

# Praktikum Jaringan Komputer

## Modul 4

Nama : Oscar Satria Utama

NIM : L200180001

Kelas : A

### 1. Kegiatan 1.Topologi 1

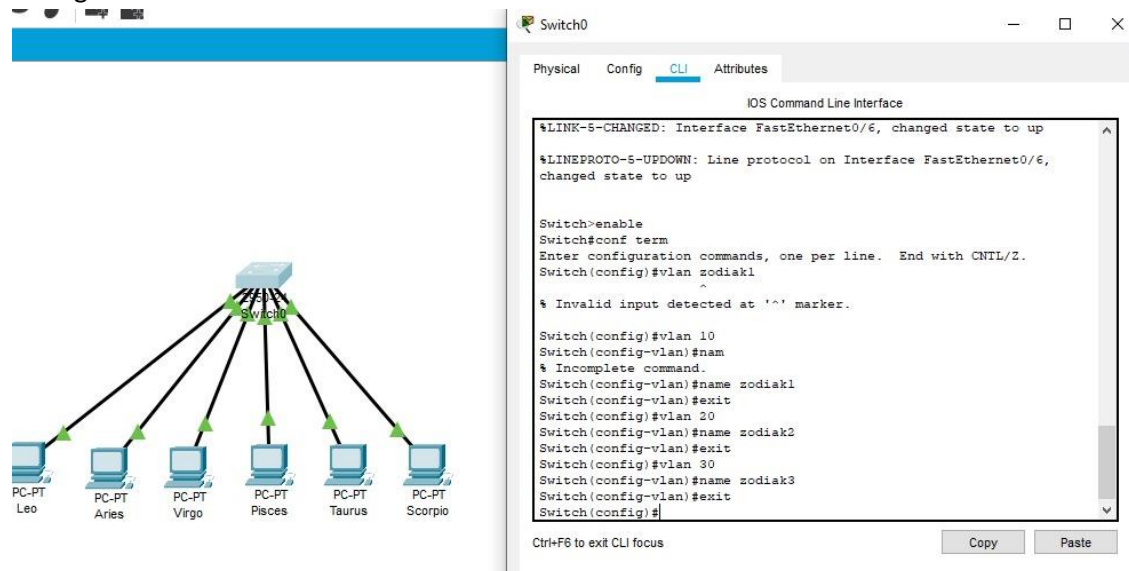
#### Konfigurasi PC

1. Leo = 172.21.1.1/24
2. Aries = 172.21.1.2/24 3. Virgo = 172.21.1.3/24 4. Libra = 172.21.1.4/24
5. Taurus = 172.21.1.5/24
6. Scorpio = 172.21.1.6/24

#### Konfigurasi VLAN

1. VLAN 10 = Leo,Pisces
2. VLAN 20 = Aries,Taurus
3. VLAN 30 = Virgo,Scorpio

#### Konfigurasi PC dan Switch



## Konfigurasi VLAN dengan anggota PC nya masing-masing

Physical Config CLI Attributes

IOS Command Line Interface

```
% Invalid input detected at '^' marker.  
  
Switch(config)#interface Fastethernet 1/0  
%Invalid interface type and number  
Switch(config)#interface Fastethernet 0/1  
Switch(config-if)#switchport mode access  
Switch(config-if)#switchport access vlan10  
^  
% Invalid input detected at '^' marker.  
  
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 mode access  
Switch(config-if)#switchport access vlan 30  
Switch(config-if)#exit  
Switch(config)#exit
```

Ctrl+F6 to exit CLI focus

Copy Paste

## Informasi 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	
Switch#		

#### Informasi VLAN 10

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

#### 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	20
2.	Nama VLAN	Zodiak2
3.	Port	Fa0/2, Fa0/5
4.	Status	Active

### Informasi VLAN 30

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

```
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
Transl Trans2
-----
30    enet    100030    1500    -      -      -      -      -      0
0
```

