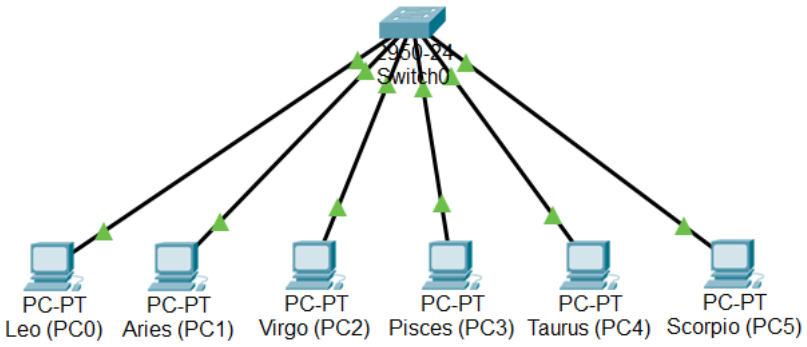
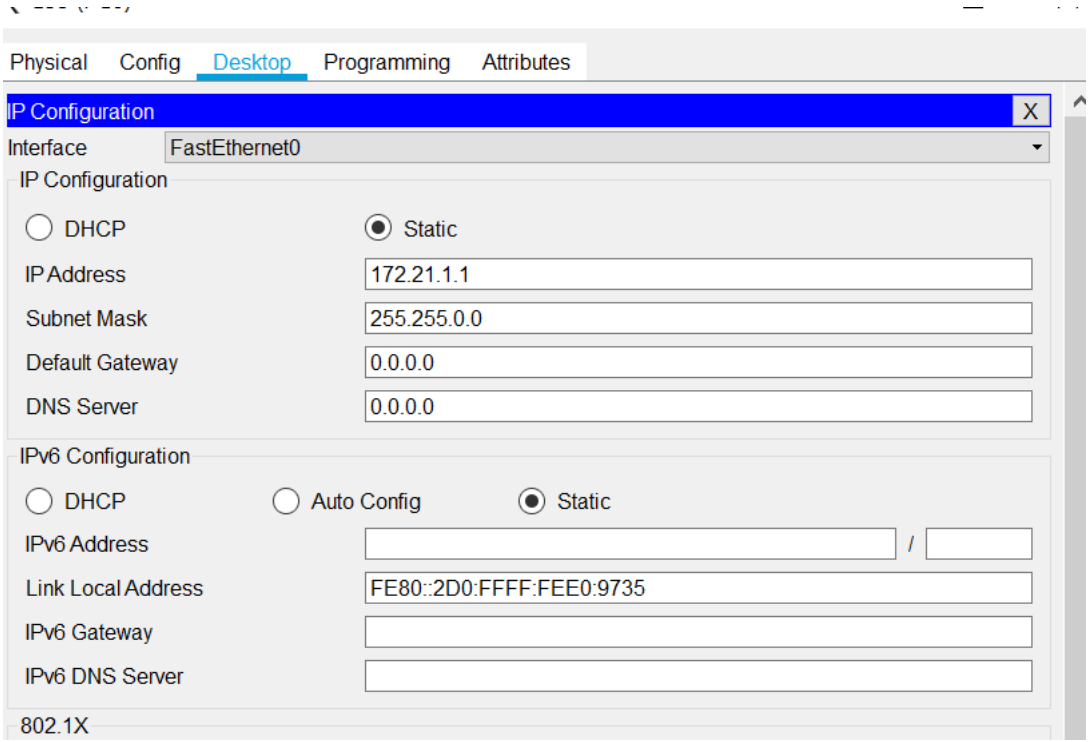
Nama : Rifqi Aditya Mahendra
NIM : L200180083
Kelas : C

Prak Jarkom Modul 4

Kegiatan 1 (topologi 1)

A. Desain topologi, penamaan topologi dan penyetingan IP Address





B. Konfigurasi switch untuk membuat 3 Vlan dengan nama zodiak1, zodiak2, dan zodiak3

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)#vlan 20
Switch(config-vlan)#name zodiak2
Switch(config-vlan)#vlan 30
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#
```

C. Konfigurasi port-port switch ke dalam vlan zodiak1, zodiak2, dan zodiak3 dengan anggota sebagai berikut

- Zodiak1 = Leo dan Pisces
- Zodiak2 = Aries dan Taurus
- zodiak3 = Virgo dan Scorpio

Physical Config CLI Attributes

IOS Command Line Interface

```
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 access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
```

Ctrl+F6 to exit CLI focus Copy Paste

D. Pada model user atau model previleged, lihat konfigurasi Vlan yang telah dibuat. Informasi VLAN 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
```

Tugas 6A

- Melihat konfigurasi vlas 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      0
```

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

- Melihat konfigurasi 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
```

No	Variabel	Nilai
1	Nomor VLAN	20
2	Nama VLAN	Zodiak2
3	Port	Fa0/2, Fa0/5
4	Status	Active

