

Nama : Ismi Dzikrina

NIM : L200180010

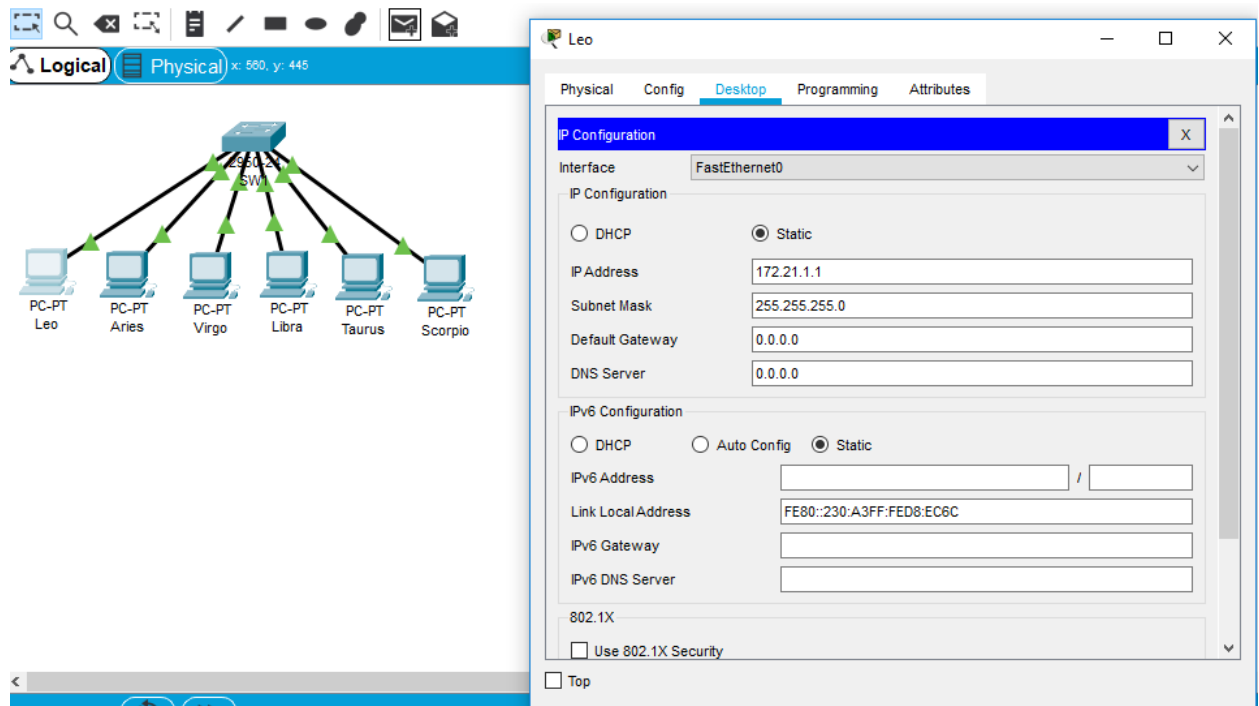
Kelas : A

Matkul : Praktikum Jaringan komputer

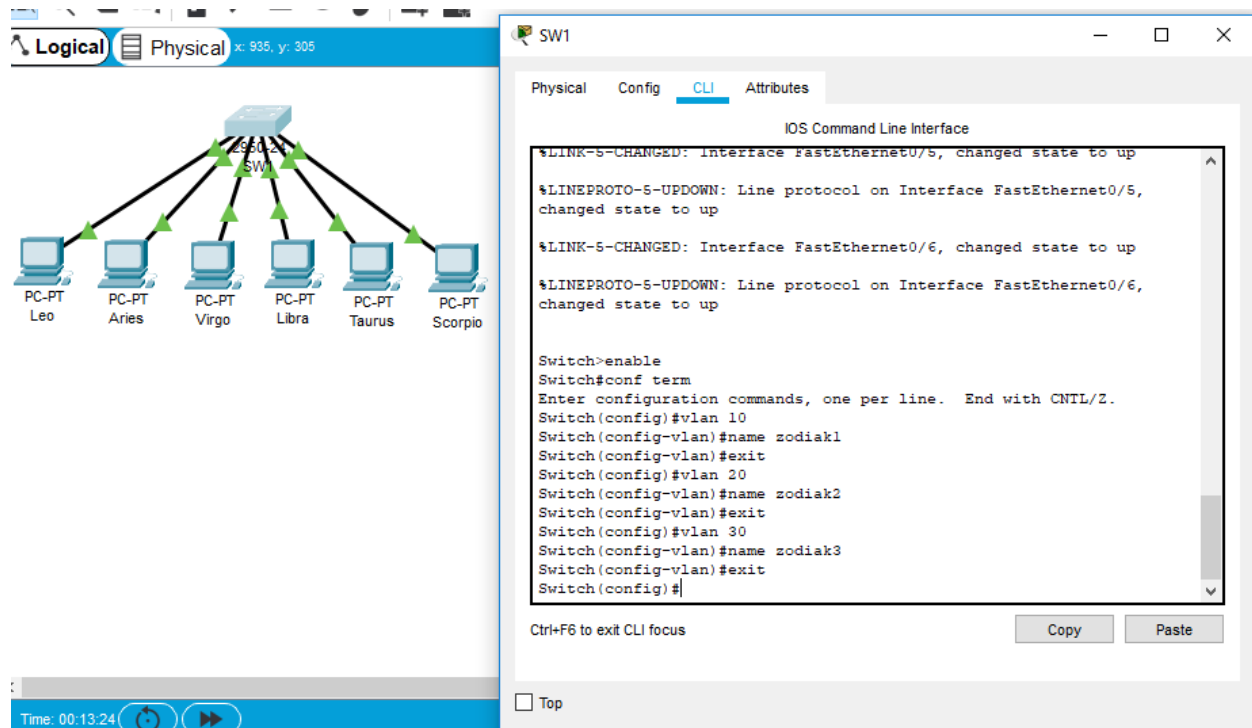
MODUL 4

VIRTUAL LAN DAN TRUNKING

1. Praktikum 1 Topologi 1
 - a. Memberi nama masing-masing perangkat
 - b. mengkonfigurasi nama dan alamat IP



- c. konfigurasi pada switch dengan mode user



The image shows a network diagram on the left and a CLI window for SW1 on the right. The diagram shows a central switch (SW1) connected to six PCs: Leo, Aries, Virgo, Libra, Taurus, and Scorpio. The CLI window displays the following commands and output:

```

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)#
  
```

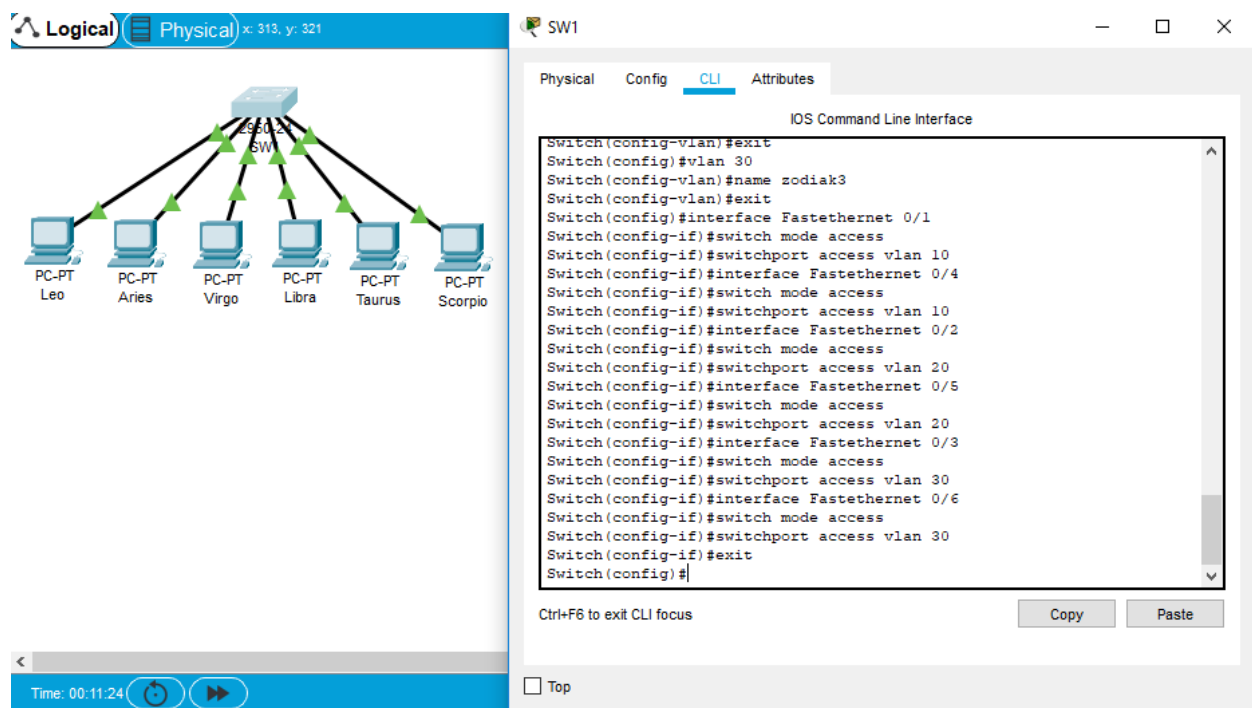
The output shows the state of interfaces FastEthernet0/5 and FastEthernet0/6 changing to up.