### Tugas 6B

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

- Fa0/1 (Leo) dan Fa0/4 (Libra) berada pada VLAN yang sama yaitu zodiak 1. Dengan nomer VLAN 10 berstatus active
- Fa0/2 (Aries) dan Fa0/5(Taurus) berada pada VLAN 20, zodiak 2, dan berstatus active
- Fa0/3 (Virgo) dan Fa0/6(Scorpio) berada pada VLAN 30, zodiak 3, dan berstatus active
- Port yang terdaftar dalam VLAN sesuai dengan konfigurasi yang telah dilakukan sebelumnya

## 2. Kegiatan 2.Topologi 2

### Konfigurasi PC

#### SW1

1. Leo = 172.21.1.1/24
2. Aries = 172.21.1.2/24
3. Virgo = 172.21.1.3/24
4. Libra = 172.21.1.4/24
5. Taurus = 172.21.1.5/24
6. Scorpio = 172.21.1.6/24

#### SW2

7. Aquarius = 172.21.1.3/24
8. Gemini = 172.21.1.4/24
9. Cancer = 172.21.2.3/24
10. Sagitarius = 172.21.2.4/24
11. Capricornus = 172.21.3.3/24
12. Pisces = 172.21.3.4/24

### Konfigurasi VLAN

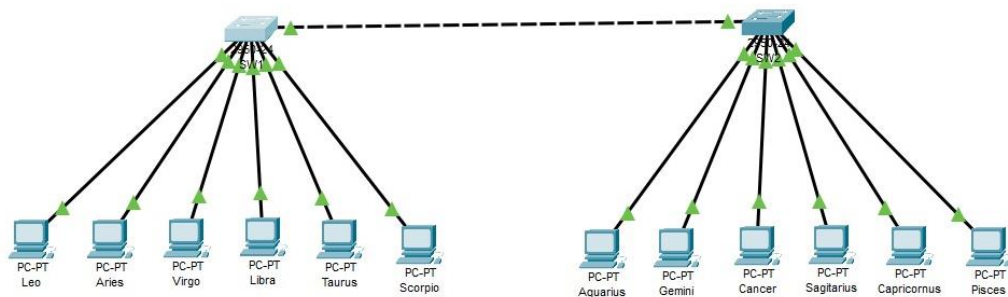
#### SW1

1. VLAN 10 = Leo,Pisces
2. VLAN 20 = Aries,Taurus
3. VLAN 30 = Virgo,Scorpio

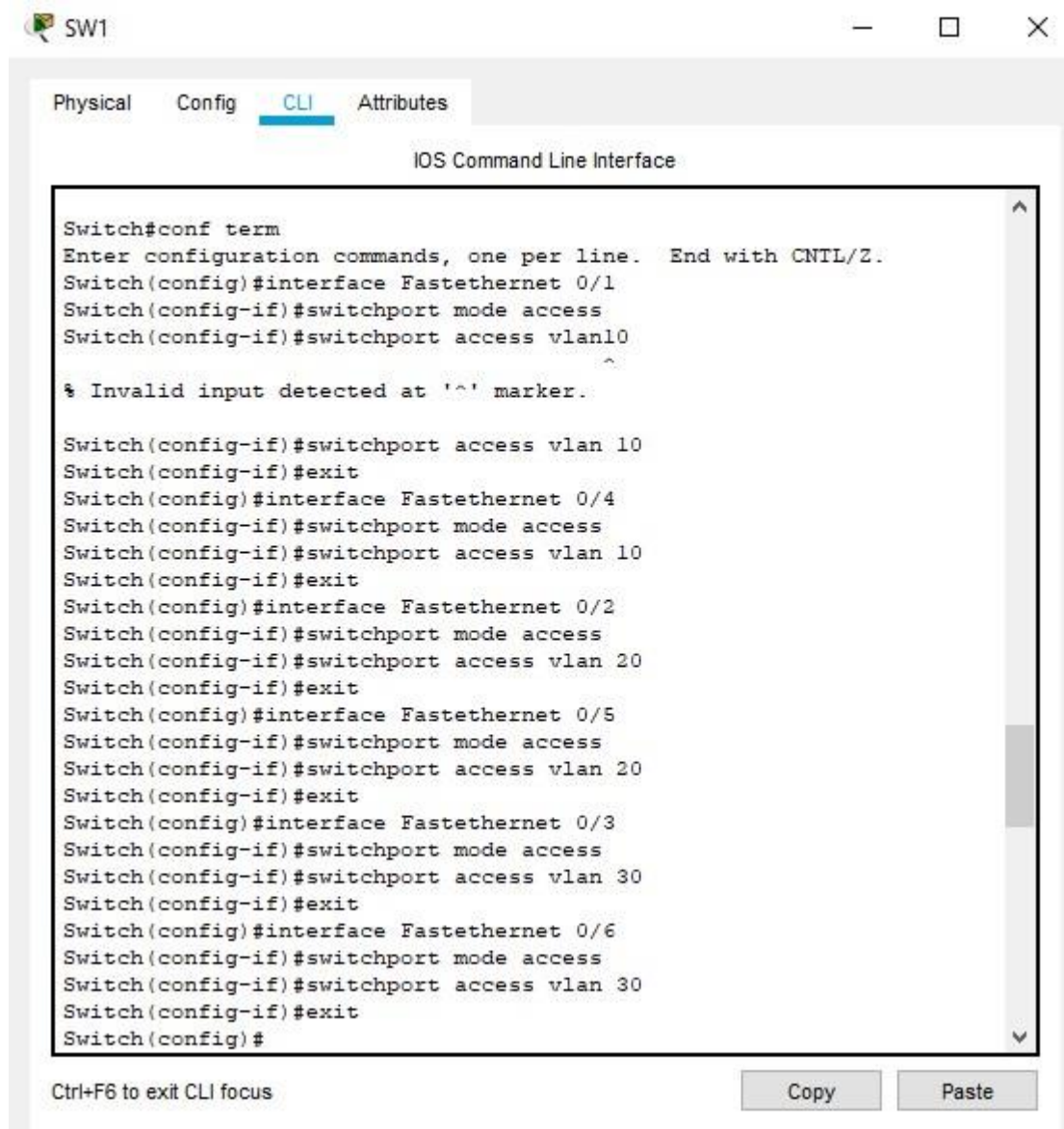
#### SW2

1. VLAN 10 = Aquarius,Gemini
2. VLAN 20 = Cancer,Sagitarius
3. VLAN 30 = Capricornus,Pisces

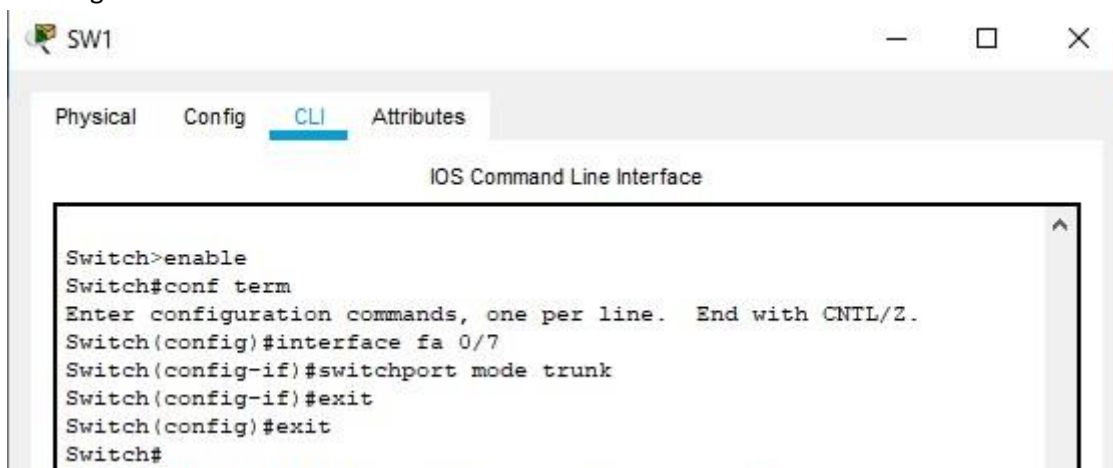
### Topologi PC



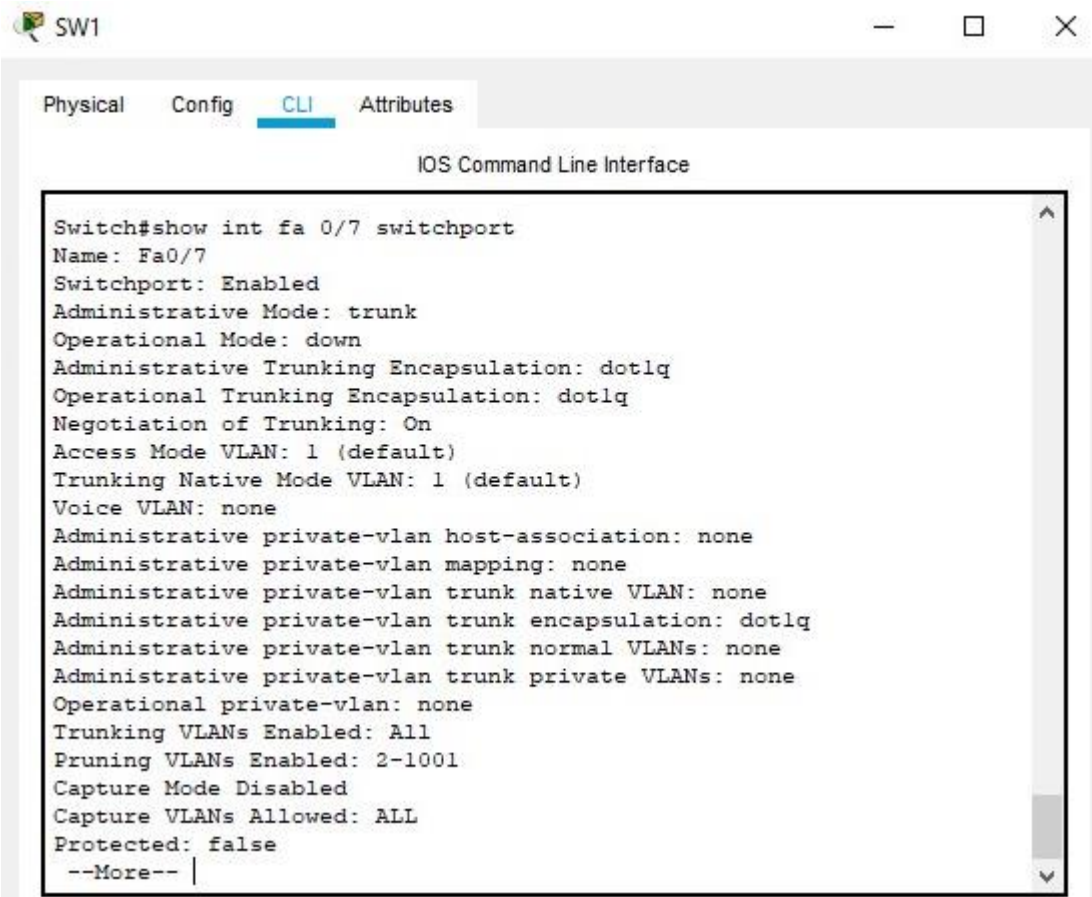
