

Praktikum Jaringan Komputer Modul 4

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Kelas : A

1. Kegiatan 1. Topologi 1

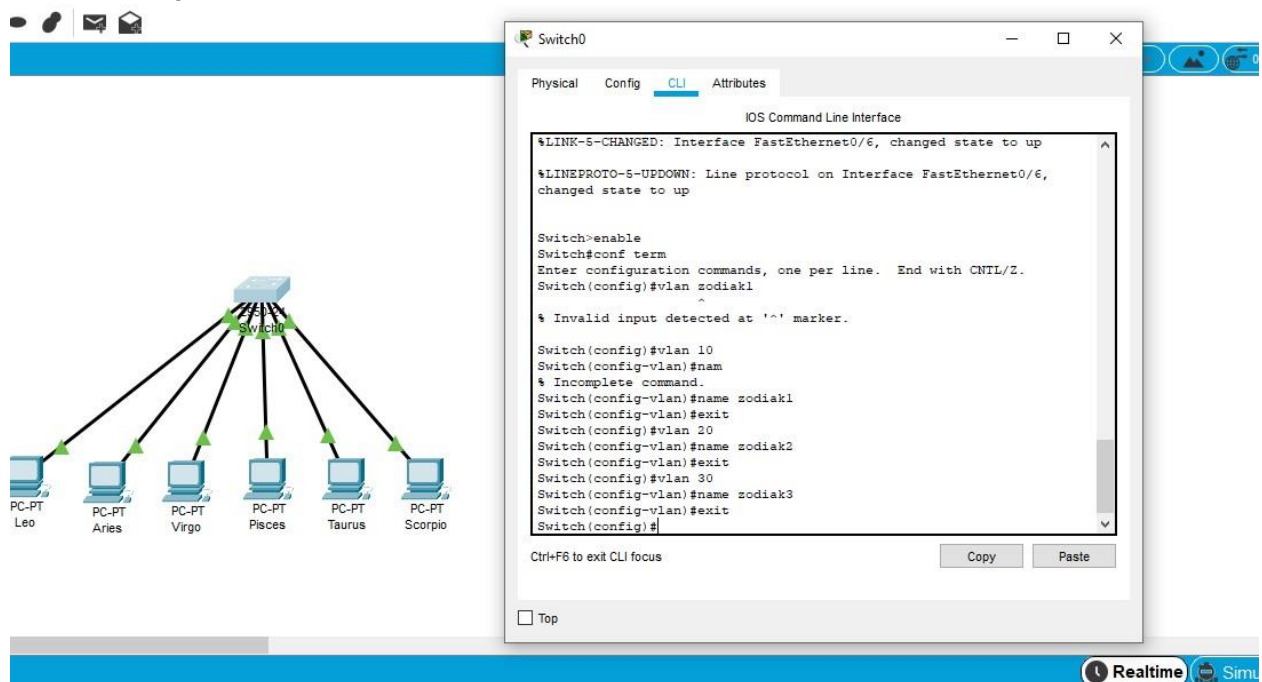
Konfigurasi PC

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

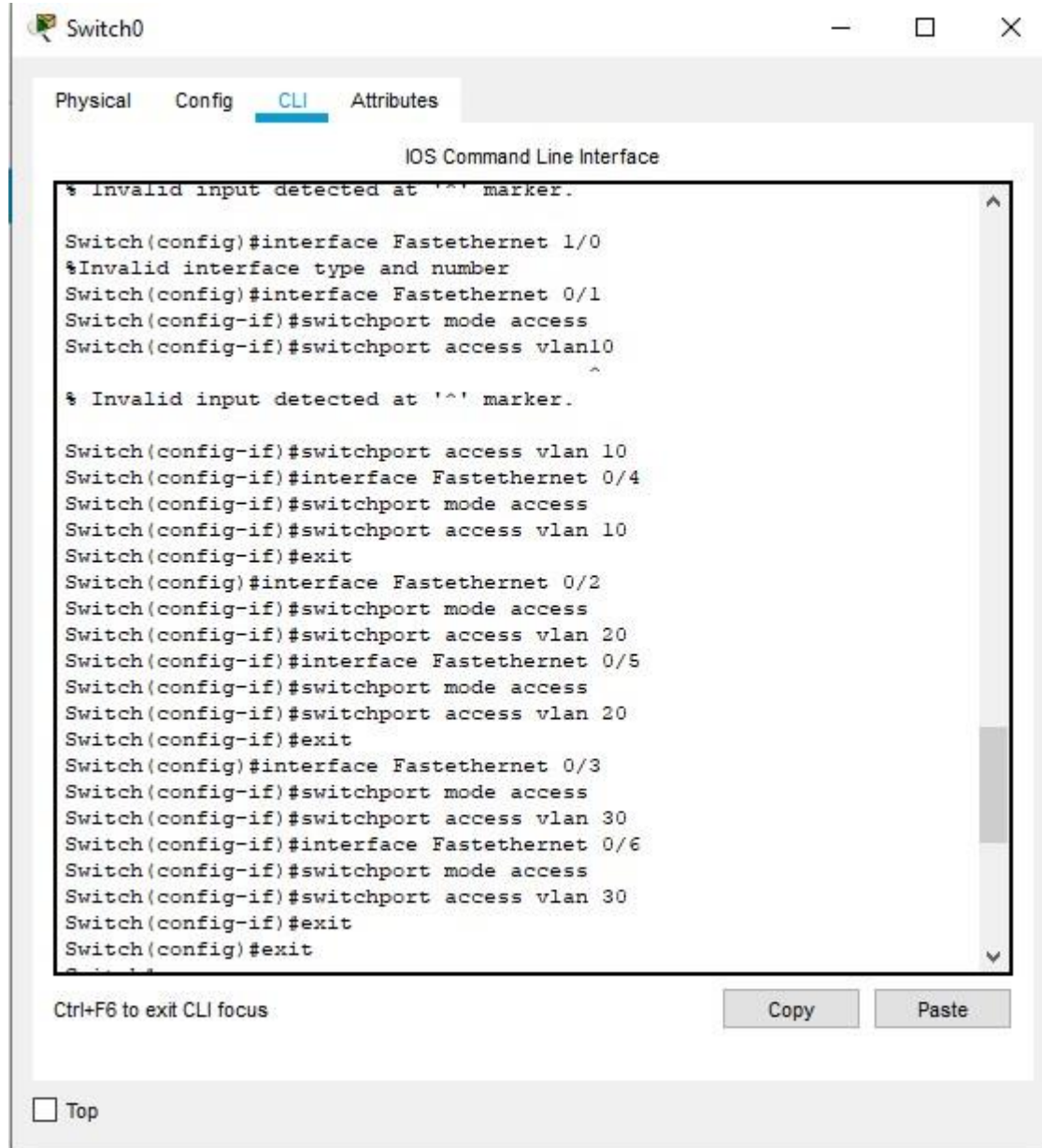
Konfigurasi VLAN

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

Gambar Konfigurasi PC dan Switch



Gambar Konfigurasi VLAN dengan anggota PC nya masing-masing



Gambar 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#
```

Tugas 6A

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  BrgdMode
Trans1 Trans2
-----
30    enet    100030    1500    -      -      -      -      -      0
0
```

Tugas 6A

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. | Sagittarius | = 172.21.2.4/24 |
| 11. | Capricornus | = 172.21.3.3/24 |
| 12. | Pisces | = 172.21.3.4/24 |

