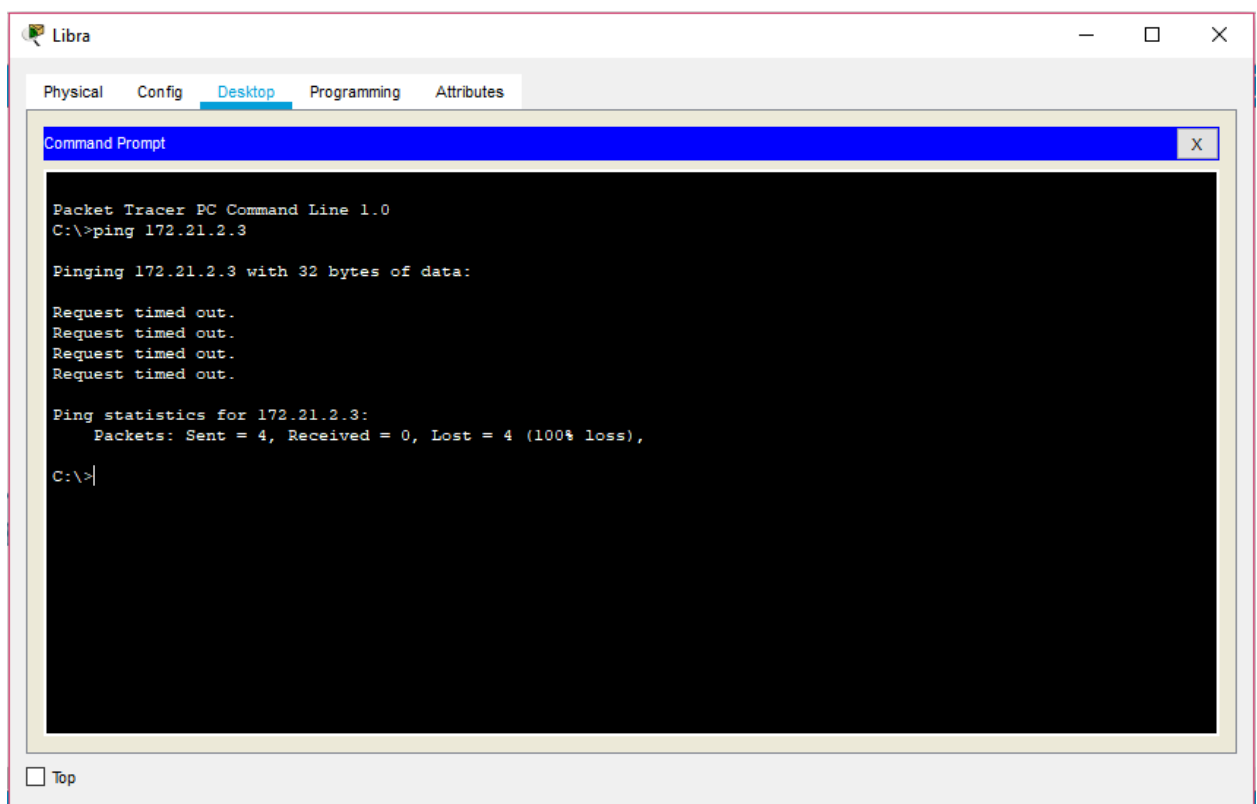
```
Switch(config)#interface Fastethernet0/2
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 10
Switch(config-if)#interface Fastethernet0/1
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 10
Switch(config-if)#exit
Switch(config)#
```

```
Switch(config)#interface Fastethernet0/3
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 20
Switch(config-if)#interface Fastethernet0/4
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 20
Switch(config-if)#exit
Switch(config)#
```
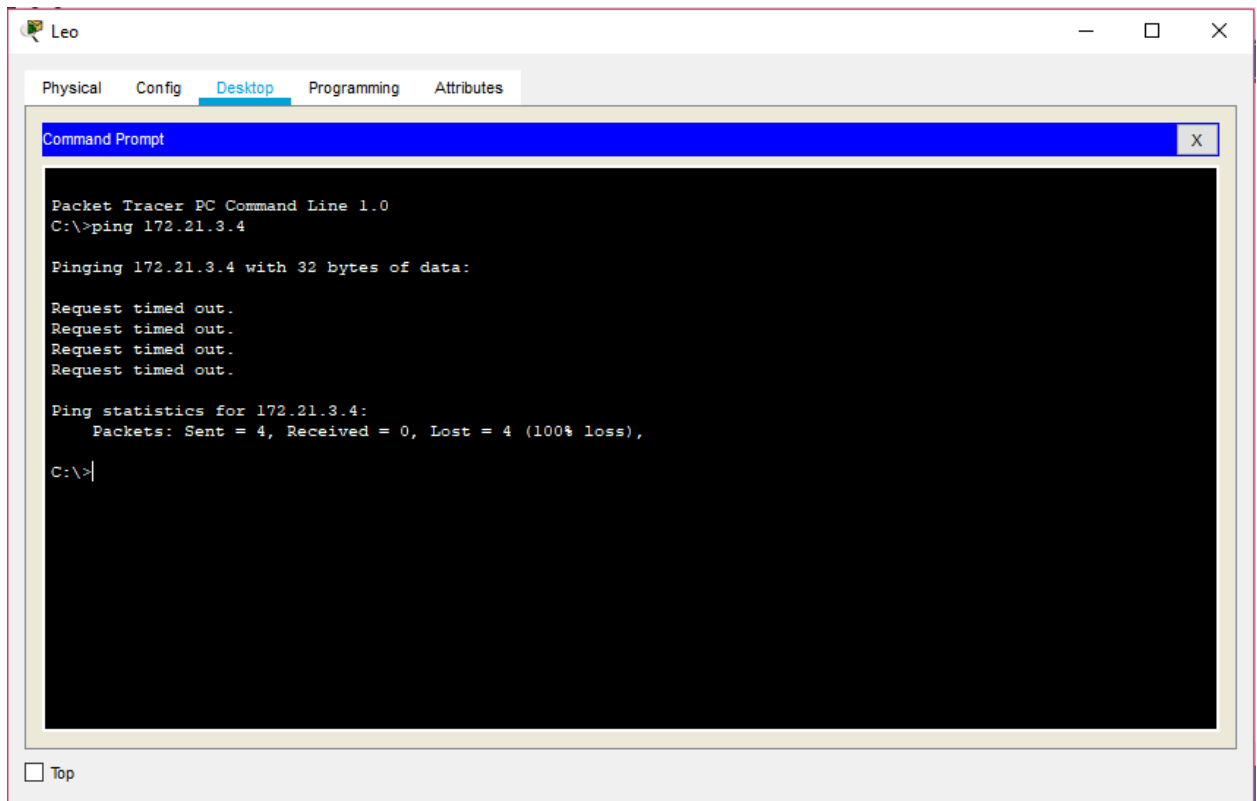
```
Switch(config)#interface Fastethernet0/5
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 30
Switch(config-if)#interface Fastethernet0/6
Switch(config-if)#switch mode access
Switch(config-if)#switch access vlan 30
Switch(config-if)#exit
Switch(config)#
```

- Melakukan ping pada PC Leo ke PC Aries, PC leo ke PC Aquarius, PC Leo ke PC Pisces, PC Libra ke PC Cancer, PC Libra ke PC Leo


```
Packet Tracer PC Command Line 1.0
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:\>
```

```
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=91ms 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 = 91ms, Average = 22ms

C:\>
```

Leo — □ ✕

Physical   Config   **Desktop**   Programming   Attributes

Command Prompt   X

```
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:\>
```

☐ Top

Libra — □ ✕

Physical   Config   **Desktop**   Programming   Attributes

Command Prompt   X

```
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),

C:\>
```

☐ Top

```
C:\>ping 172.21.1.1

Pinging 172.21.1.1 with 32 bytes of data:

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

Ping statistics for 172.21.1.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

Dari hasil praktikum (langkah 8) yang terlah dilakukan, dapat disimpulkan bahwa Ping dengan Vlan yang berbeda dan switch yang berbeda tidak memungkinkan, walaupun telah terbantu dengan Trunking, walaupun begitu memungkinkan untuk melakukan ping pada Vlan yang sama.