- Melihat konfigurasi 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
```

No	Variabel	Nilai
1	Nomor VLAN	30
2	Nama VLAN	Zodiak3
3	Port	Fa0/3, Fa0/6
4	Status	Active

Tugas 6B

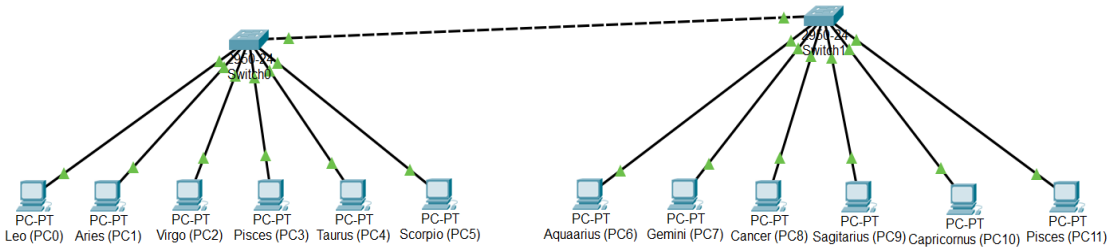
a) Dalam VLAN ID, status VLAN menjadi aktif

b) Identitas VLAN(1,2,3) sesuai dari pembuatan nama VLAN dengan nama zodiak1, zodiak2, zodiak3

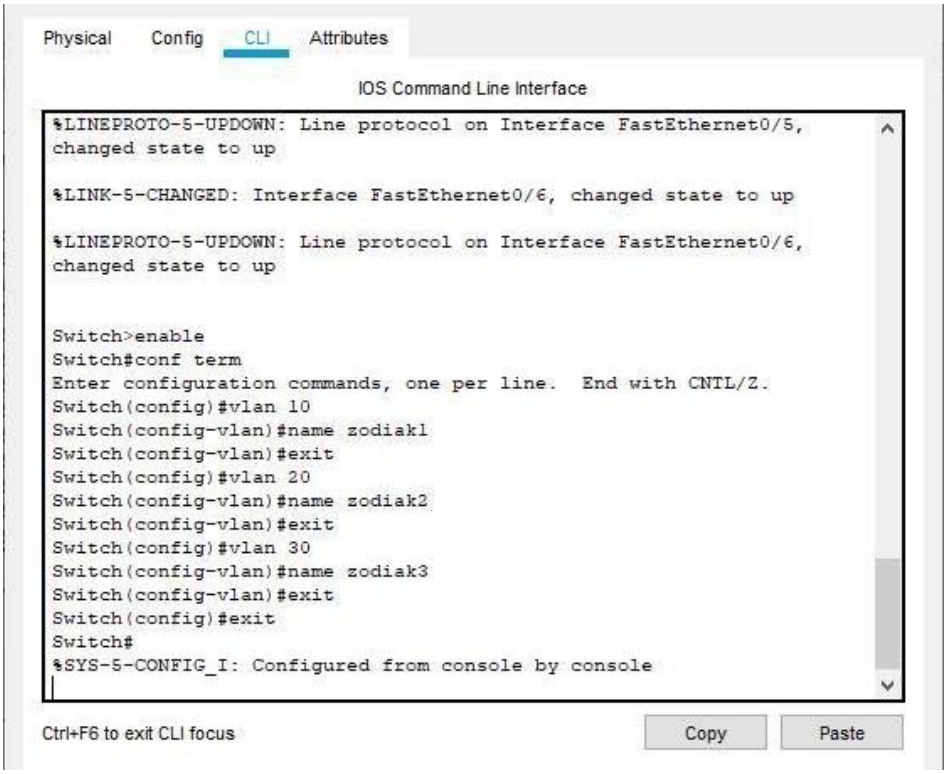
c) port yang terdaftar dalam VLAN sesuai dengan konfigurasi yang telah dilakukan sebelumnya

Kegiatan 2 (topologi 2)

A. Desain topologi, penamaan topologi, dan penyetingan IP Adress



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



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#
```

