

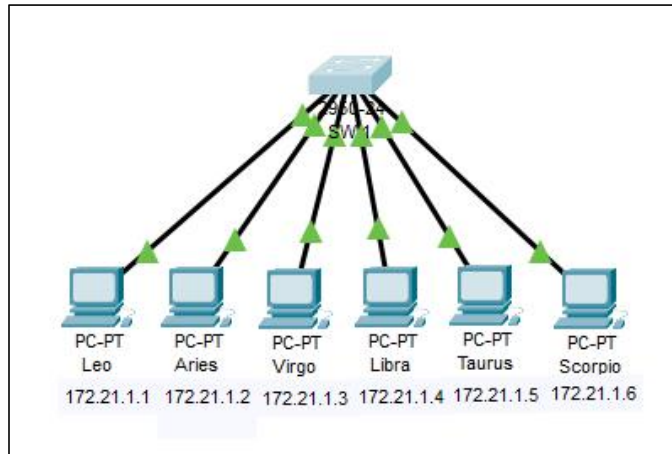
Nama : Wulandari Ratna Kartika Jayawardani
NIM : L200180091
Kelas : C

Modul 4

Kegiatan Praktikum.

1. Kegiatan 1. Topologi 1

- a. Desain topologi, penamaan, dan penyetingan IP Address.



- b. Konfigurasi untuk switch untuk membuat 3 vlan dengan nama zodiak1, zodiak2, dan zodiak3.

```
SW 1
Physical Config CLI Attributes
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6,
changed state to up
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)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Ctrl+F6 to exit CLI focus
Copy Paste
Top
```

- c. Konfigurasi port – port switch ke dalam vlan zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut :
- Zodiak1 = Leo dan Libra
 - Zodiak2 = Aries dan Taurus
 - Zodiak3 = Virgo dan Scorpio

```
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)#switchport access vlan 10
Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#switchport mode acces
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#exit
Switch#
```

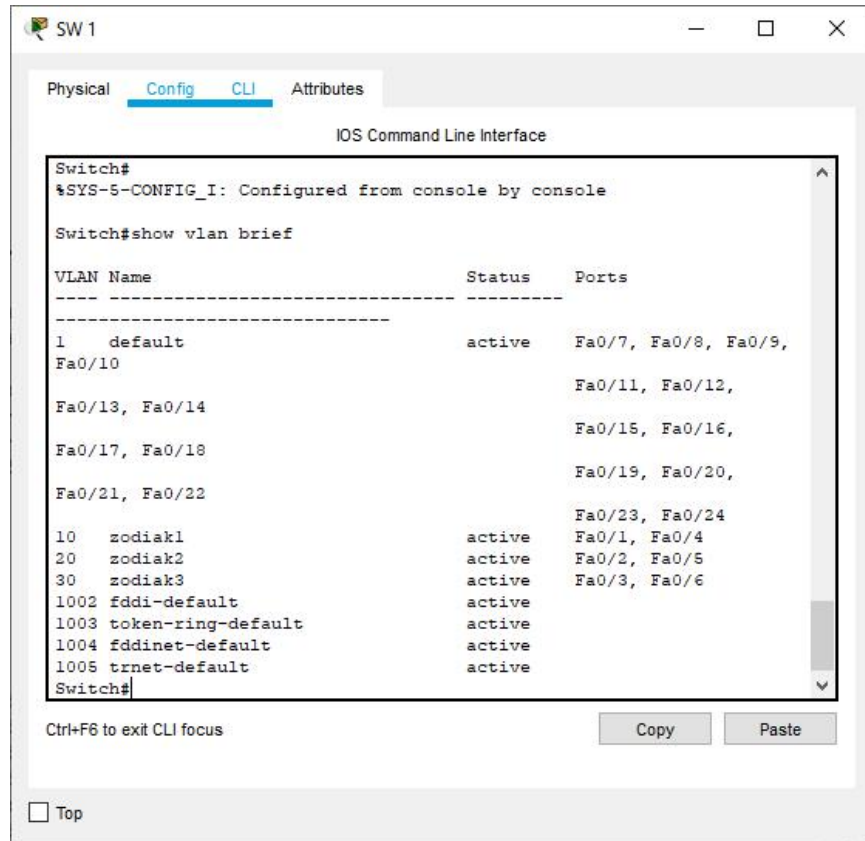
Ctrl+F6 to exit CLI focus

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☐ Top

- d. Pada mode user atau mode privileged, lihat konfigurasi VLAN yang telah dibuat.

Informasi VLAN keseluruhan



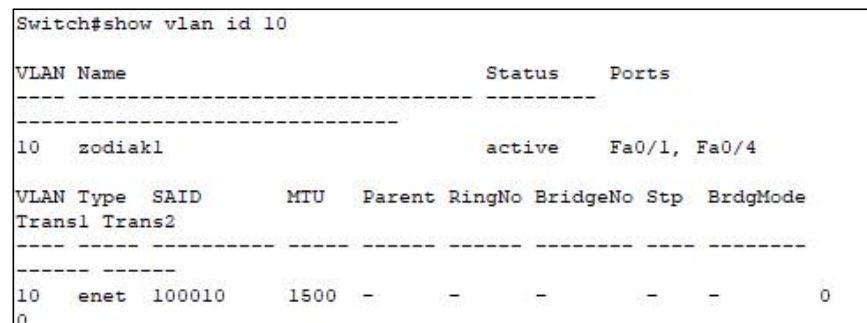
```

Switch#
%SYS-5-CONFIG_I: Configured from console by console

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#
  