d. Pada mode configuration ,konfigurasi port-port switch kedalam VLAN zodiak1,zodiak2 ,dan zodiak3 dengan anggota sebagai sbb:

Zodiak 1 = leo dan libra

Zodiak 2 = aries dan Taurus

Zodiac 3 = virgo dan scorpio



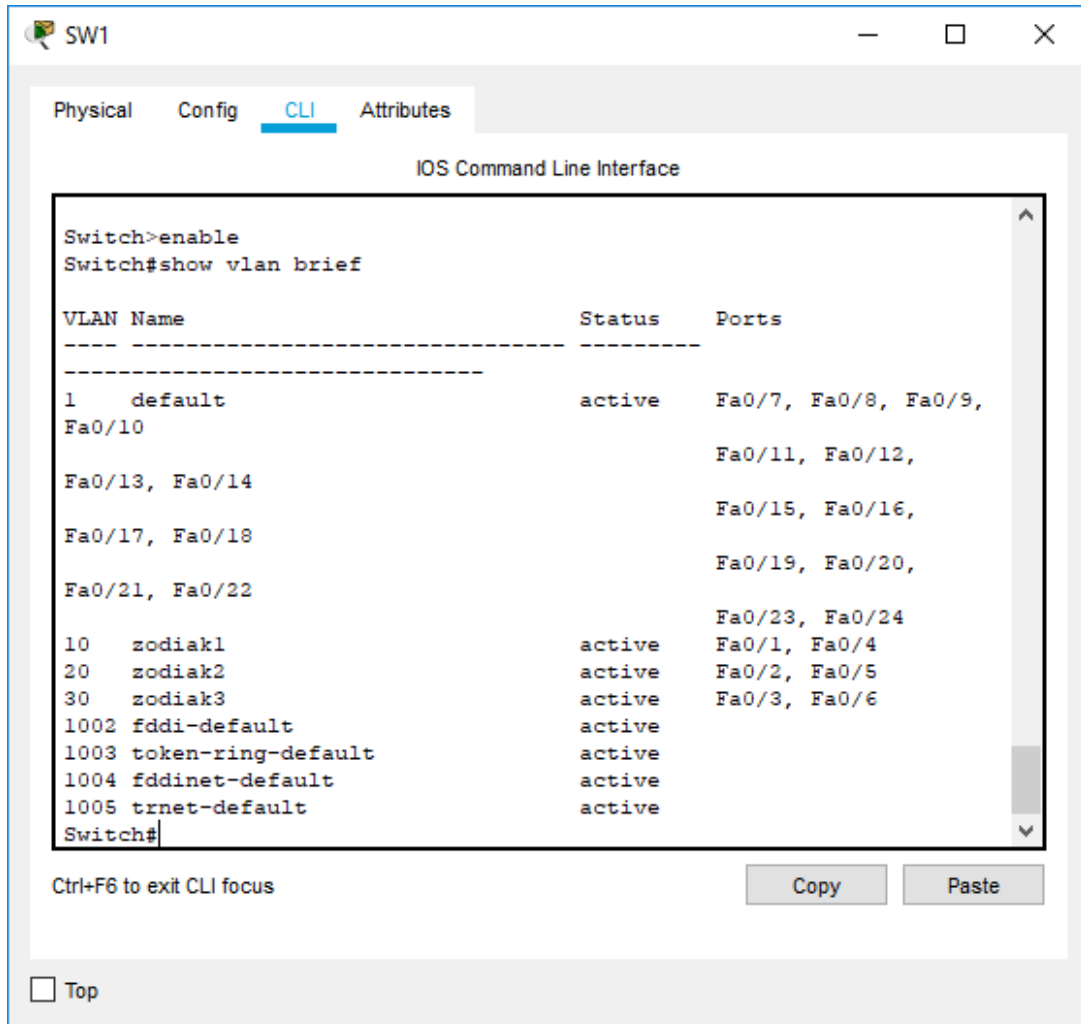
The image shows a network diagram on the left and a CLI window for SW1 on the right. The diagram shows a central switch (SW1) connected to six PCs: Leo, Aries, Virgo, Libra, Taurus, and Scorpio. The CLI window displays the following commands and output:

```

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

e. Konfigurasi pada LAN yang telah dibuat

➤ Show vlan brief



The screenshot shows a network switch window titled 'SW1' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The user has entered the command 'show vlan brief', and the output is displayed as a table. The table has three columns: 'VLAN Name', 'Status', and 'Ports'. The output shows several VLANs, including the default VLAN 1 and several 'zodiak' VLANs (10, 20, 30), all of which are active. There are also some default protocol VLANs listed at the bottom.

```
Switch>enable
Switch#show vlan brief
```

| VLAN Name | Status | Ports |
|-------------------------|--------|---|
| 1 default | active | Fa0/7, Fa0/8, Fa0/9, 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#

Ctrl+F6 to exit CLI focus

Copy Paste

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- Show vlan id 10

SW1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Fa0/21, Fa0/22
10    zodiak1                active    Fa0/23, Fa0/24
20    zodiak2                active    Fa0/1, Fa0/4
30    zodiak3                active    Fa0/2, Fa0/5
1002  fddi-default           active    Fa0/3, Fa0/6
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

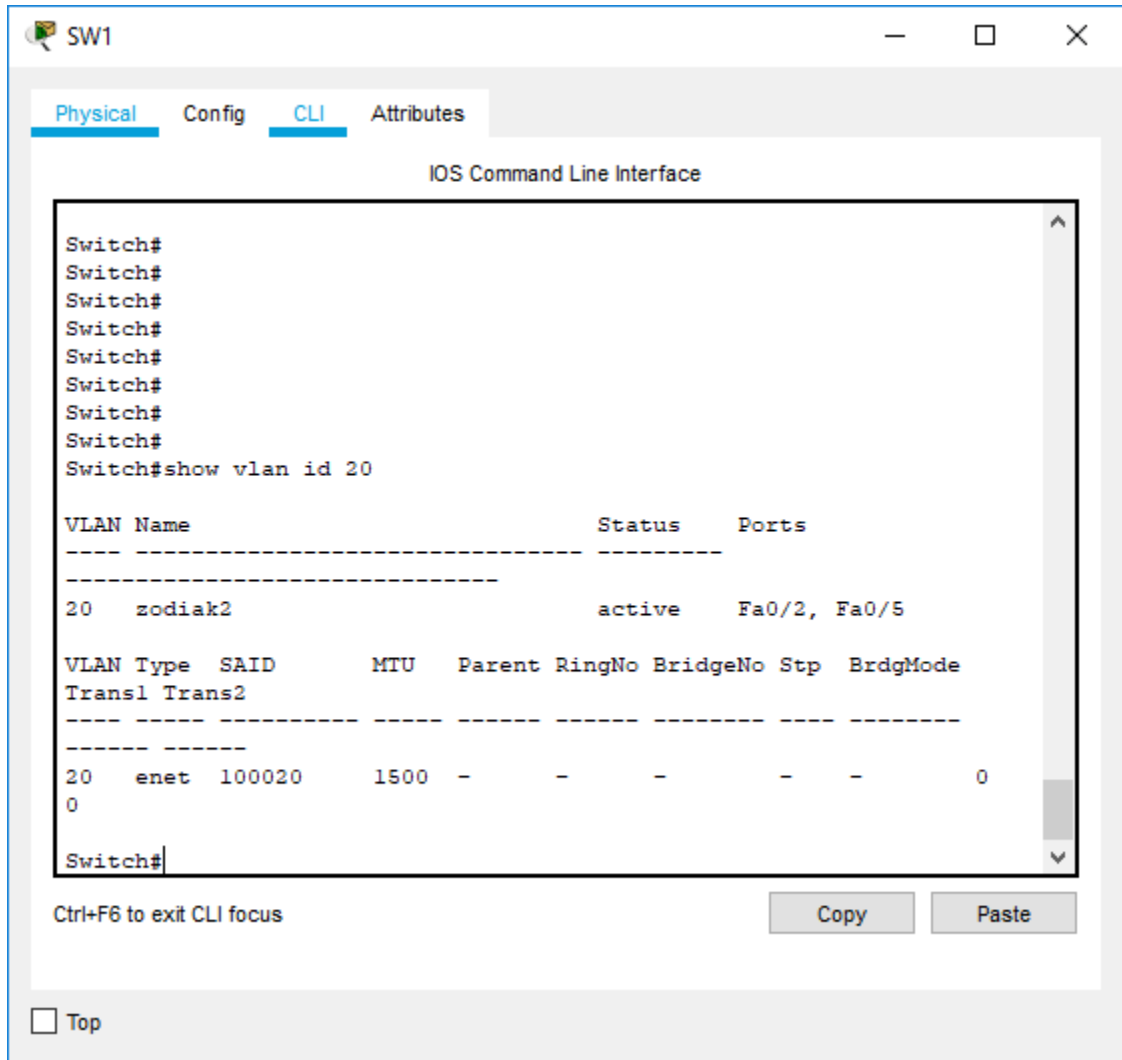
Switch#
```