D. Konfiigurasi VLAN trunking pada switch 1

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

E. Pada model user atau model previleged, lihat konfigurasi trunking yang telah dibuat

SW 1

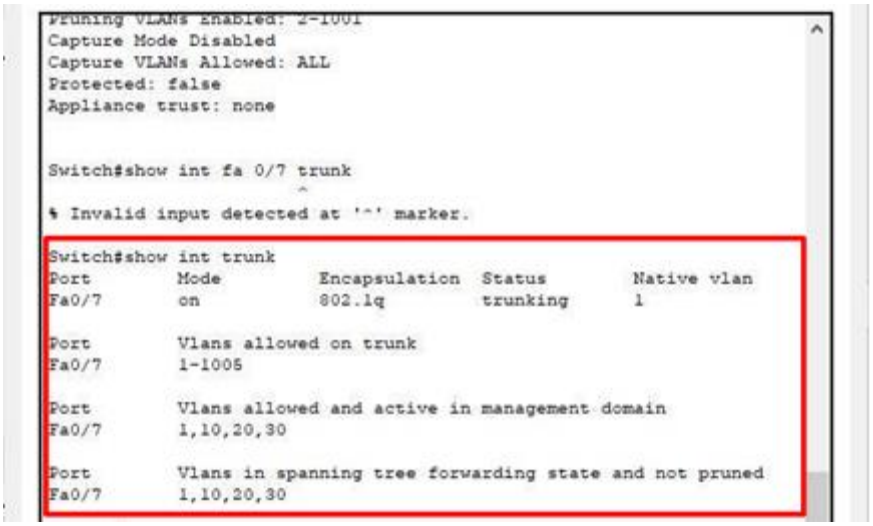
Physical Config CLI Attributes

IOS Command Line Interface

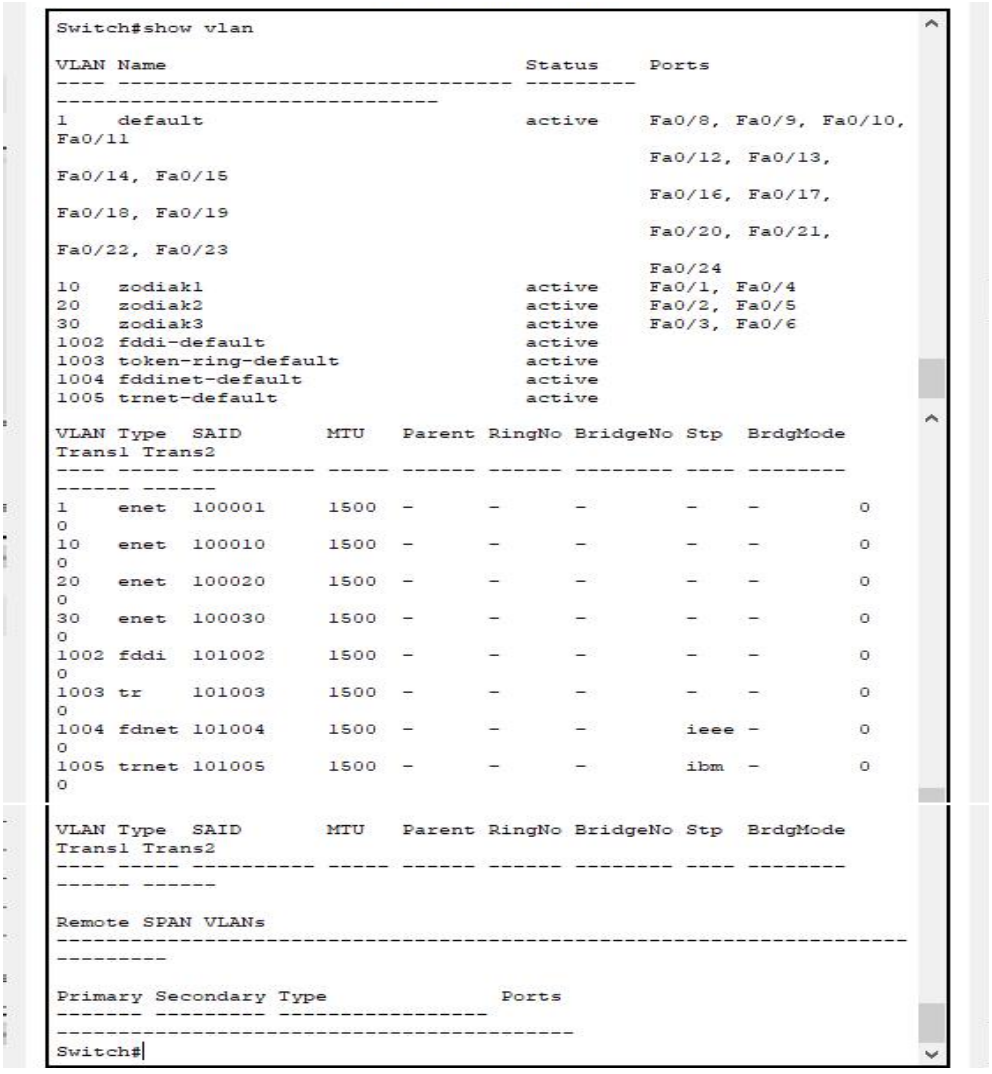
```
Switch#show int fa 0/7 switchport
Name: Fa0/7
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
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



```
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
```

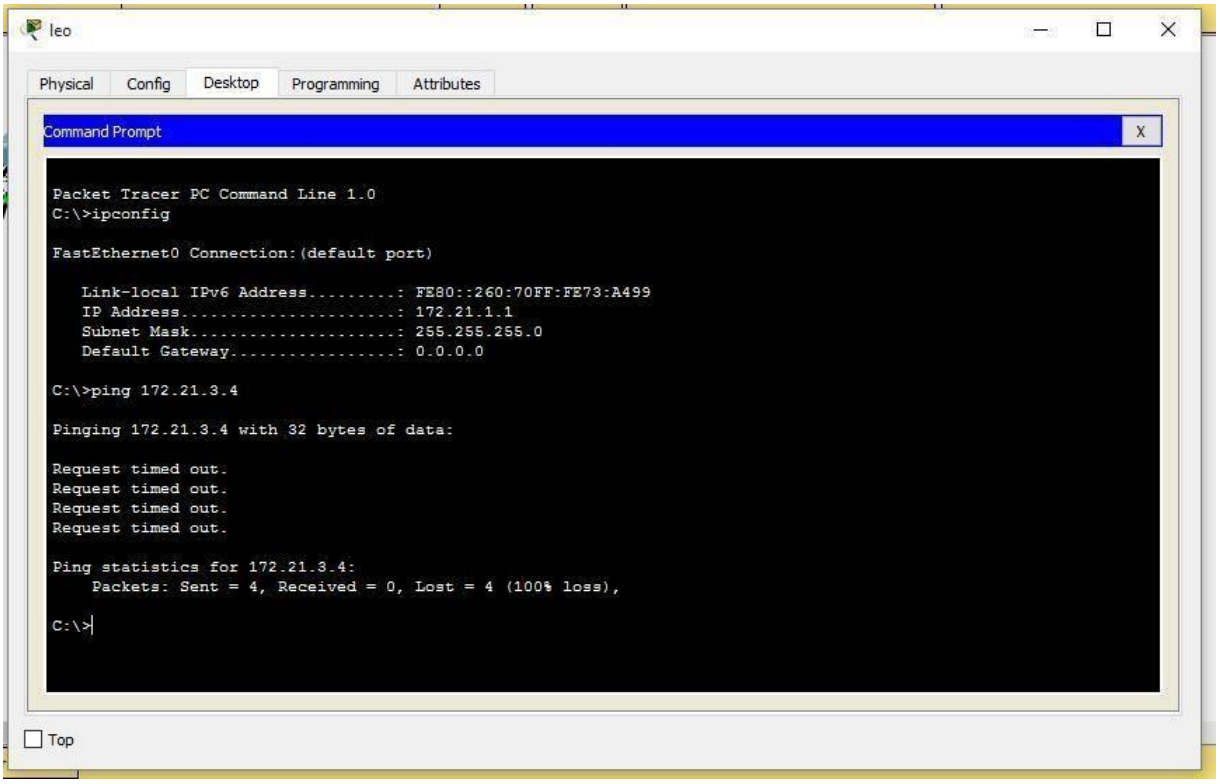