Konfigurasi VLAN

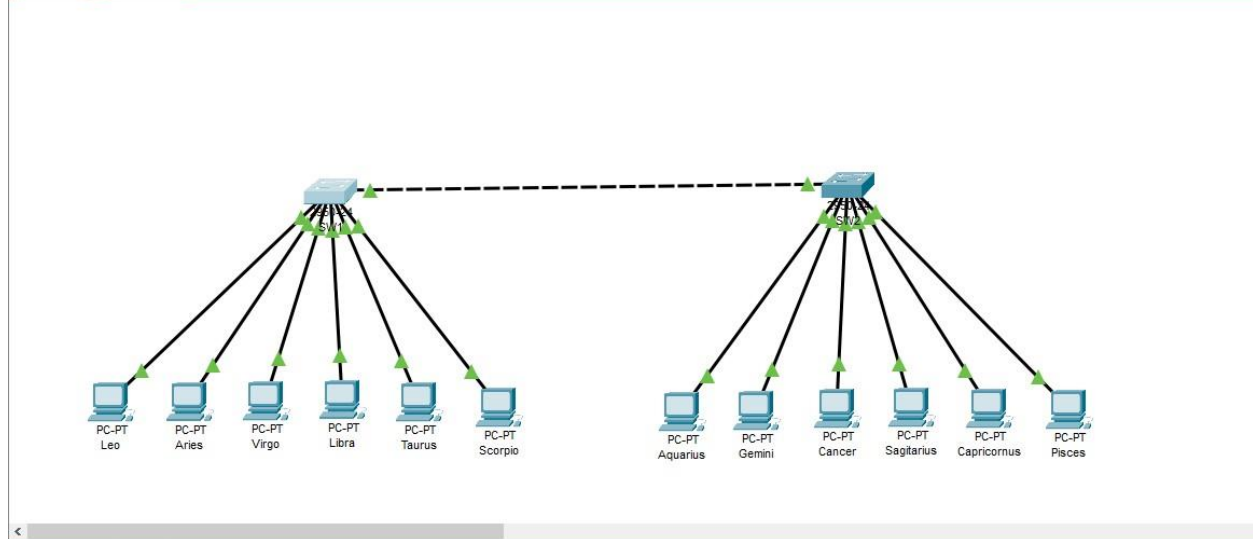
SW1

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,Sagittarius
3. VLAN 30 = Capricornus,Pisces