Ctrl+F6 to exit CLI focus

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- f. Show vlan id 20



The screenshot shows a network switch window titled "SW1" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface". The command "Switch#show vlan id 20" has been entered, resulting in two tables of output.

```
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#
Switch#
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 |
|------|------|--------|------|--------|--------|----------|-----|----------|
| 20 | enet | 100020 | 1500 | - | - | - | - | 0 |

Switch#

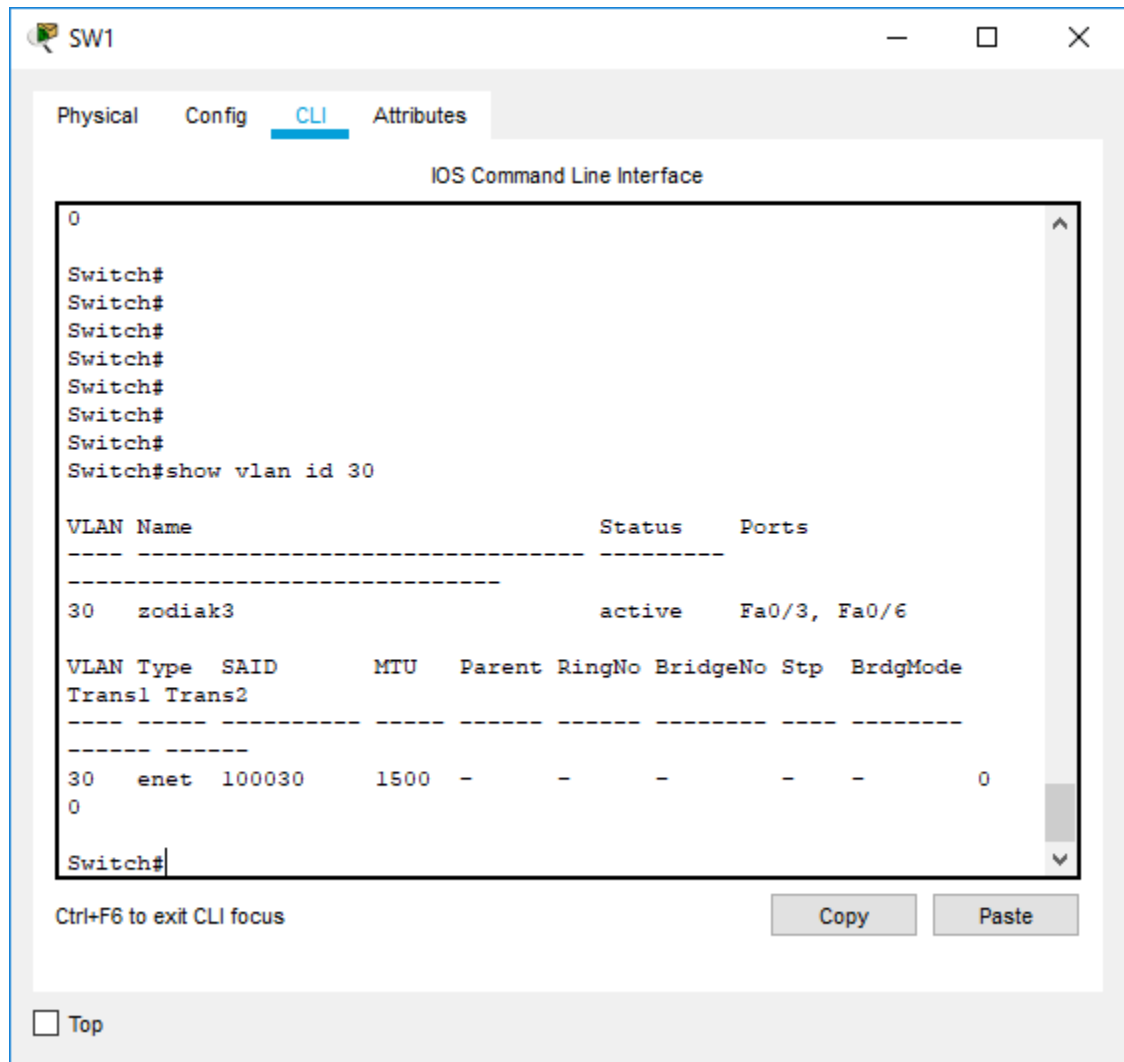
Ctrl+F6 to exit CLI focus

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☐ Top

- g. S

h. how vlan id 30



TUGAS 6A

| No | Variable | Nilai | | |
|----|------------|----------------|----------------|----------------|
| 1 | Nomor vlan | 10 | 20 | 30 |
| 2 | Nama vlan | Zodiak1 | Zodiak2 | Zodiak3 |
| 3 | Port | Fa 0/1, fa 0/4 | Fa 0/2, fa 0/5 | Fa 0/3, fa 0/6 |