```

✧ Informasi VLAN 10



```

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
  
```

Tugas 6A

No	Variabel	Nilai
1.	Nomor VLAN	10
2.	Nama VLAN	Zodiak1
3.	Port	Fa0/1, Fa0/4
4.	Status	Active

✧ 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
```

Tugas 6A

No	Variabel	Nilai
1.	Nomor VLAN	10
2.	Nama VLAN	Zodiak2
3.	Port	Fa0/2, Fa0/5
4.	Status	Active

✧ 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
```

Tugas 6A

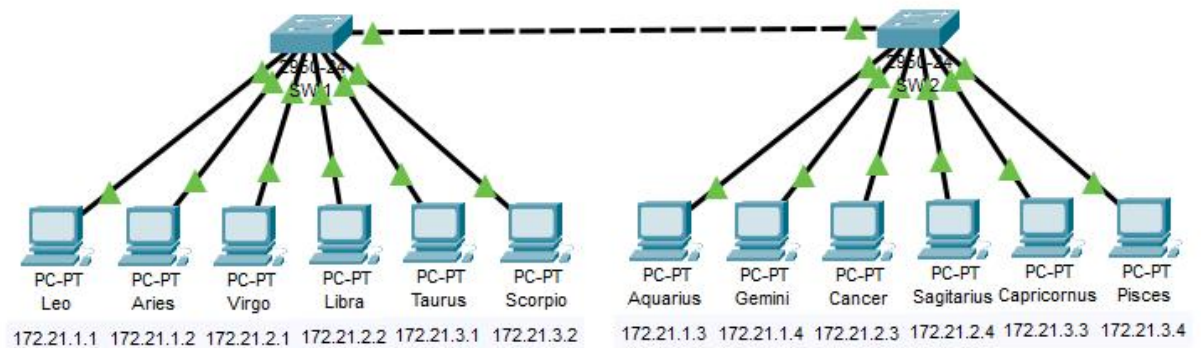
No	Variabel	Nilai
1.	Nomor VLAN	10
2.	Nama VLAN	Zodiak3
3.	Port	Fa0/3, Fa0/6
4.	Status	Active

Tugas 6B: Jelaskan secara singkat hasil yang anda peroleh dari tugas 6A.

- ◆ Dalam VLAN ID, status VLAN menjadi active.
- ◆ Identitas VLAN (1,2,3) sesuai dari pembuatan nama VLAN dengan nama zodiak1, zodiak2, dan zodiak3.
- ◆ Port yang terdaftar dalam VLAN sesuai dengan konfigurasi yang telah dilakukan sebelumnya.

2. Kegiatan 2. Topologi 2

- a. Desain topologi, penamaan, dan penyetingan IP Address.