```
Switch#show vlan

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
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
------- --------- -----------------
------------------------------------------
Switch#
```

Tugas 7A

- 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

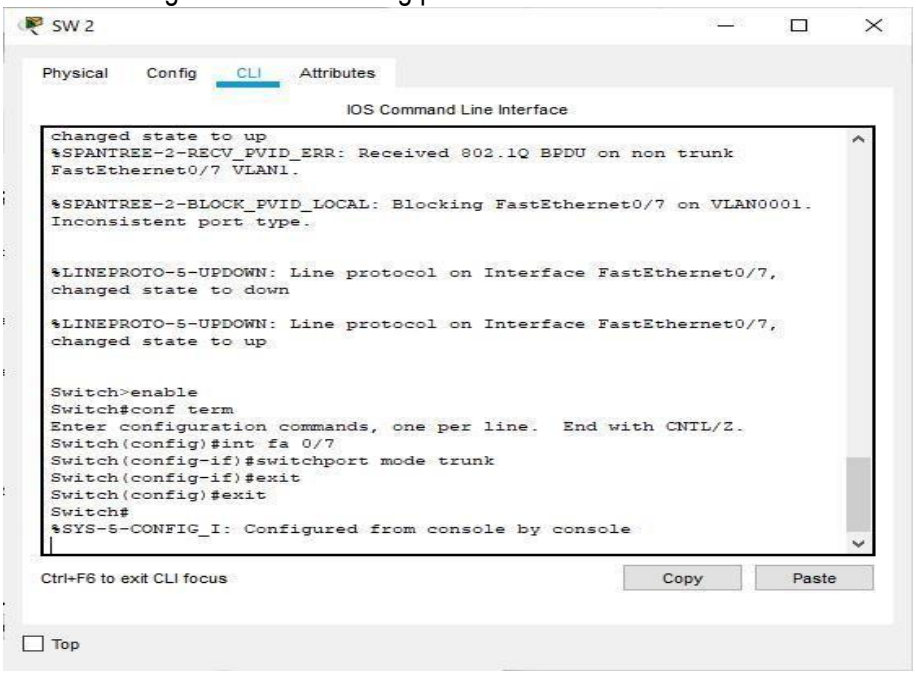