Topologi PC



Konfigurasi VLAN SW1

SW1

Physical Config CLI Attributes

IOS Command Line Interface

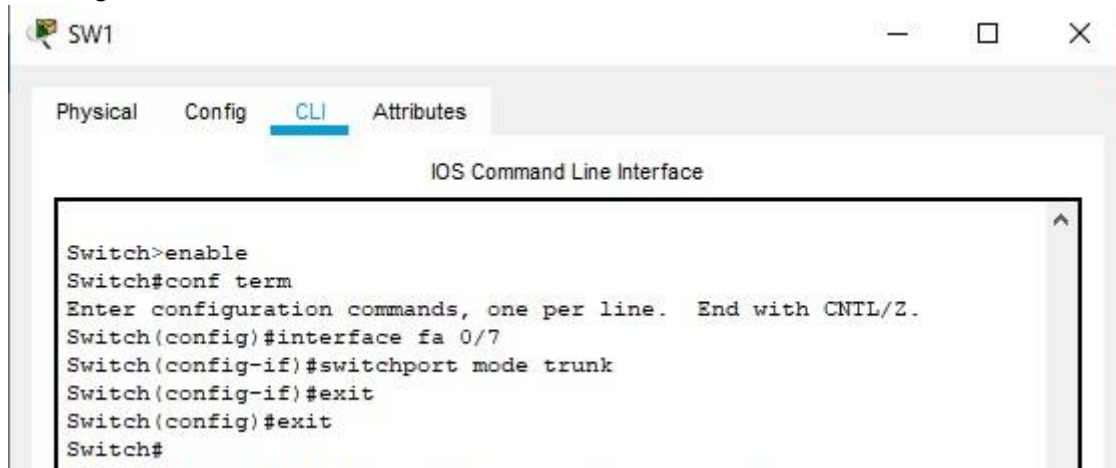
```
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#interface FastEthernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan10
Switch(config-if)#^
% Invalid input detected at '^' marker.

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

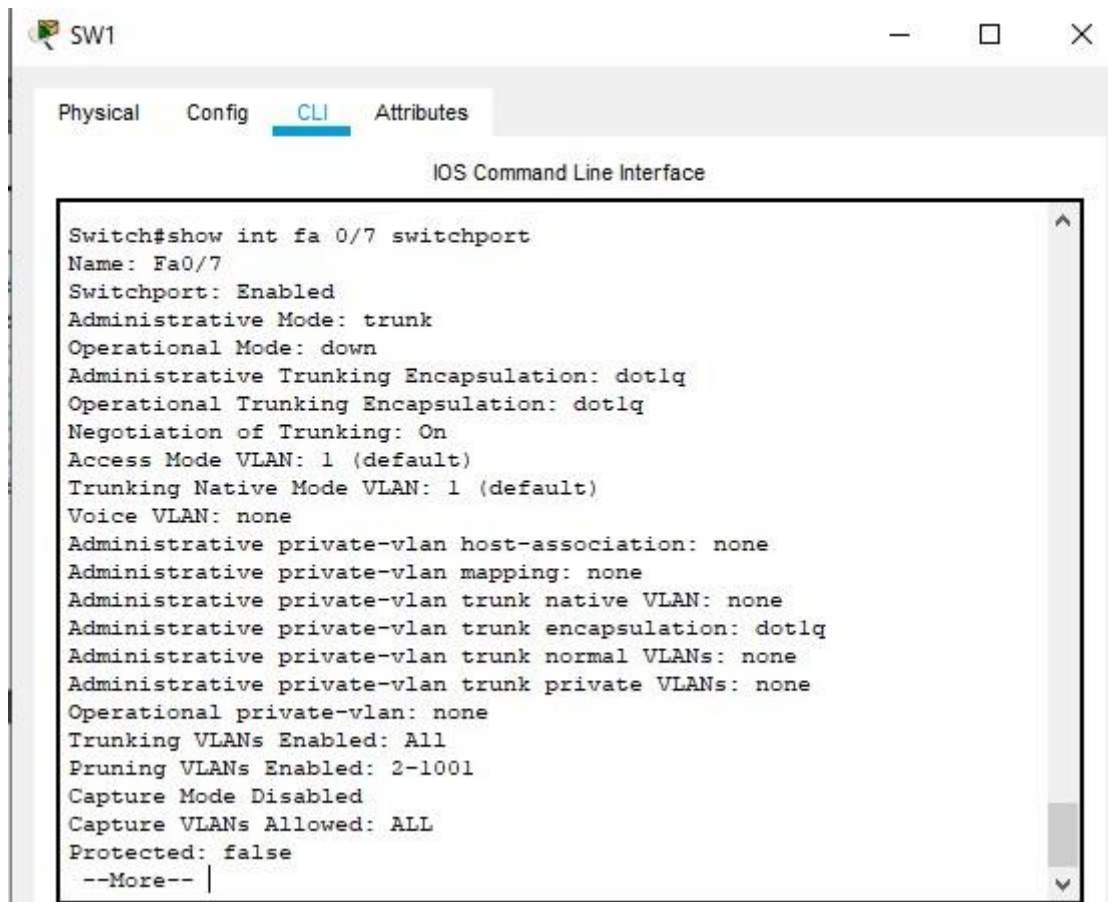
Copy Paste

Trunking



The screenshot shows the Cisco Packet Tracer interface for a switch named SW1. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The following commands have been entered:

```
Switch>enable
Switch#conf term
Switch(config)#interface fa 0/7
Switch(config-if)#switchport mode trunk
Switch(config-if)#exit
Switch(config)#exit
Switch#
```



The screenshot shows the Cisco Packet Tracer interface for the same switch SW1. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The following command has been entered to verify the configuration:

```
Switch#show int fa 0/7 switchport
```

The output of the command is as follows:

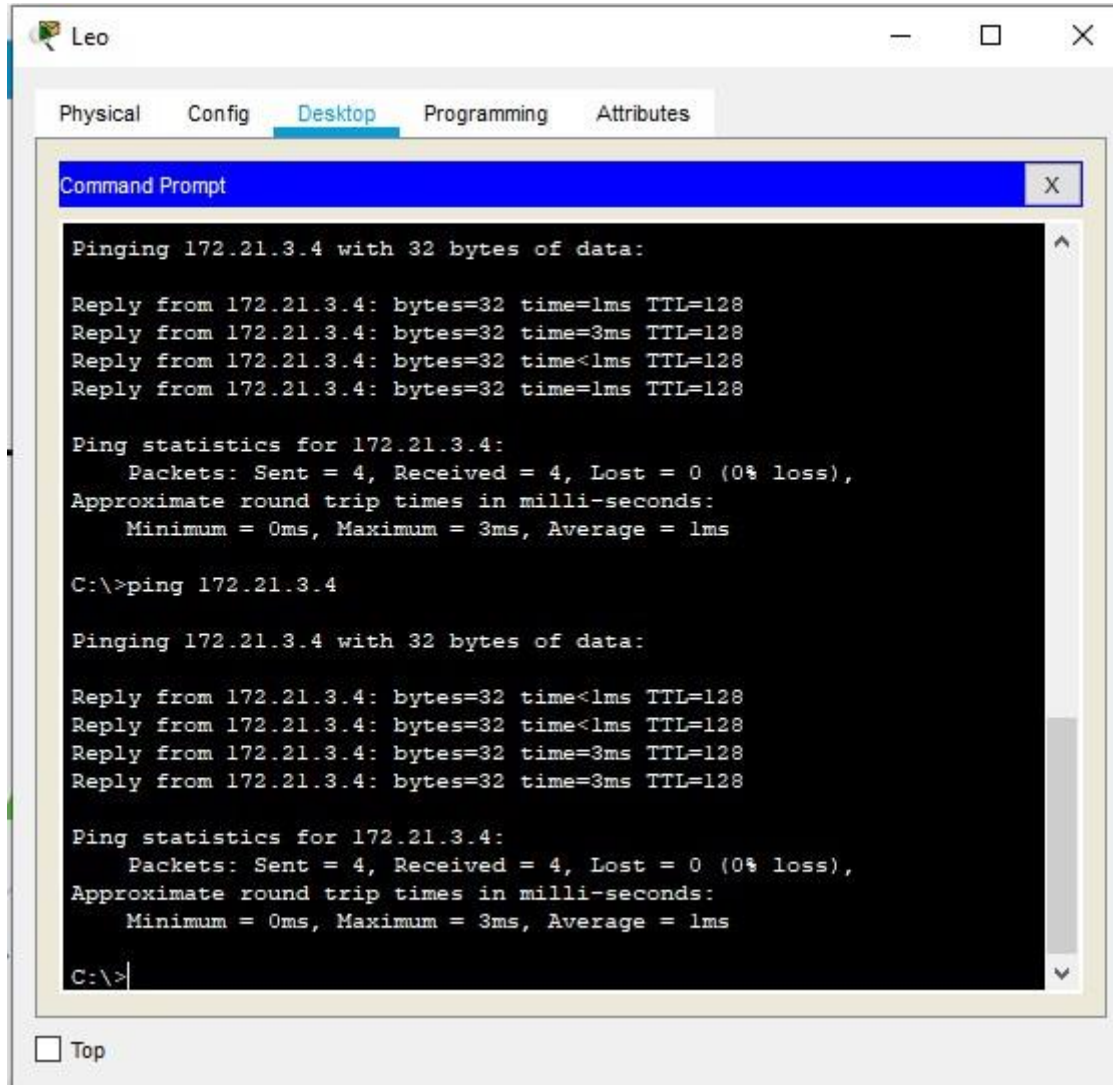
```
Name: Fa0/7
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: down
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative 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 fastheternet 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 network simulator window titled "Leo" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the execution of a ping command to 172.21.3.4, resulting in four successful replies with 0% loss. The ping statistics show 4 packets sent and received, with a minimum round trip time of 0ms, a maximum of 3ms, and an average of 1ms. The Command Prompt also shows the command "C:\>ping 172.21.3.4" being entered.

```
Leo
Physical Config Desktop Programming Attributes