| 4 | status | Active | Active | Active |

TUGAS 6B

Penjelasan :

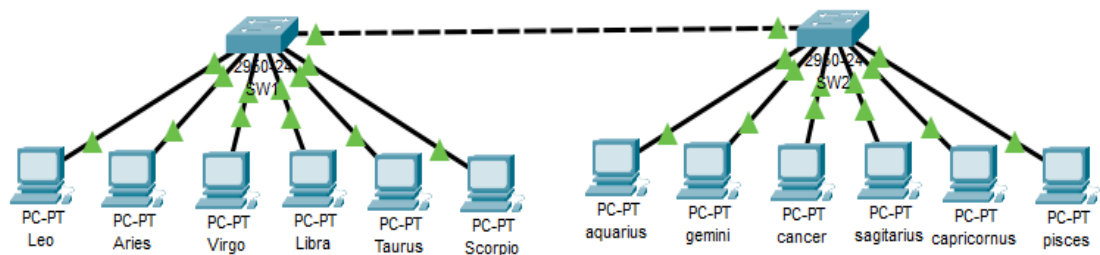
Nomor VLAN 10 dengan nama VLAN zodiak1 memiliki port fa 0/1 dan fa 0/4 status VLAN nya active.

Nomor VLAN 20 dengan nama VLAN zodiak2 memiliki port fa 0/2 dan fa 0/5 status VLAN nya active.

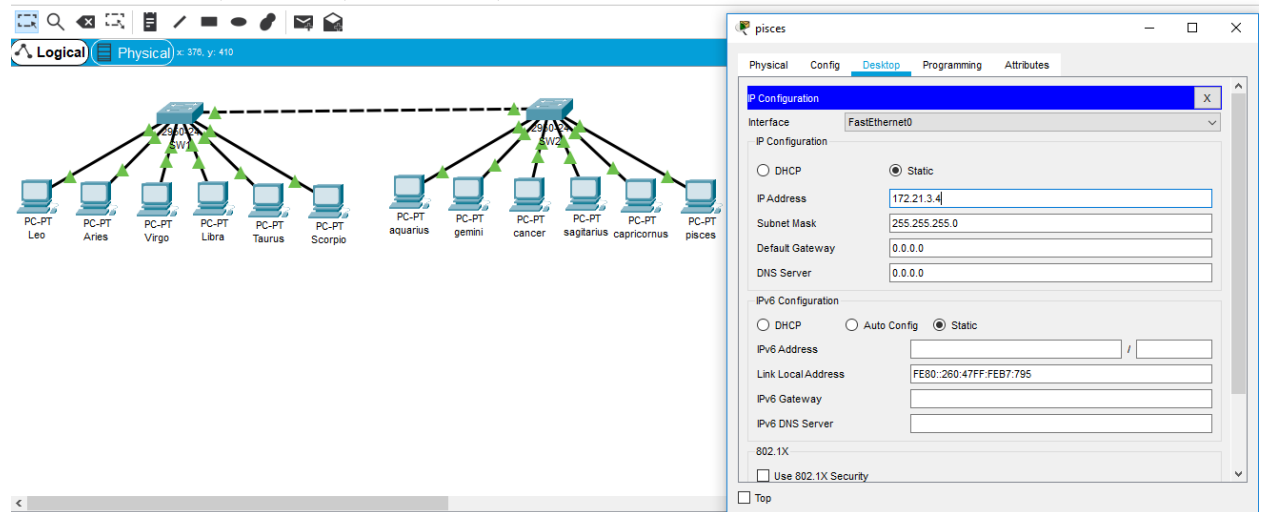
Nomor VLAN 30 dengan nama VLAN zodiak3 memiliki port fa 0/3 dan fa 0/6 status VLAN nya active.

2. KEGIATAN 2 TOPOLOGI 2

a. Memberi nama masing-masing perangkat

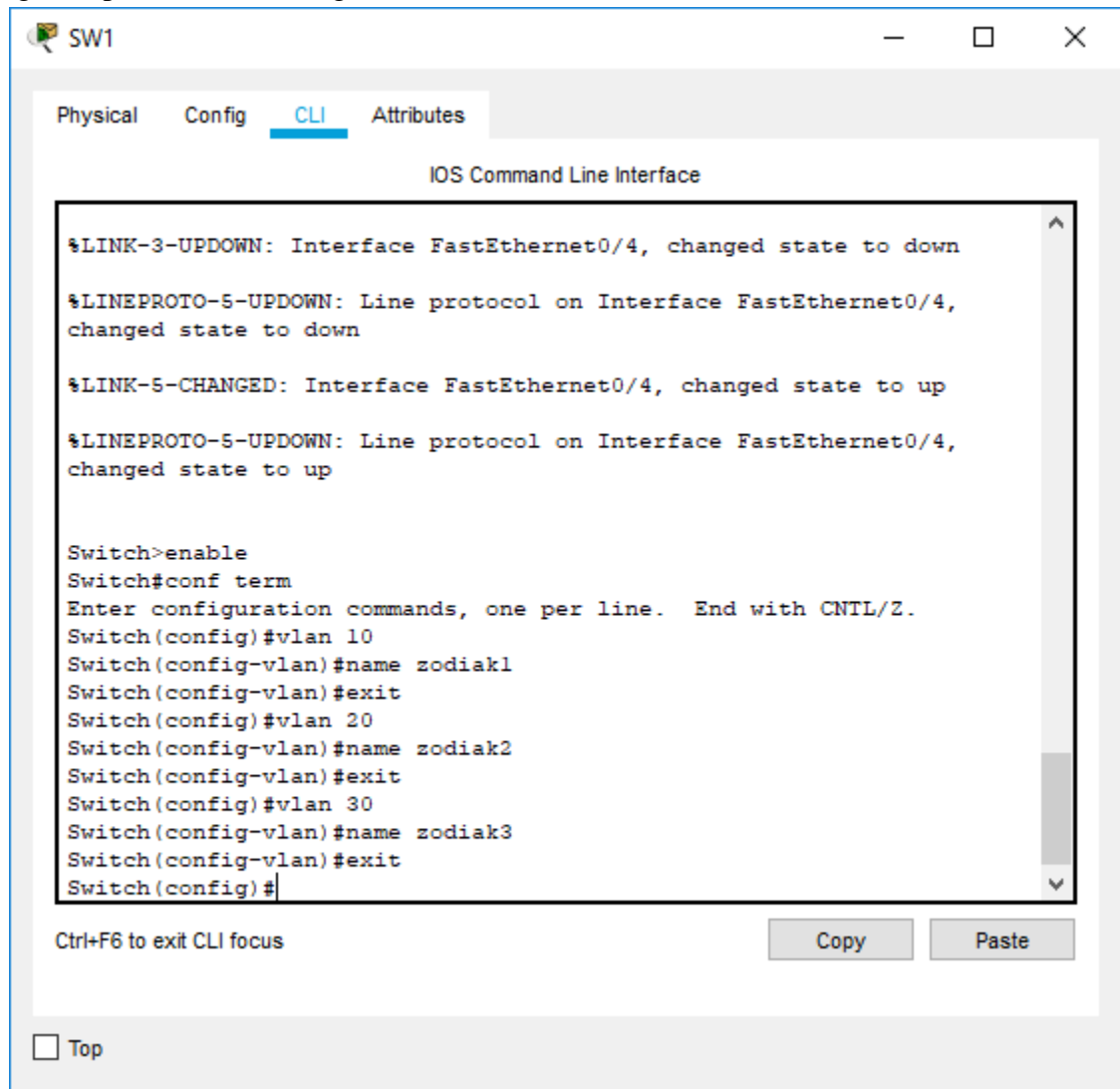


b. Konfigurasi masing-masing PC dengan nama dan alamat IP



c. konf

d. igurasi pada switch 1 dengan mode user



IOS Command Line Interface

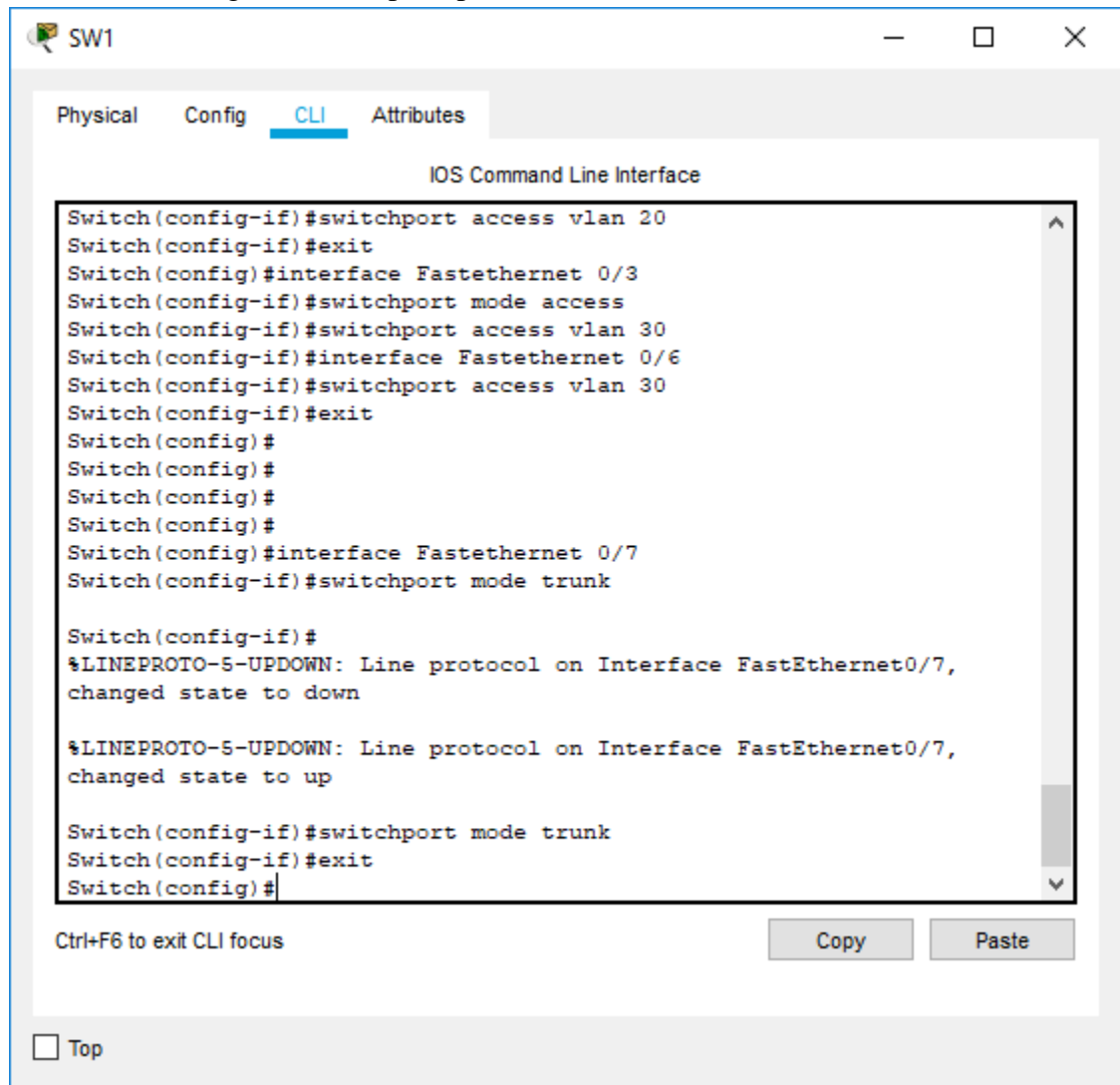
```
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#interface FastEthernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#interface FastEthernet 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport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