A. Lakukan ping dari PC Leo ke PC Pisces



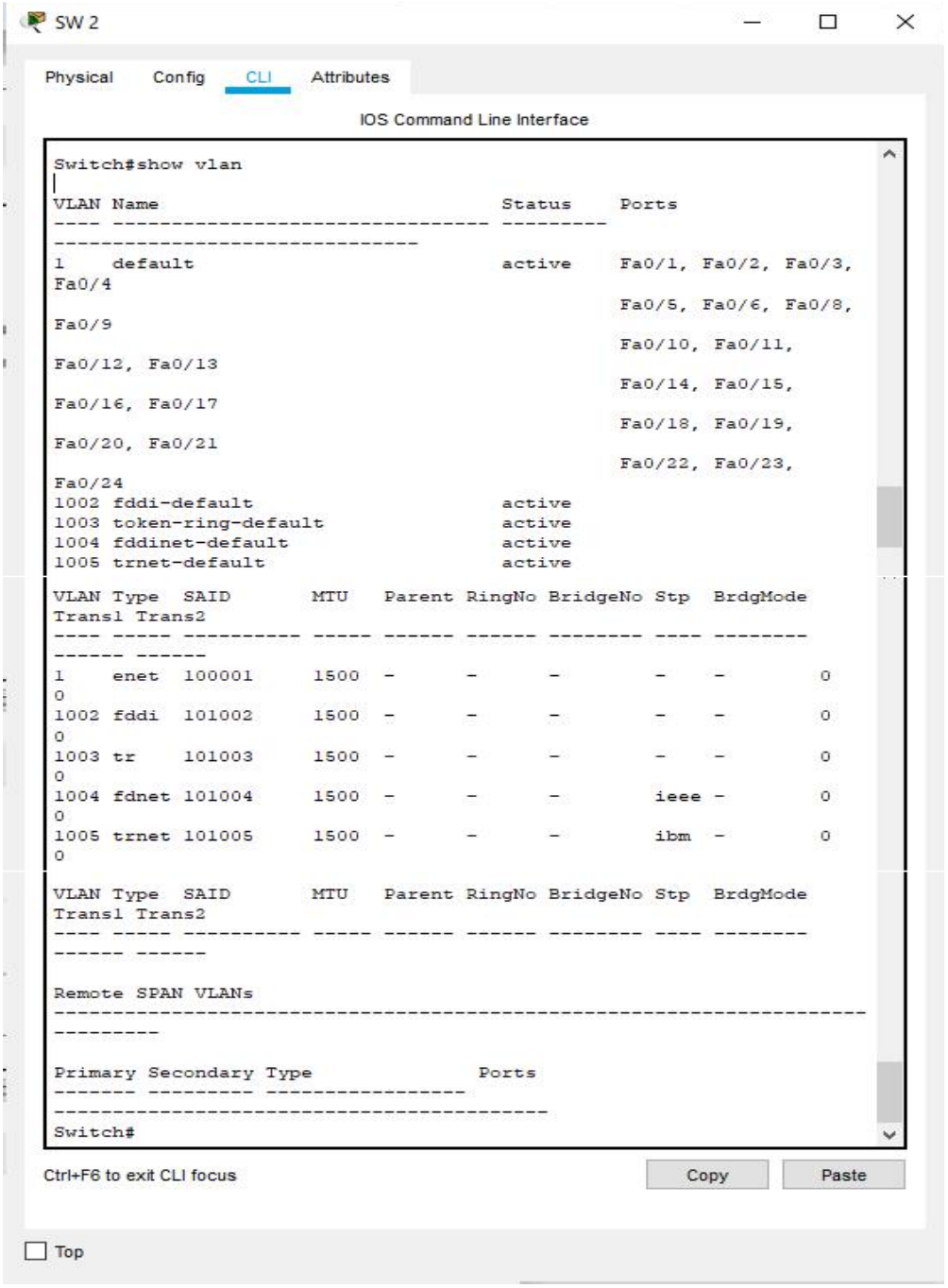
Tugas 8A

- Hasilnya adalah RTO karena berada pada jaringan yang berbeda dan di switch belum di setting trunk

A. Lakukan konfigurasi VLAN trunking pada switch 2



B. Pada mode user atau mode previleged, lihat konfigurasi VLAN pada switch 2