Command Prompt
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

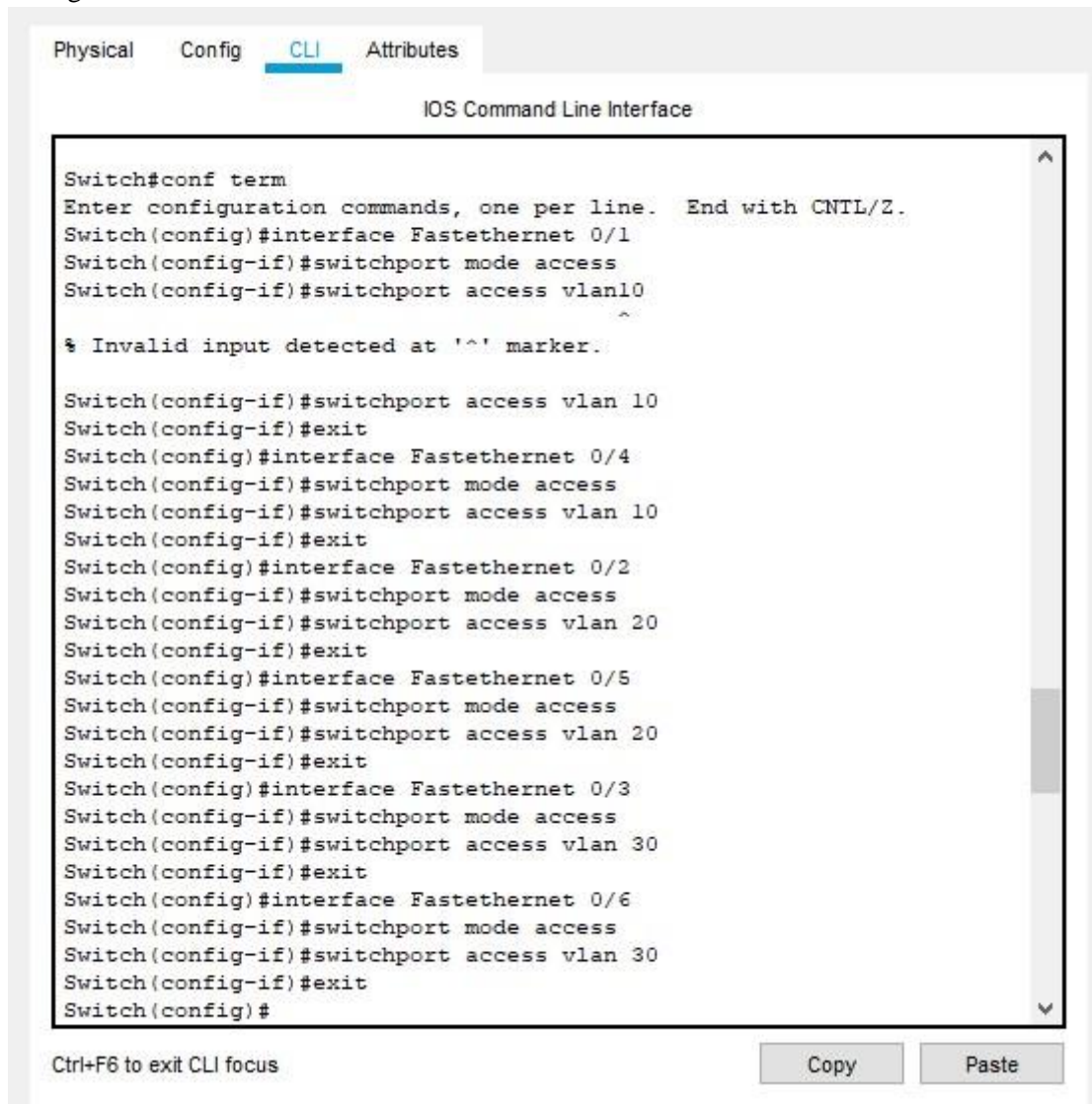
C:\>
```

☐ Top

Tugas 8A

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

Konfigurasi VLAN SW2



```
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
^
% 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-S-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, Fa0/19, Fa0/20,
Fa0/21, Fa0/22, Fa0/23, Fa0/24
10   zodiak1                 active
20   zodiak2                 active
30   zodiak3                 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
10   enet    100010    1500    -      -      -      -      -      0
20   enet    100020    1500    -      -      -      -      -      0
30   enet    100030    1500    -      -      -      -      -      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.