Ctrl+F6 to exit CLI focus

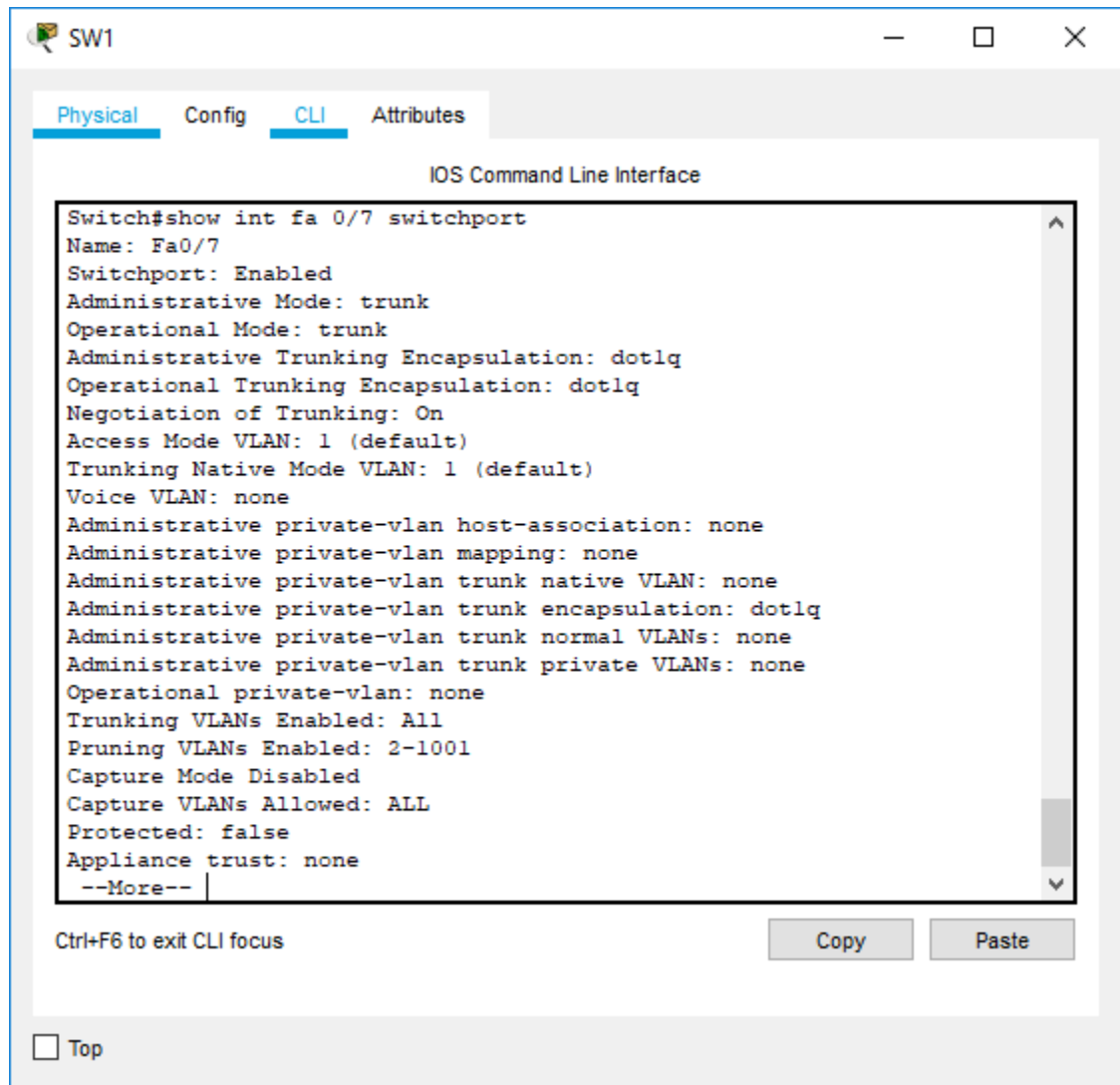
Copy

Paste

- e. Melakukan konfigurasi trunk pada port 0/7



f. Hasil



- i. Show int trunk

The screenshot shows a network switch window titled 'SW1' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The window contains the following text:

```
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 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
```

Below the CLI window, there is a status bar with the text 'Ctrl+F6 to exit CLI focus' and two buttons: 'Copy' and 'Paste'. At the bottom left, there is a checkbox labeled 'Top'.

j. Show vlan

SW1

Physical Config **CLI** Attributes

IOS Command Line Interface

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

Switch#show vlan

| VLAN | Name | Status | Ports |
|------|--------------------|--------|--|
| 1 | default | active | Fa0/8, 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 |

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

Remote SPAN VLANs

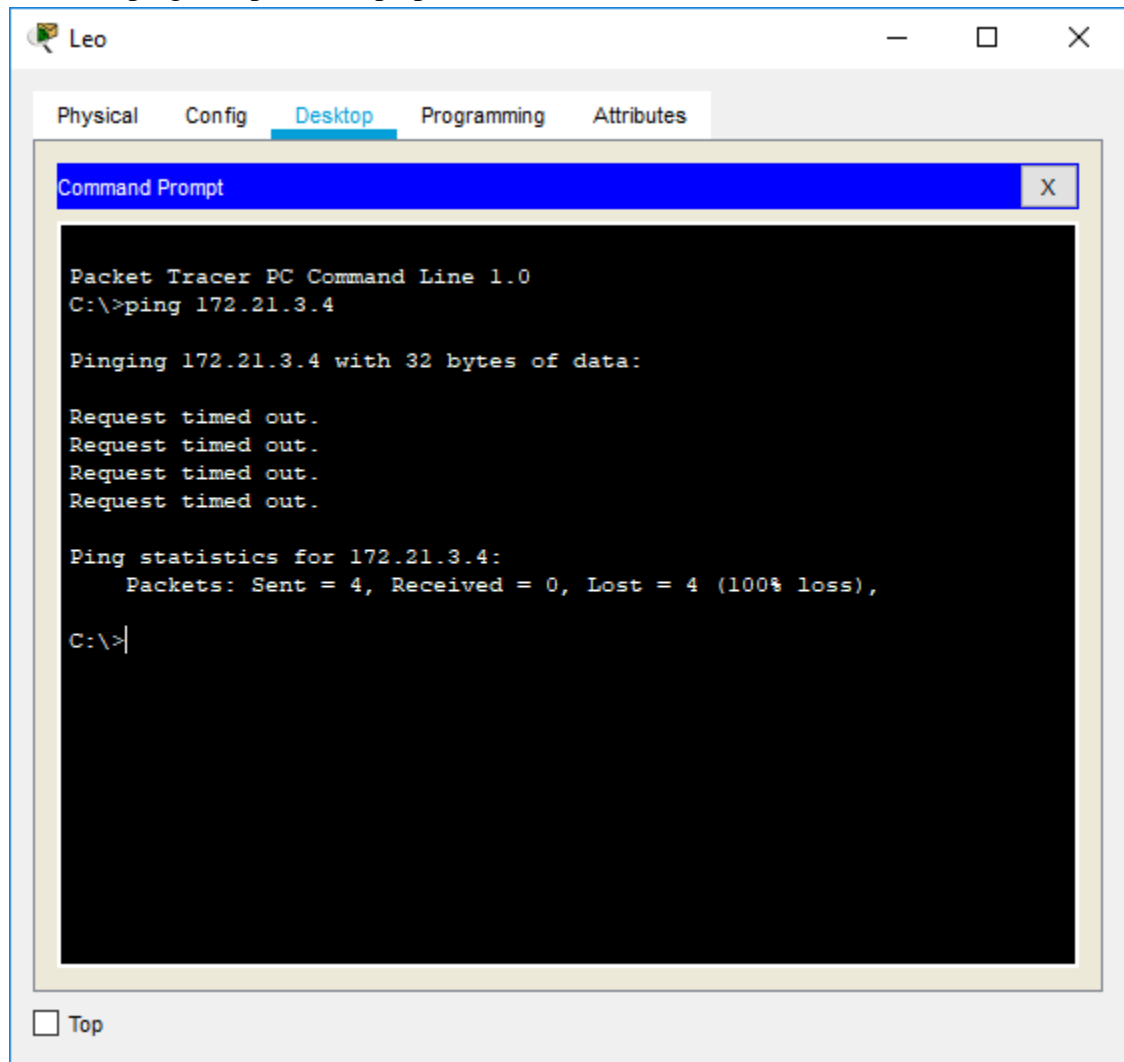
--More--

Ctrl+F6 to exit CLI focus

TUGAS 7A:

Untuk port 0/7 pada switch 0 telah disetting untuk trunk dan berhasil sehingga port 0/7 tidak tersedia untuk vlan.