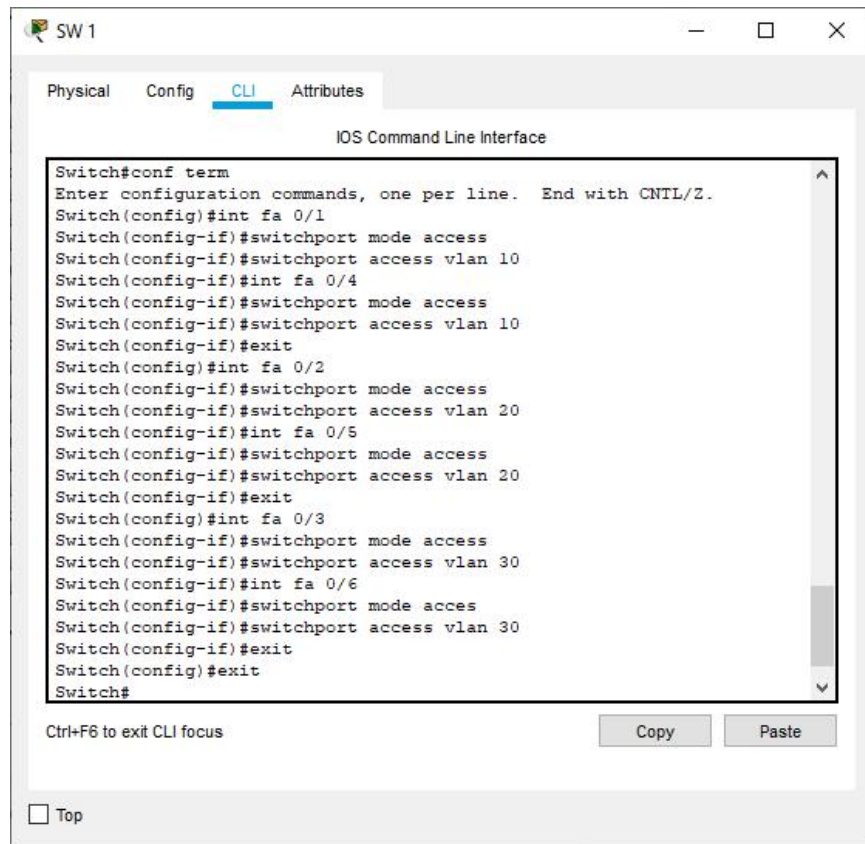
- b. Konfigurasi untuk switch untuk membuat 3 vlan dengan nama zodiak1, zodiak2, dan zodiak3.

```
SW 1
Physical Config CLI Attributes
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/5,
changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/6, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/6,
changed state to up

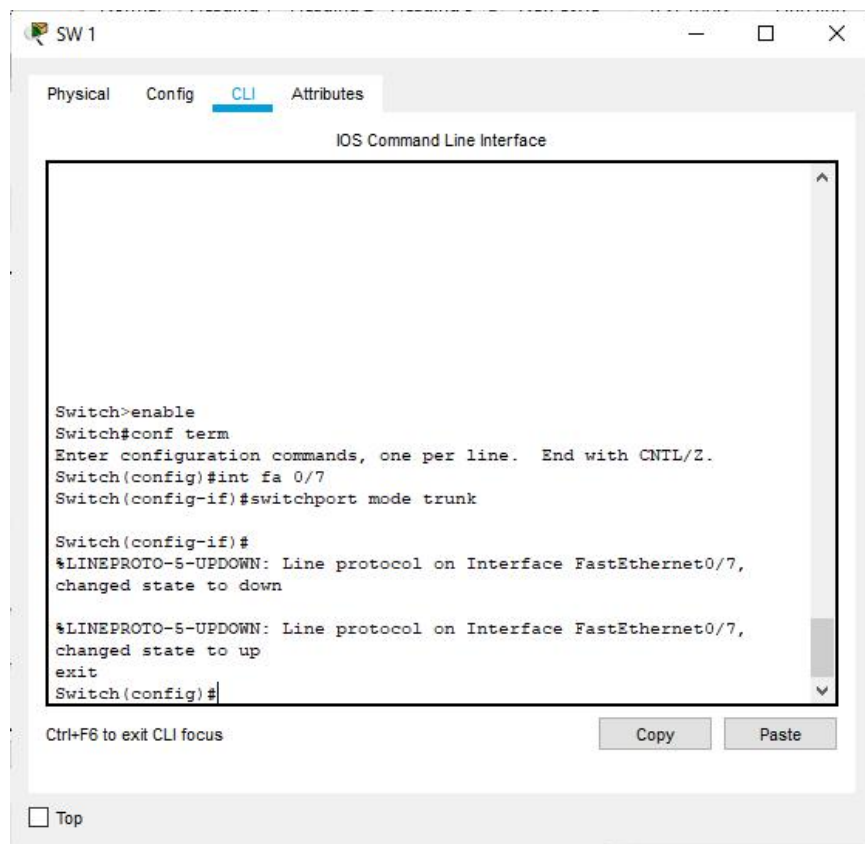
Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Ctrl+F6 to exit CLI focus
Copy Paste
Top
```

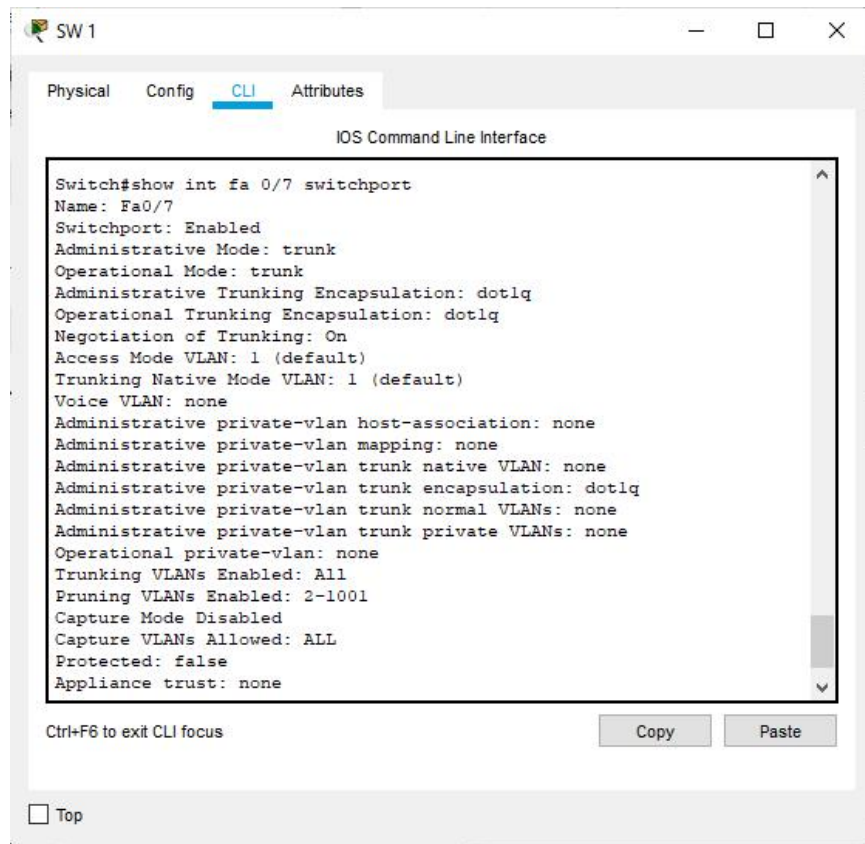
- c. Konfigurasi port – port switch ke dalam vlan zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut :
- Zodiak1 = Leo dan Libra
 - Zodiak2 = Aries dan Taurus
 - Zodiak3 = Virgo dan Scorpio



d. Konfigurasi VLAN trunking pada switch 1.