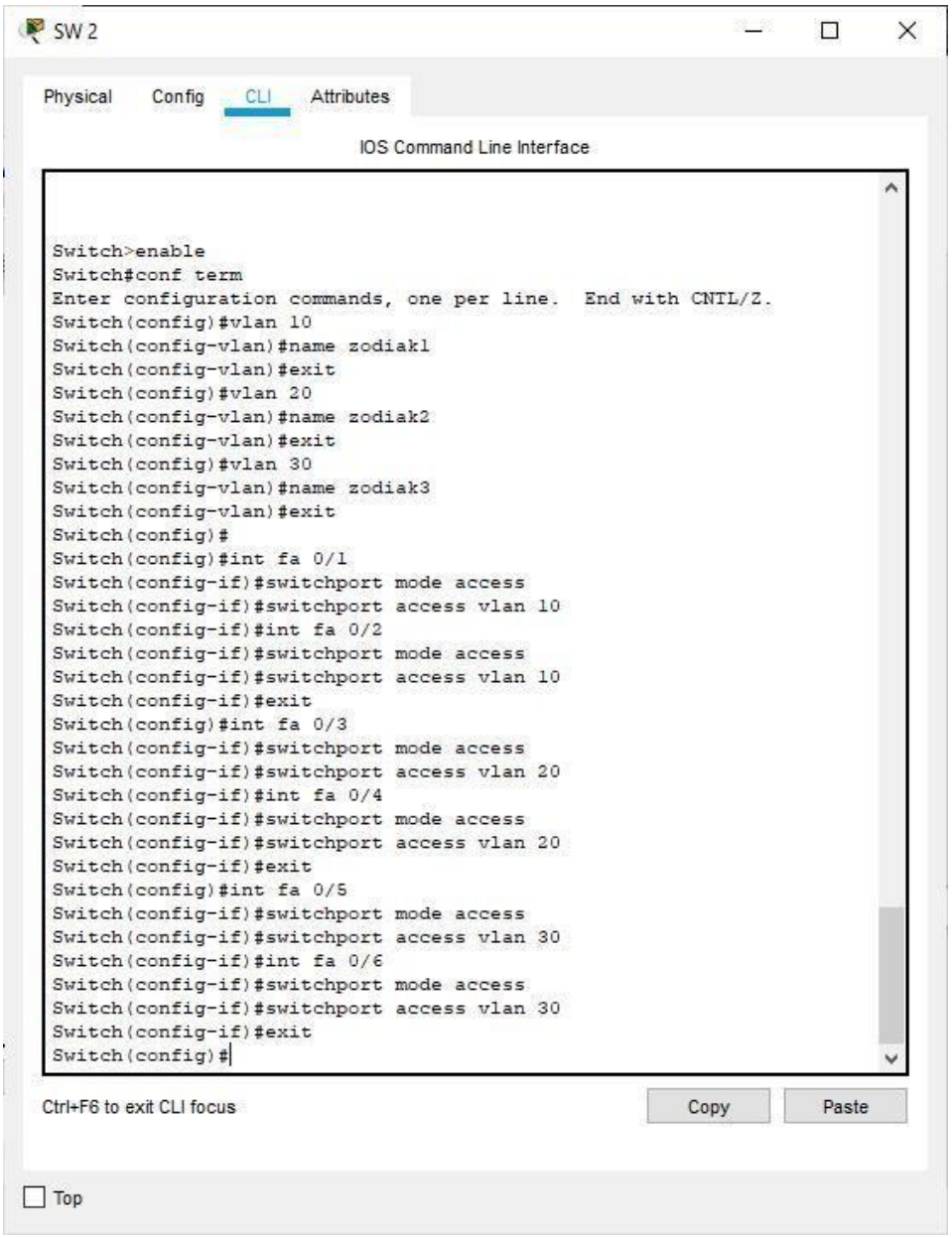


Tugas 10A

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

A. 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

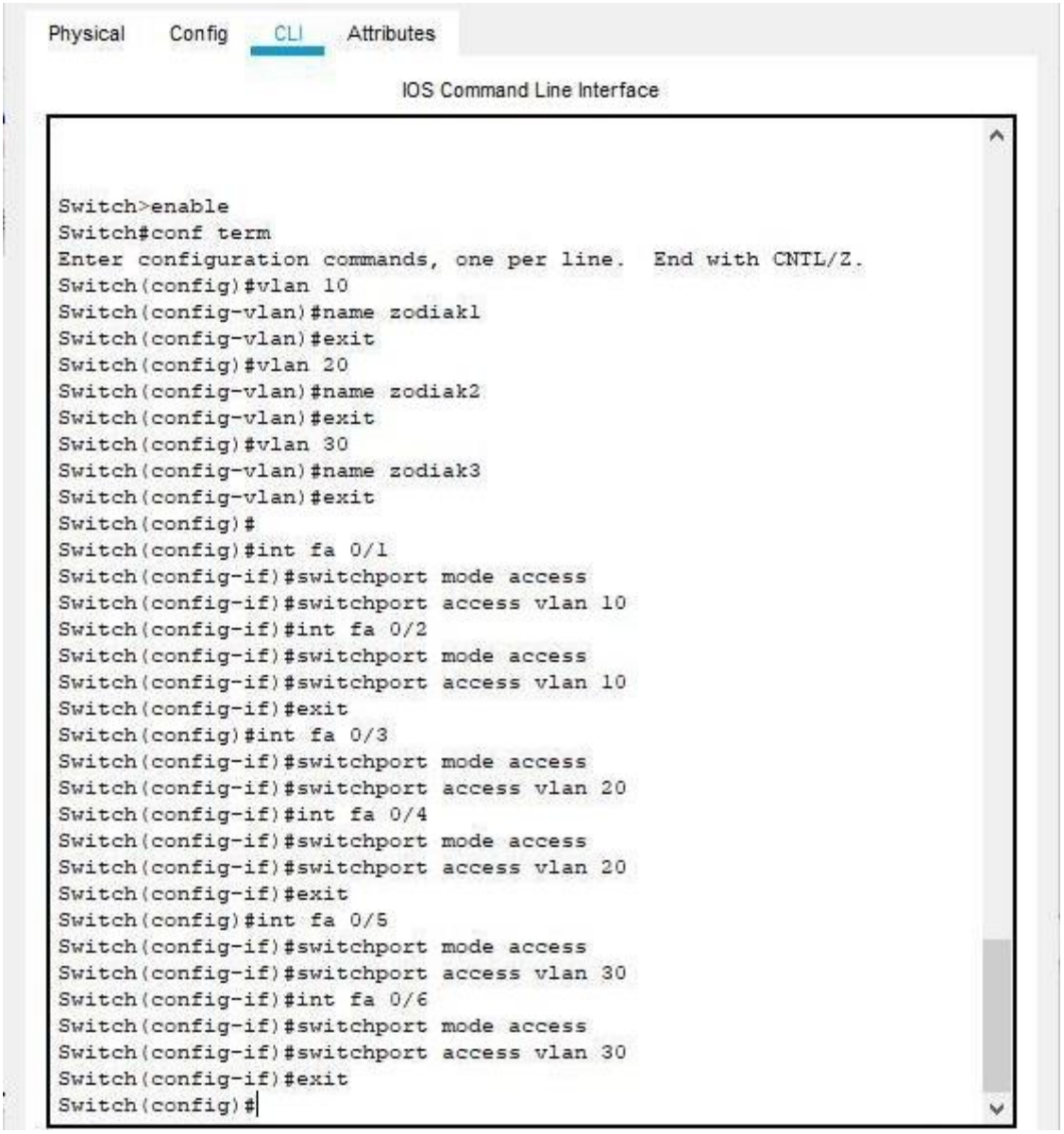


B. Konfigurasi port-port switch ke dalam VLAN zodiak1, zodiak2, dan zodiak3

i. Zodiak1 = Aquarius dan Gemini