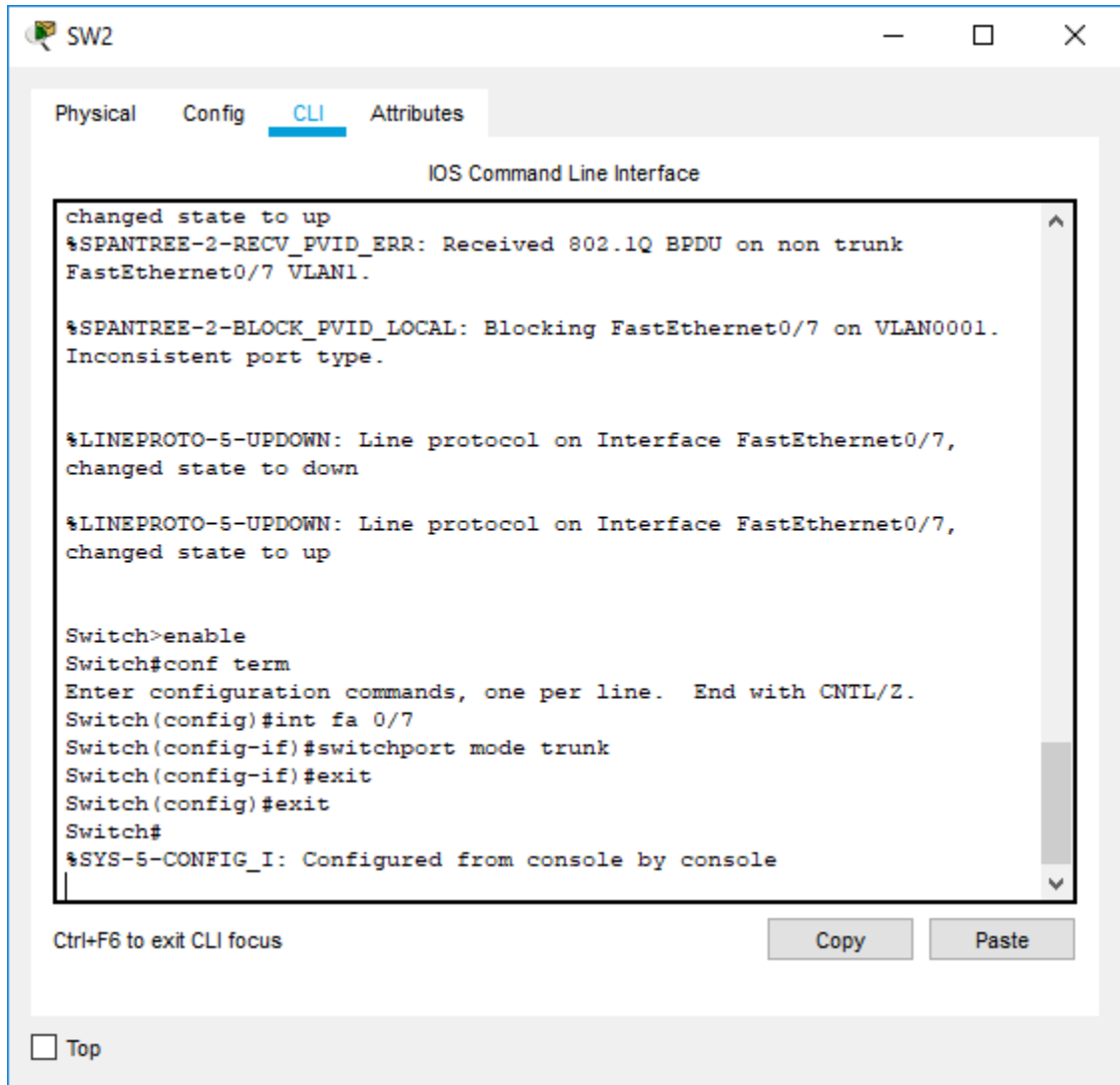
g. Lakukan ping dari pc leo ke pc pisces



Tugas 8A:

Hasilnya adalah RTO karena berada pada jaringan yang berbeda dan pada switch 1 belum disetting trunk.

- h. Melakukan konfigurasi trunk pada switch 2



The screenshot shows a network switch configuration window titled "SW2". It has four tabs: "Physical", "Config", "CLI" (which is selected and highlighted in blue), and "Attributes". The main area is titled "IOS Command Line Interface" and contains a text box with the following text:

```
changed state to up
%SPANTREE-2-RECV_PVID_ERR: Received 802.1Q BPDU on non trunk
FastEthernet0/7 VLAN1.

%SPANTREE-2-BLOCK_PVID_LOCAL: Blocking FastEthernet0/7 on VLAN0001.
Inconsistent port type.

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

Below the text box, there is a status bar that says "Ctrl+F6 to exit CLI focus". To the right of this bar are two buttons: "Copy" and "Paste". At the bottom left of the window, there is a checkbox labeled "Top".

SW2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int fa 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switch access vlan 10
Switch(config-if)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switch access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switch access vlan 20
Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switch access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switch access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switch access vlan 30
Switch(config-if)#exit
Switch(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Logical Physical x 340, y: 1

SW1 SW2

PC-PT Leo PC-PT Aries PC-PT Virgo PC-PT Libra PC-PT Taurus PC-PT Scorpio

PC-PT aquarius PC-PT gemini PC-PT cancer PC-PT sagittarius PC-PT capricornus PC-PT pisces

SW2

Physical Config **CLI** Attributes

IOS Command Line Interface

```
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
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