## Konfigurasi VLAN SW1



## Trunking







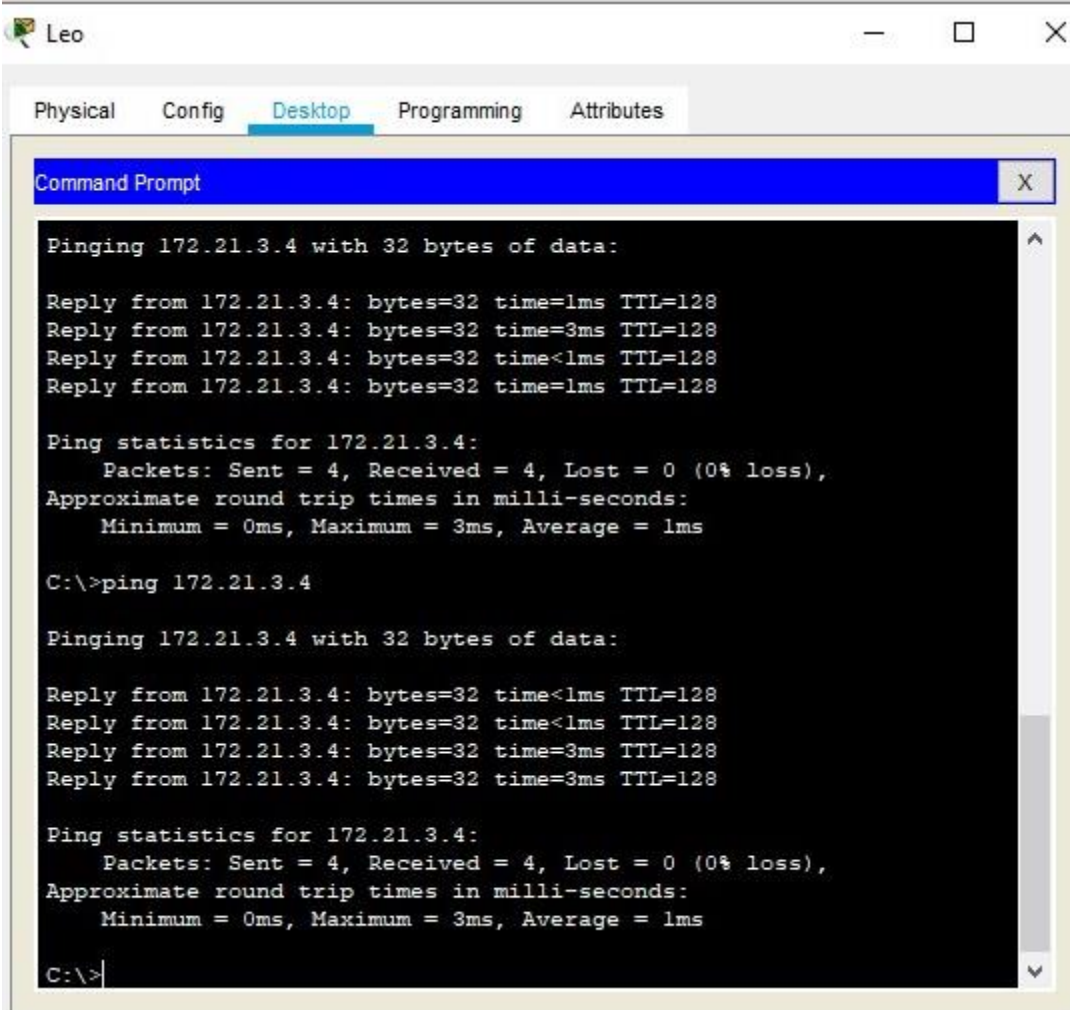
The screenshot shows a window titled 'SW1' with tabs for 'Physical', 'Config', 'CLI', and 'Attributes'. The 'CLI' tab is active, displaying the 'IOS Command Line Interface'. The command 'Switch#show int fa 0/7 switchport' has been entered, resulting in the following output:

```
Switch#show int fa 0/7 switchport
Name: Fa0/7
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
--More-- |
```

#### Tugas 7A

- Mengaktifkan switch port Fa0/1(port yang digunakan untuk trunk), Administrative mode menjadi trunk dan juga Operational Mode trunk.
- Saat kita mengetikkan show interface fasthethernet 0/??(?? nomer port trunking) akan muncul status switchport trunk pada interface:
  - Administrative Mode. Merupakan switchport default yaitu trunk
  - Administrative Trunking Encapsulation. Merupakan enkapsulasi default yaitu dot1q.
  - Trunking Native Mode VLAN. Native VLAN default menggunakan VLAN1.
  - Capture VLANs Allowed. Secara default, semua VLAN dibolehkan masuk ke trunk port.
- Saat kita mengetikkan show interface trunk akan menampilkan status trunking dan semua VLAN dibolehkan masuk trunk.
- Saat kita mengetikkan show vlan berfungsi untuk mengecek status pada VLAN