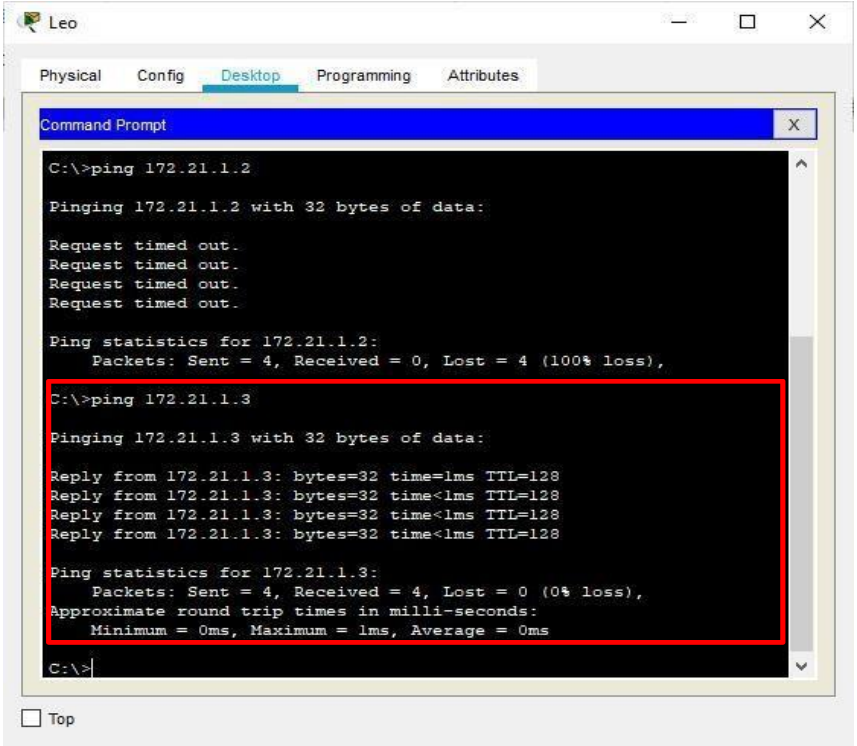
ii. Zodiak2 = Cancer dan Sagitarius

iii. Zodiak3 = Capricornus dan Pisces

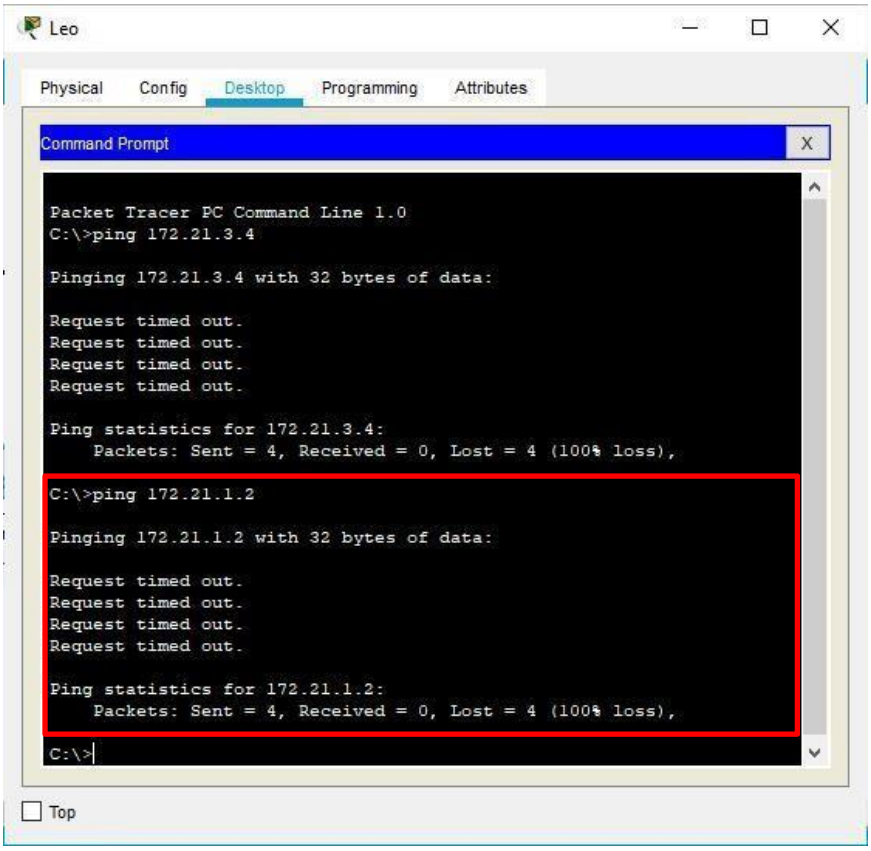


b. lakukan ping dari :

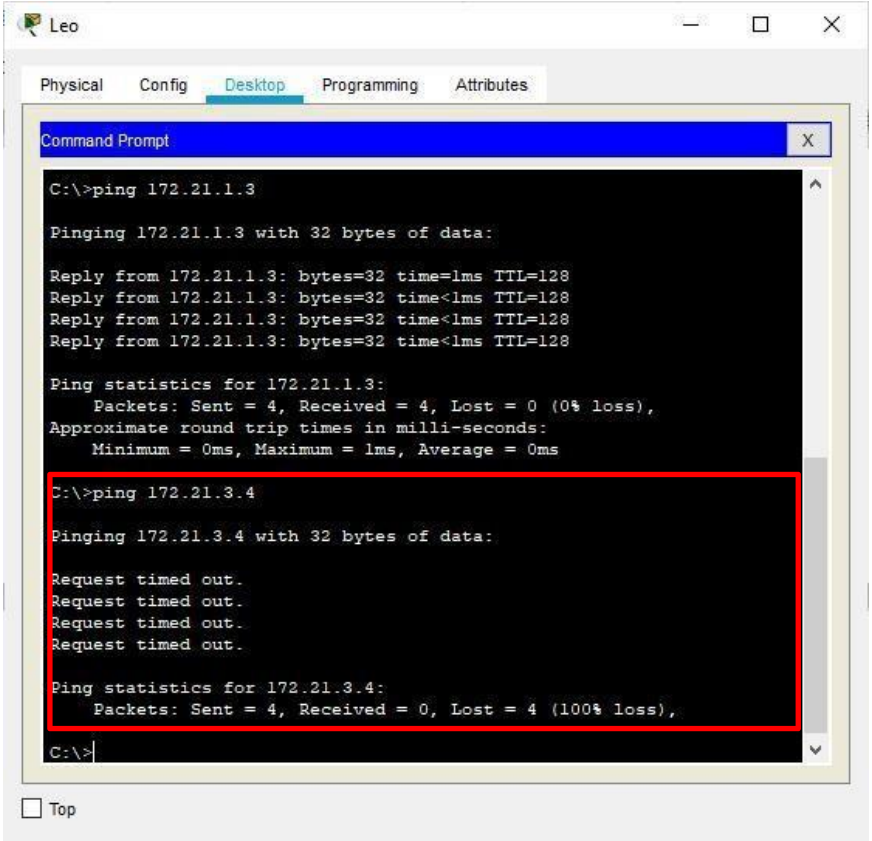
PC Leo ke PC Aries



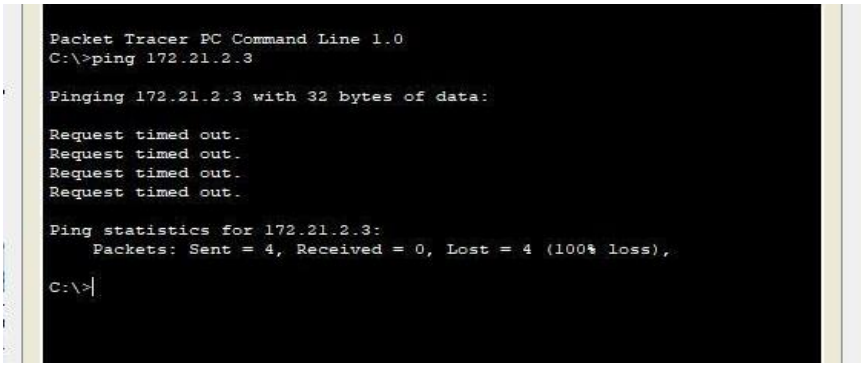
PC Leo ke PC Aquarius