- e. Pada mode user atau mode privileged, lihat konfigurasi trunking yang telah dibuat.



SW1

Physical Config **CLI** Attributes

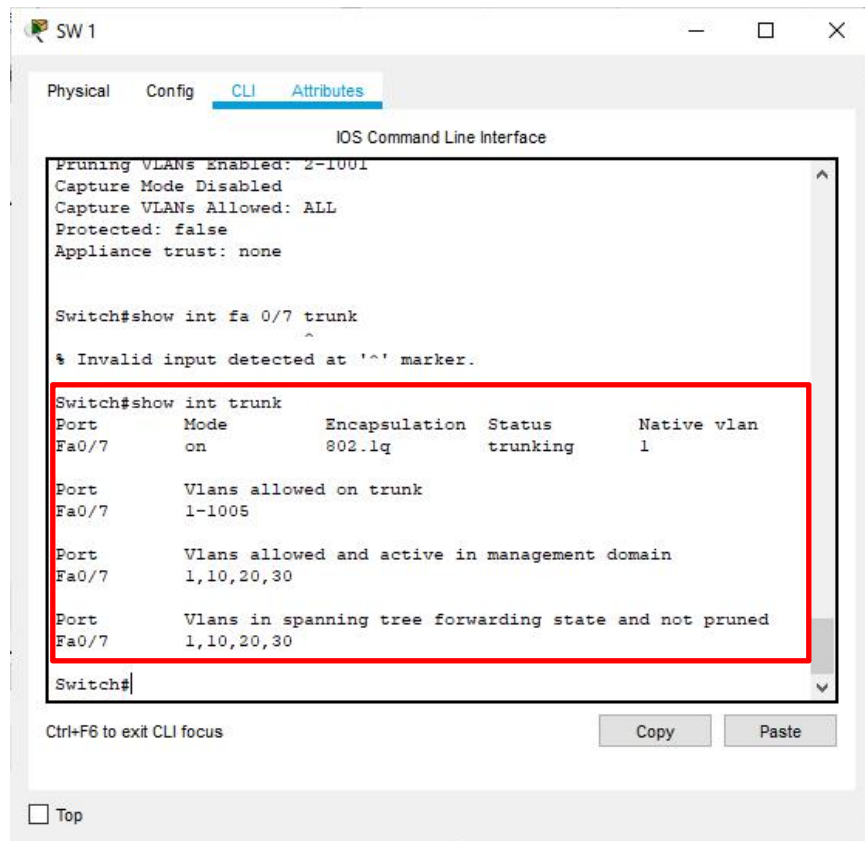
IOS Command Line Interface

```
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

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SW1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Appliance trust: none

Switch#show int fa 0/7 trunk
% Invalid input detected at '^' marker.

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#
```

Ctrl+F6 to exit CLI focus

Copy Paste

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SW 1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
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
10	enet	100010	1500	-	-	-	0
20	enet	100020	1500	-	-	-	0
30	enet	100030	1500	-	-	-	0
1002	fddi	101002	1500	-	-	-	0
1003	tr	101003	1500	-	-	-	0
1004	fdnet	101004	1500	-	-	ieee	0
1005	trnet	101005	1500	-	-	ibm	0