Melakukan PING PC Leo ke PC Pisces



The screenshot shows a Cisco Packet Tracer interface with a window titled "Leo". Inside the window, there are tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is selected, and a "Command Prompt" window is open. The Command Prompt displays the following text:

```
Pinging 172.21.3.4 with 32 bytes of data:

Reply from 172.21.3.4: bytes=32 time=1ms TTL=128
Reply from 172.21.3.4: bytes=32 time=3ms TTL=128
Reply from 172.21.3.4: bytes=32 time<1ms TTL=128
Reply from 172.21.3.4: bytes=32 time=1ms TTL=128

Ping statistics for 172.21.3.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 1ms

C:\>ping 172.21.3.4

Pinging 172.21.3.4 with 32 bytes of data:

Reply from 172.21.3.4: bytes=32 time<1ms TTL=128
Reply from 172.21.3.4: bytes=32 time<1ms TTL=128
Reply from 172.21.3.4: bytes=32 time=3ms TTL=128
Reply from 172.21.3.4: bytes=32 time=3ms TTL=128

Ping statistics for 172.21.3.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 1ms

C:\>
```

Tugas 8A

- Ping dari PC leo ke PC Pisces mendapatkan status Reply karena telah di trunking dan menyambungkan sesama VLAN ID



## Konfigurasi VLAN SW2

Physical

Config

CLI

Attributes

IOS Command Line Interface

```
Switch#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#interface Fastethernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan10
Switch(config-if)#^
% Invalid input detected at '^' marker.

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 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(config)#
```

Ctrl+F6 to exit CLI focus

Copy

Paste

## Show Vlan

```
Physical Config CLI Attributes
IOS Command Line Interface
% Invalid input detected at '^' marker.
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console
Switch#show vlan

VLAN Name                Status    Ports
-----
1    default                active    Fa0/7, Fa0/8, Fa0/9,
Fa0/10
Fa0/13, Fa0/14
Fa0/17, Fa0/18
Fa0/21, Fa0/22
Fa0/23, Fa0/24
10   sodiak1                 active
20   sodiak2                 active
30   sodiak3                 active
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
--More--
```

## Tugas 10A

- Dapat disimpulkan bahwa pada konfigurasi trunking sudah dilakukan dan dalam switch menunjukkan konfigurasi trunking sudah berjalan. Port yang telah didaftarkan dalam trunking memiliki kapasitas untuk memanaged beberapa hal yang berkaitan dengan domain(1, 10, 20, 30).

## PING PC Leo ke PC Aries

```
C:\>ping 172.21.1.2

Pinging 172.21.1.2 with 32 bytes of data:

Reply from 172.21.1.2: bytes=32 time<1ms TTL=128
Reply from 172.21.1.2: bytes=32 time=1ms TTL=128
Reply from 172.21.1.2: bytes=32 time<1ms TTL=128
Reply from 172.21.1.2: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

## PING 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),

C:\>
```

### PING 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),

C:\>
```

### PING PC Libra ke PC Cancer

```
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 PC Libra ke PC Leo

```
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:\>
```

### Tugas 12A

- Dari langkah 8 dapat disimpulkan bahwa seluruh device yang sudah dikonfigurasi hasil dari pengujian koneksi(ping) menunjukkan bahwa device yang dalam jaringan yang sama namun memiliki perbedaan VLAN menunjukkan hasil RTO, dalam network yang sama namun dalam VLAN yang berbeda juga menunjukkan hasil RTO.
- Untuk hasil pengujian koneksi(ping) yang reply hanyalah dalam device dengan spesifikasi jaringan yang sama dan dalam VLAN yang sama.