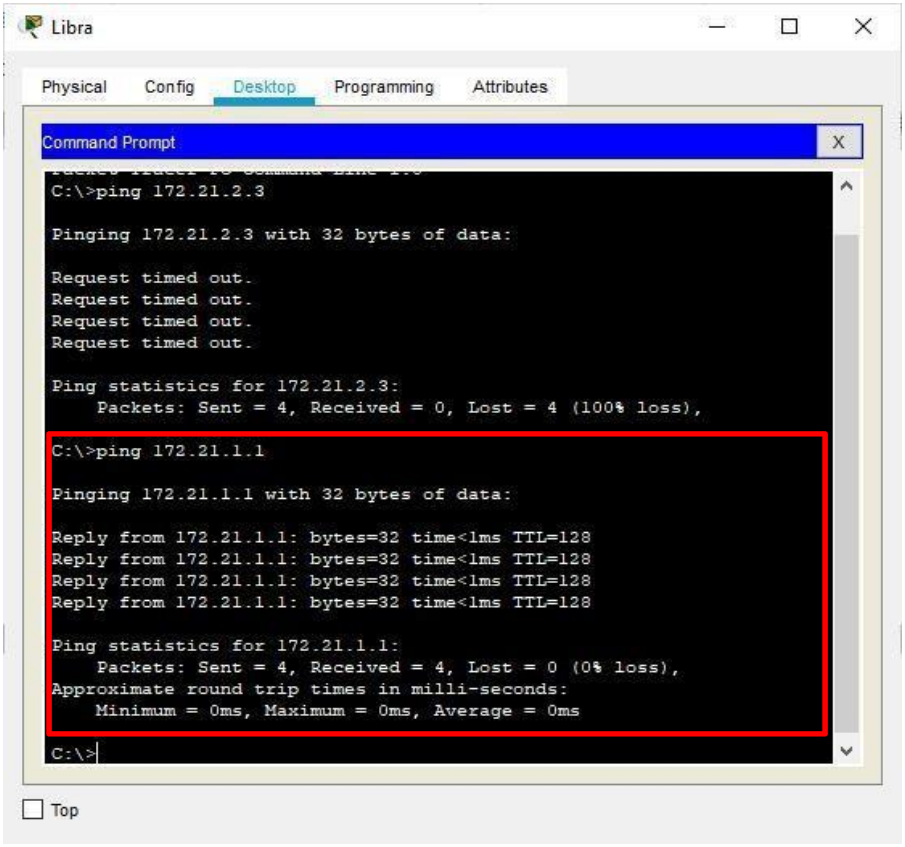
PC Leo ke PC Pisces



PC Libra ke PC Cancer



PC Libra ke PC Leo



Tugas 12A

- Dari hasil percobaan diatas, dapat disimpulkan apabila PC berada pada VLAN yang sama, maka akan menghasilkan status Reply pada saat pengujian ping, seperti 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