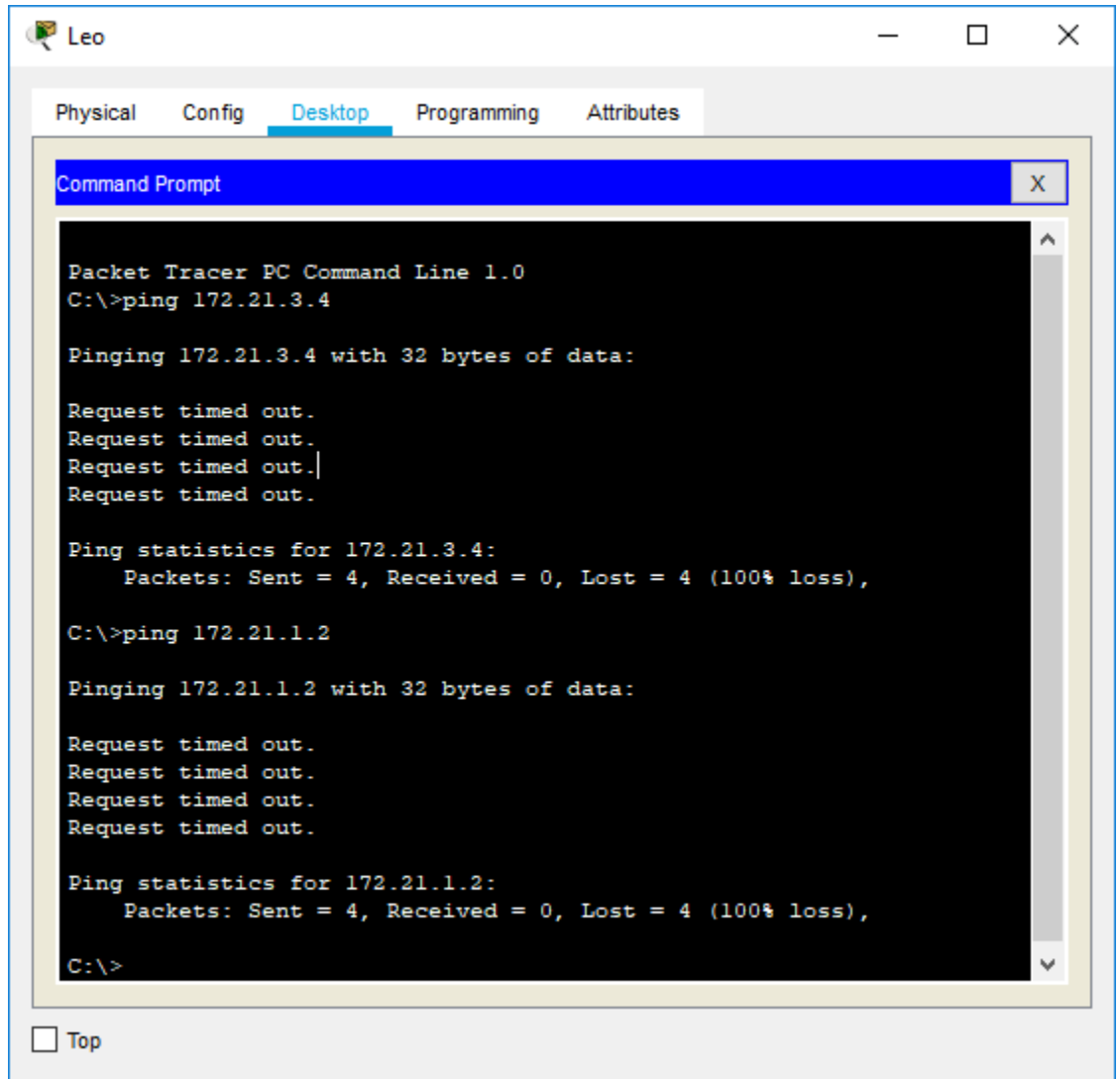
TUGAS 10A

Jelaskan secara singkat hasil yang anda peroleh dari langkah 10.

Jawab:

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

- i. melakukan ping dari
 - pc leo ke pc aries



```
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:\>ping 172.21.1.2

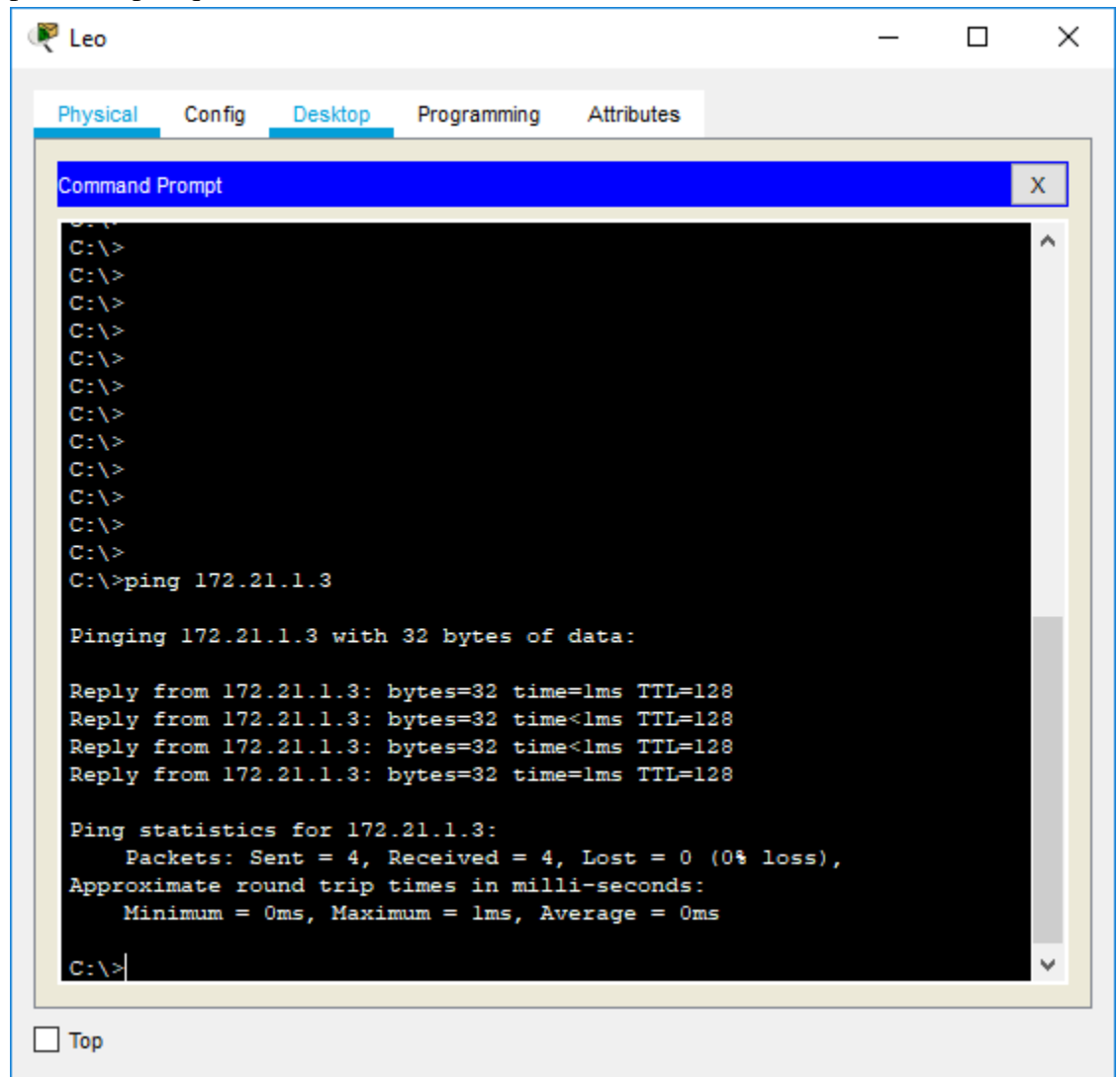
Pinging 172.21.1.2 with 32 bytes of data:

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

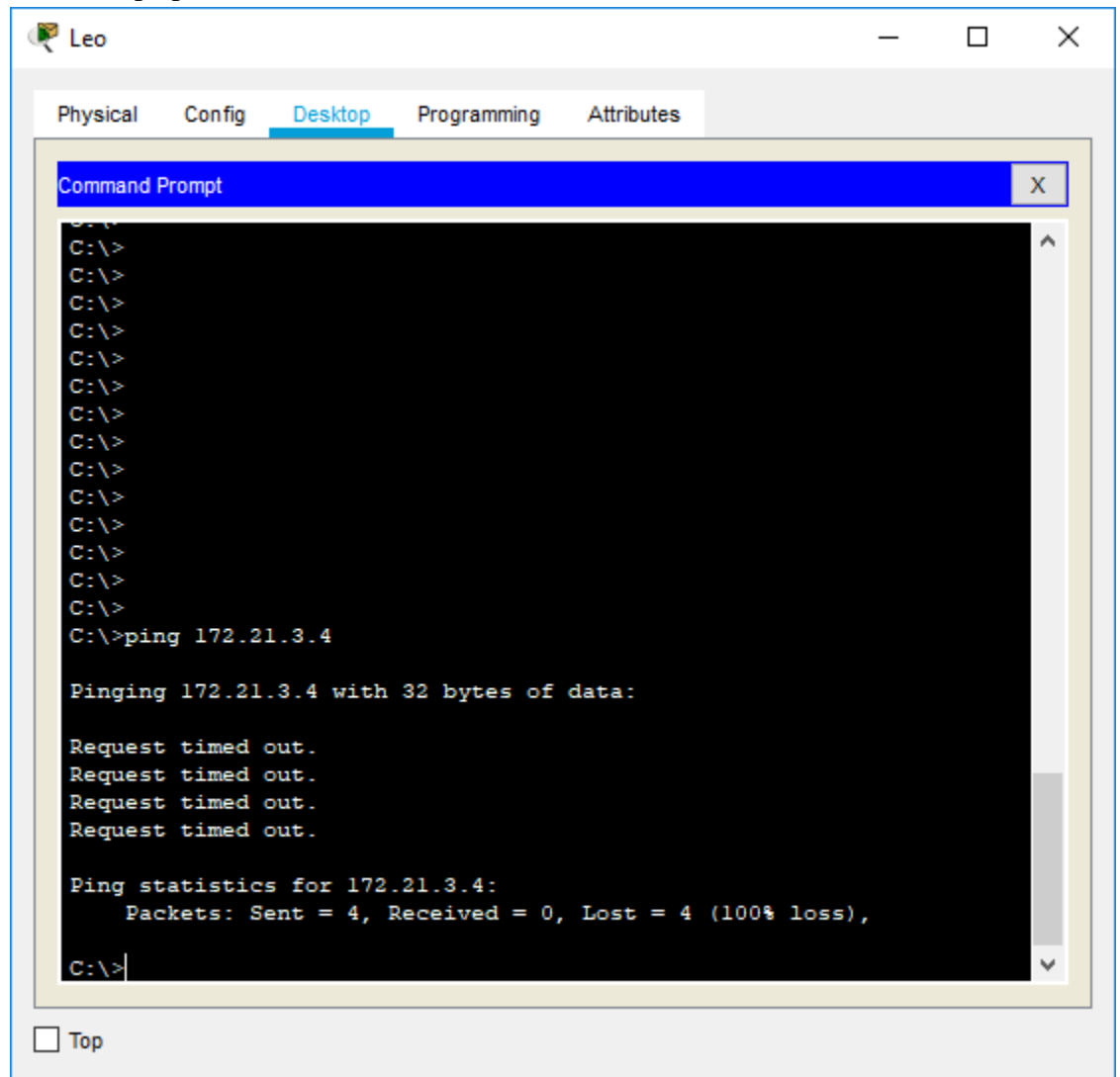
Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

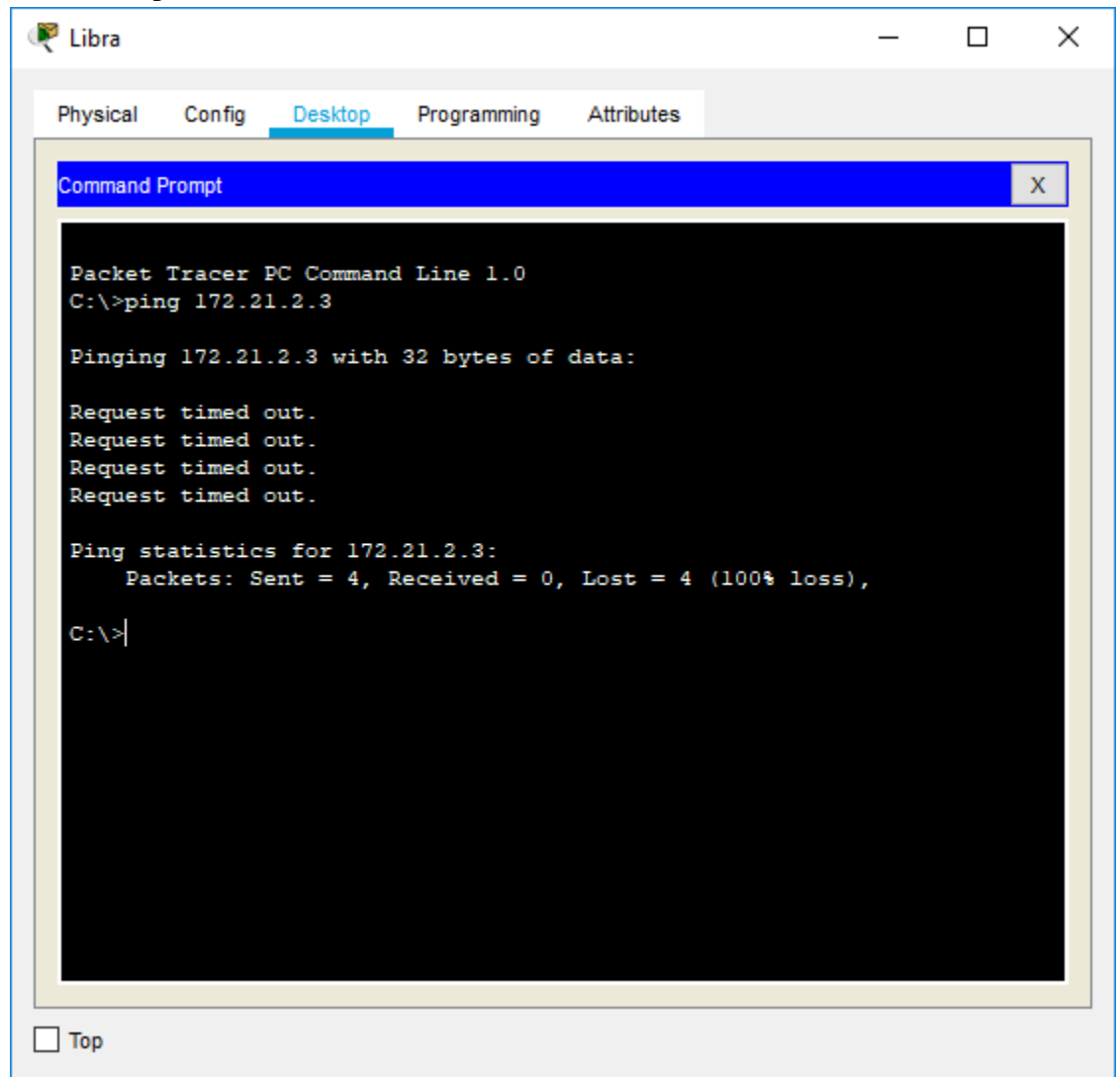
➤ pc leo ke pc aquarius



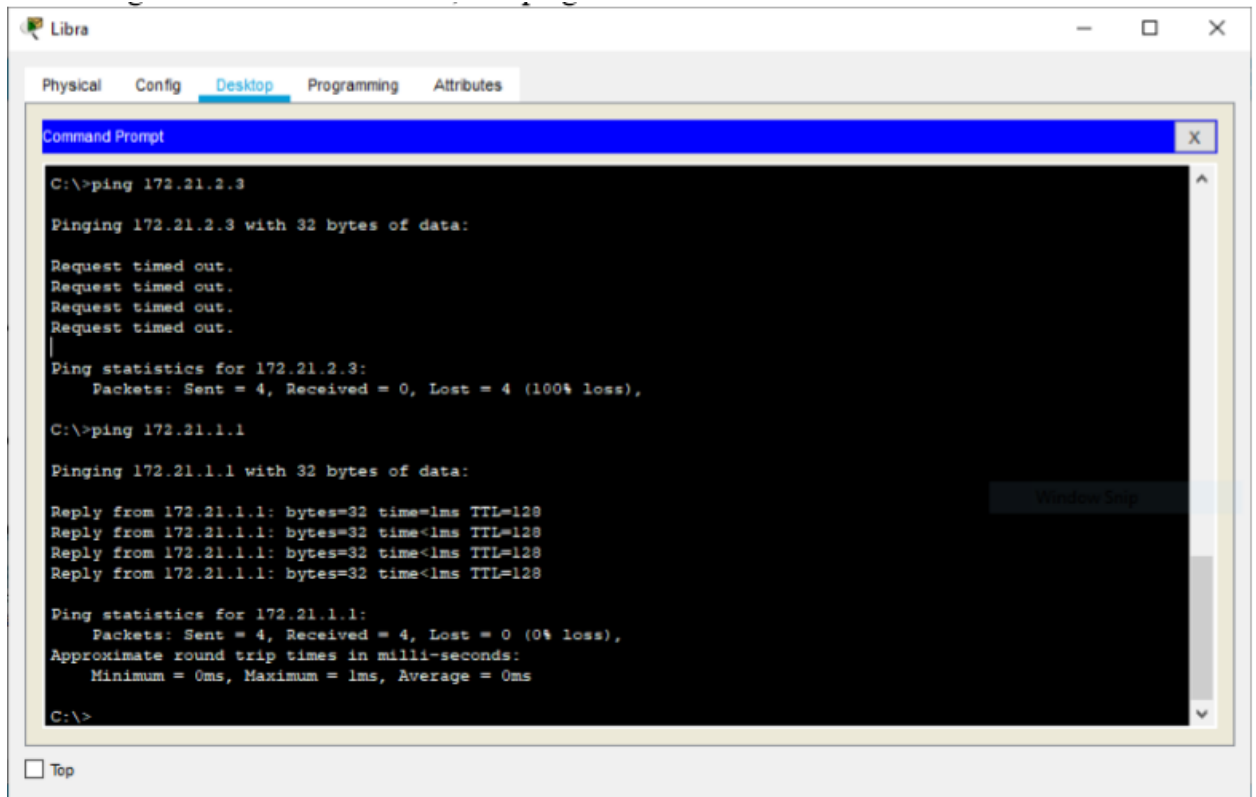
- Pc leo ke pc pisces



- Pc libra ke pc cancer



➤ Pc libra ke pc leo



```
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:\>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 = 1ms, Average = 0ms

C:\>
```

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.