Remote SPAN VLANs

Primary	Secondary	Type	Ports

Switch#

Ctrl+F6 to exit CLI focus

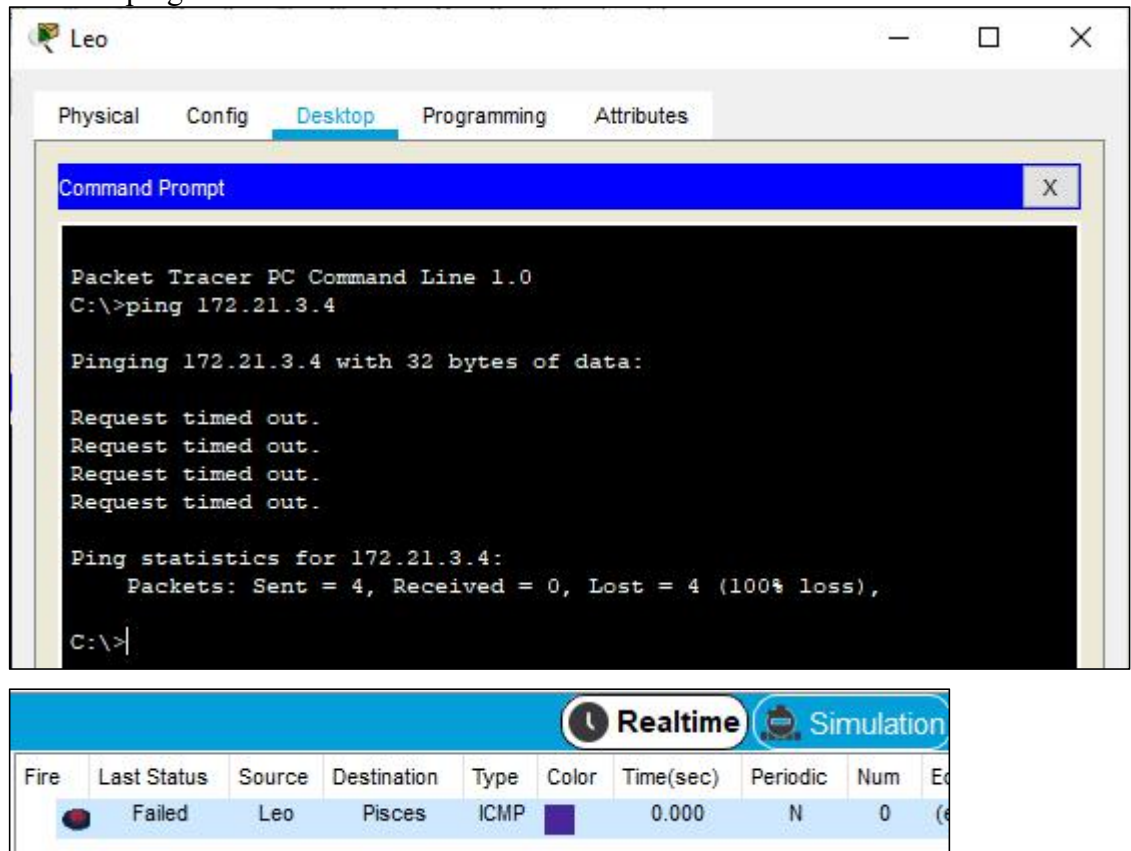
Copy Paste

Top

Tugas 7A: Jelaskan secara singkat hasil yang anda peroleh dari langkah di atas.

- Pada langkah ini port yang sudah terkonfigurasi ke dalam vlan yaitu port 0/1 sampai port 0/6, sedangkan port 0/7 untuk trunking antar switch.

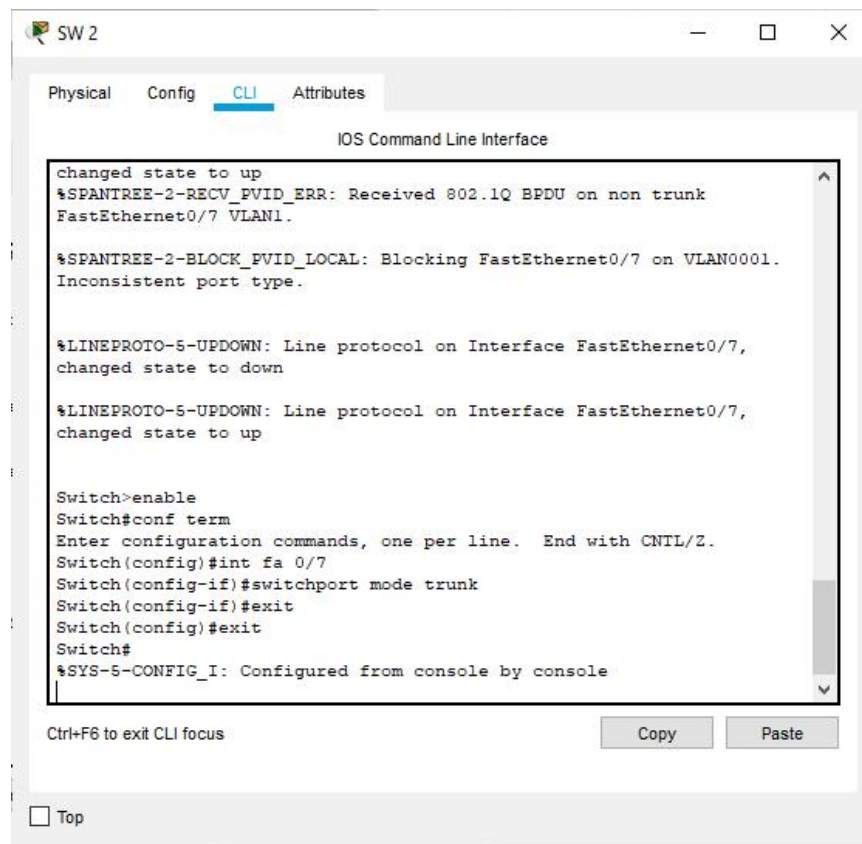
- f. Lakukan ping dari PC Leo ke PC Pisces.



Tugas 8A: Jelaskan secara singkat mengapa hasil yang anda peroleh dari langkah di atas mendapatkan “Request timed out”?

- Hasil yang didapat masih RTO, karena PC pisces tidak berada pada VLAN yang sama dengan PC Leo

- g. Lakukan konfigurasi VLAN trunking pada switch 2.



The screenshot shows a network switch configuration window titled 'SW 2'. It has tabs for 'Physical', 'Config', 'CLI' (selected), and 'Attributes'. The main area is titled 'IOS Command Line Interface' and contains the following text:

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

%SPANTRIE-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 CLI window, there is a text label 'Ctrl+F6 to exit CLI focus' and two buttons: 'Copy' and 'Paste'. At the bottom left, there is a checkbox labeled 'Top'.

- h. Pada mode user atau mode privileged, lihat konfigurasi vlan pada switch 2.

```
SW 2
Physical Config CLI Attributes
IOS Command Line Interface

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        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
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#
```

Ctrl+F6 to exit CLI focus

Copy Paste

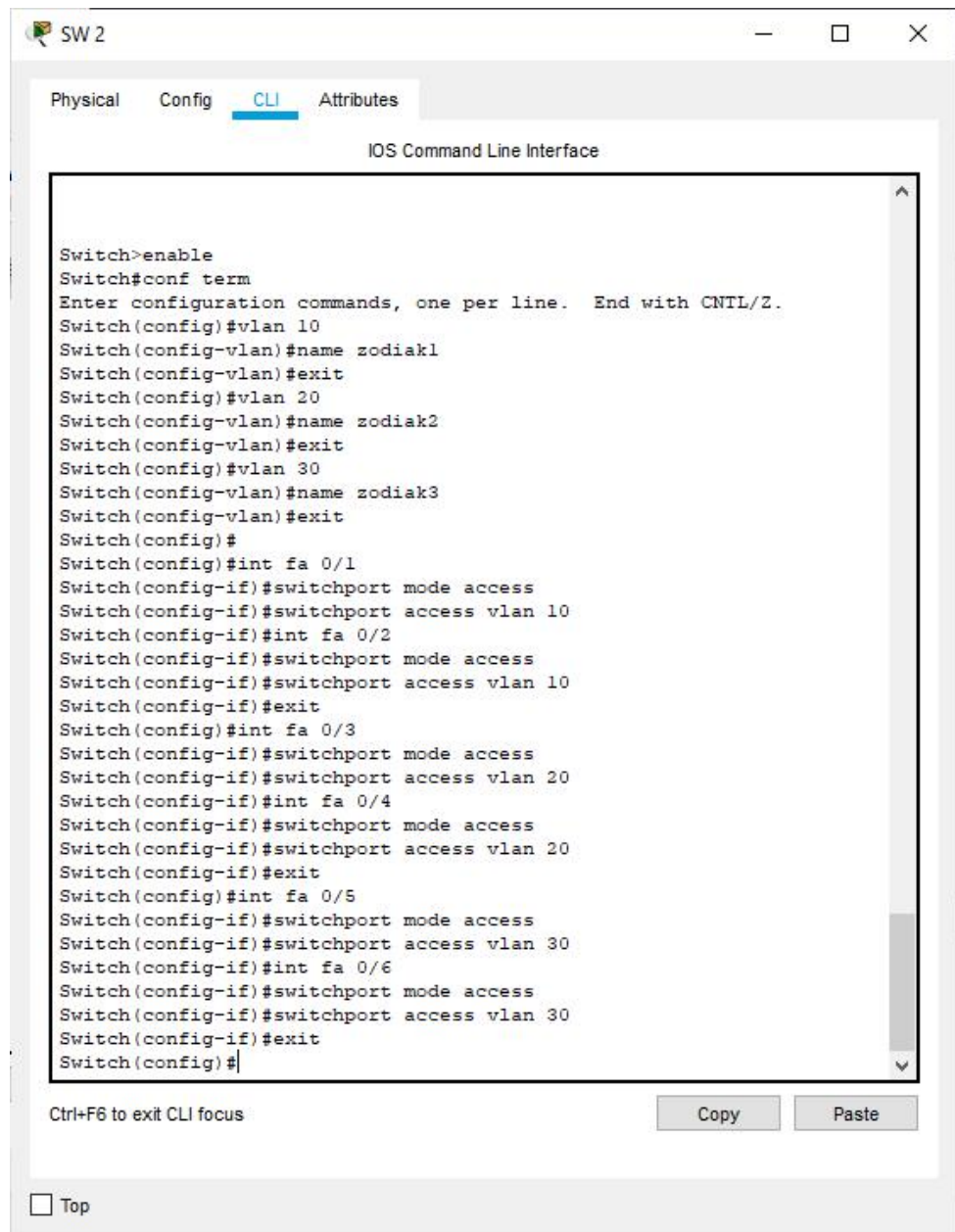
☐ Top

Tugas 10A: Jelaskan secara singkat hasil yang anda peroleh dari langkah di atas.

- Pada langkah ini port - port fastethernet belum terkonfigurasi kedalam VLAN, bahkan VLANnya belum dibuat.

i. Konfigurasi port - port switch ke dalam VLAN zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut:

- Zodiak1 = Aquarius dan Gemini
- Zodiak2 = Cancer dan Sagitarius
- Zodiak3 = Capricornus dan Pisces



```
SW 2
Physical Config CLI Attributes
IOS Command Line Interface

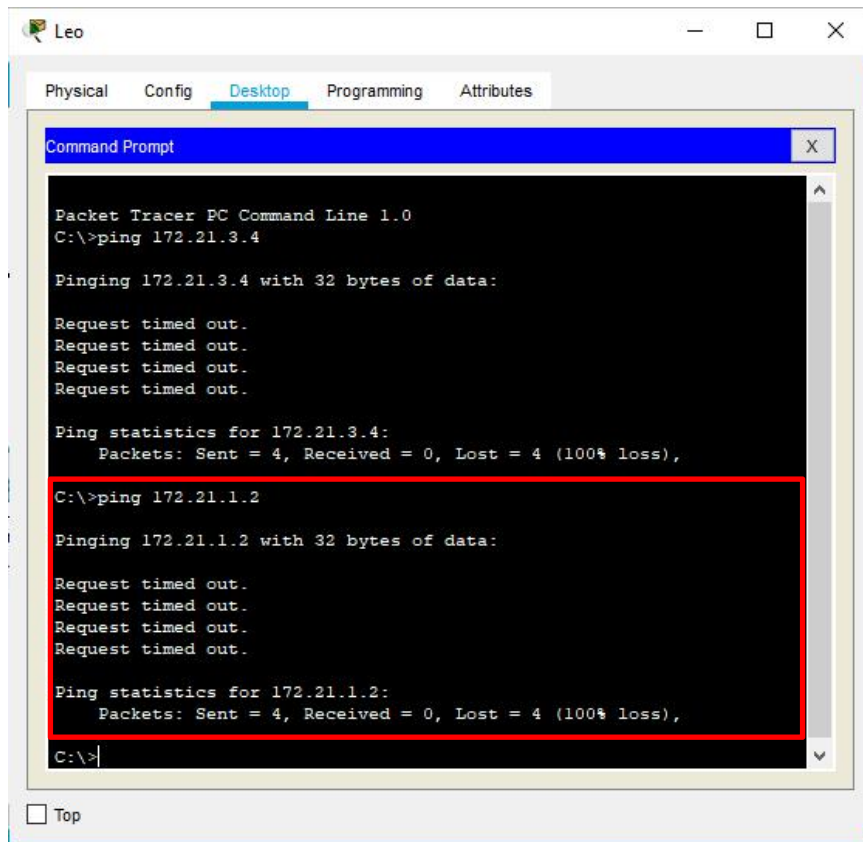
Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 10
Switch(config-vlan)#name zodiak1
Switch(config-vlan)#exit
Switch(config)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#exit
Switch(config)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#
Switch(config)#int fa 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#int fa 0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#int fa 0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#int fa 0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#int fa 0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#int fa 0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

- j. Lakukan ping dari:
PC Leo ke PC Aries



The screenshot shows the 'Leo' PC configuration window in Packet Tracer, with the 'Desktop' tab selected. A 'Command Prompt' window is open, displaying the results of two ping commands. The first command is 'ping 172.21.3.4', which results in four 'Request timed out.' messages and a summary of 'Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)'. The second command is 'ping 172.21.1.2', which also results in four 'Request timed out.' messages and a summary of 'Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)'. The second command and its output are highlighted with a red rectangle.

```
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

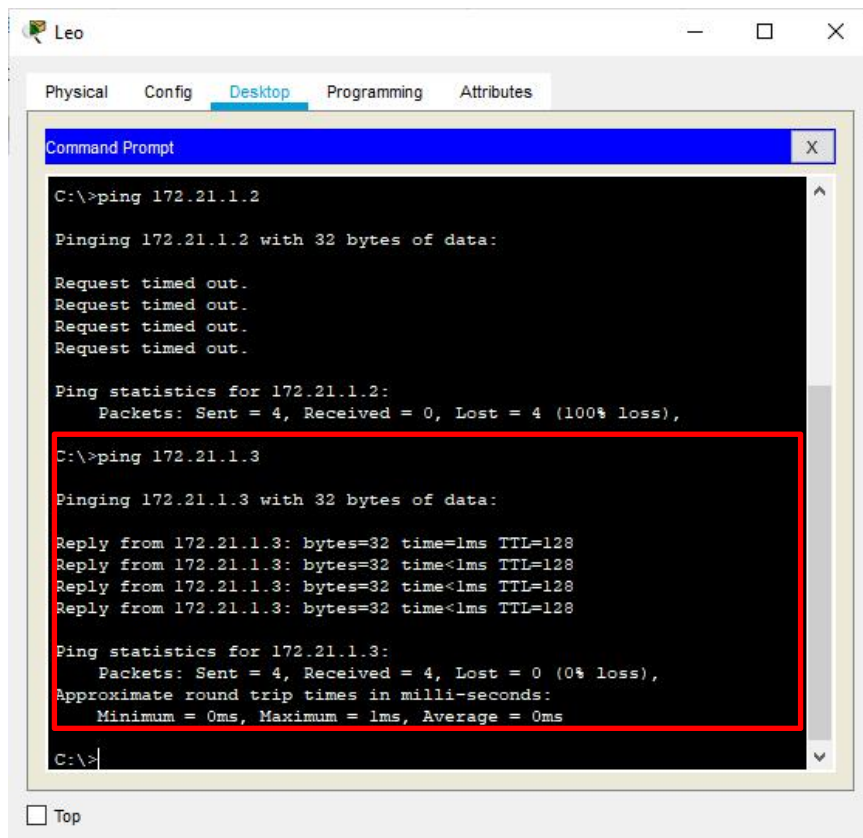
Pinging 172.21.1.2 with 32 bytes of data:

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



The screenshot shows the 'Leo' PC configuration window in Packet Tracer, with the 'Desktop' tab selected. A 'Command Prompt' window is open, displaying the results of two ping commands. The first command is 'ping 172.21.1.2', which results in four 'Request timed out.' messages and a summary of 'Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)'. The second command is 'ping 172.21.1.3', which results in four successful replies with 'bytes=32 time<lms TTL=128' and a summary of 'Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 1ms, Average = 0ms'. The second command and its output are highlighted with a red rectangle.

```
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:\>ping 172.21.1.3

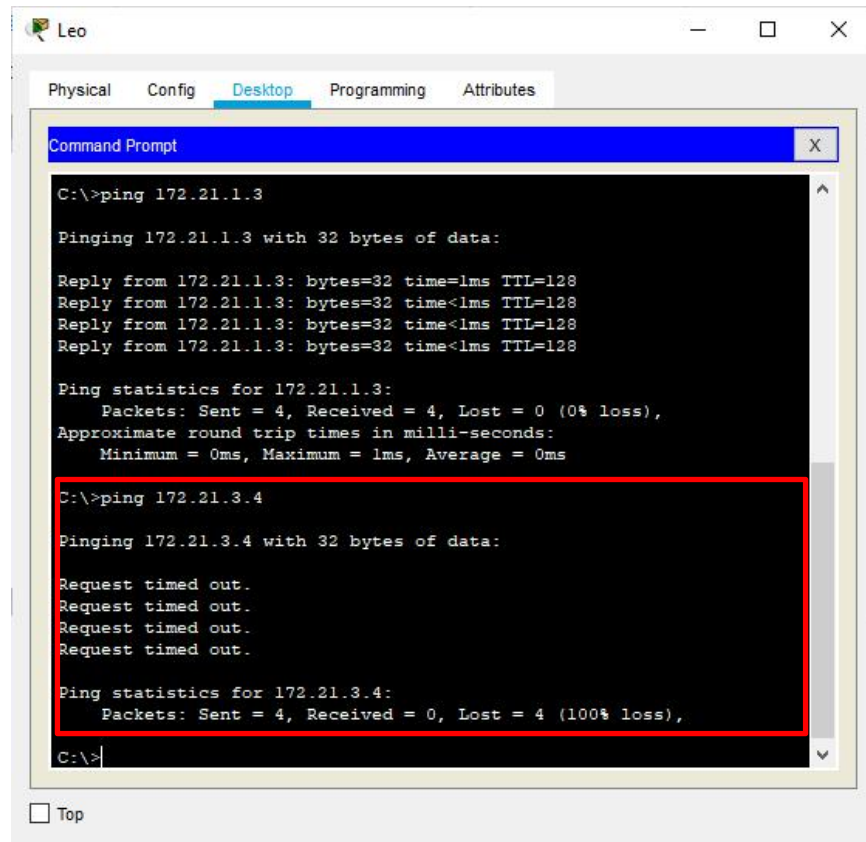
Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time<lms TTL=128
Reply from 172.21.1.3: bytes=32 time<lms TTL=128
Reply from 172.21.1.3: bytes=32 time<lms TTL=128
Reply from 172.21.1.3: bytes=32 time<lms TTL=128

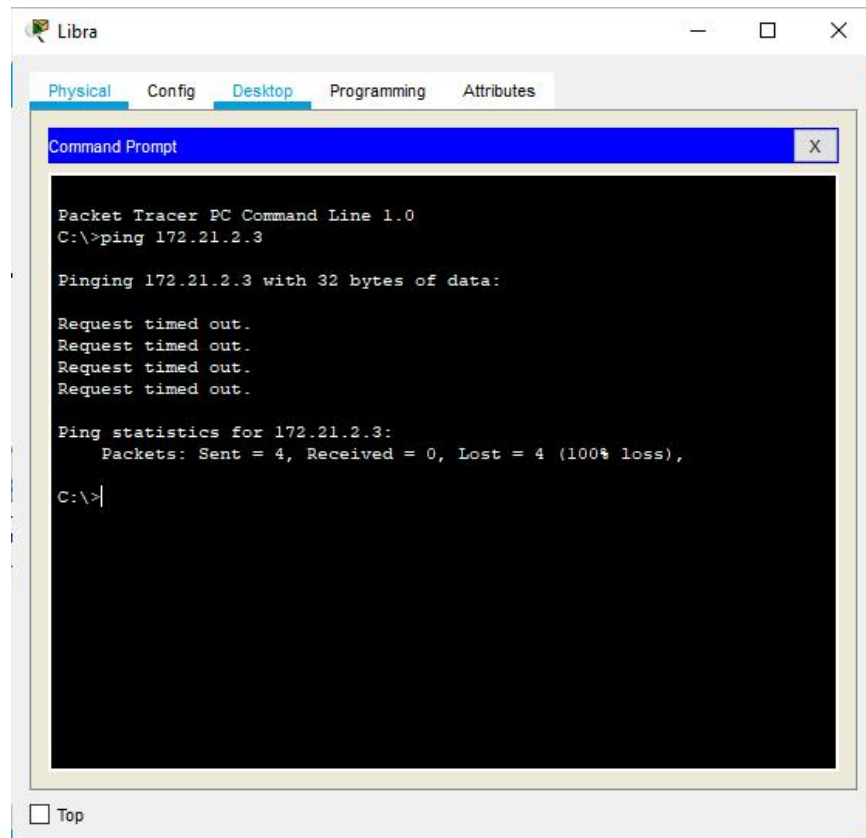
Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

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

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Failed	Leo	Aries	ICMP		0.000	N	1
	Successful	Leo	Aquarius	ICMP		0.000	N	2
	Failed	Leo	Pisces	ICMP		0.000	N	3

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num
	Failed	Libra	Cancer	ICMP		0.000	N	4
	Successful	Libra	Leo	ICMP		0.000	N	5

Tugas 10A: Jelaskan secara singkat hasil yang anda peroleh dari langkah di atas.

- Dari hasil percobaan diatas, dapat disimpulkan apabila PC berada pada VLAN yang sama, maka akan menghasilkan status Reply pada saat pengujian ping, seperti contohnya PC leo ke PC aquarius dan PC libra ke PC leo.
- Akan tetapi jika berada pada VLAN yang berbeda akan menghasilkan status RTO seperti contoh pada PC leo ke PC aries, PC leo ke PC pisces, dan PC libra ke PC cancer.

