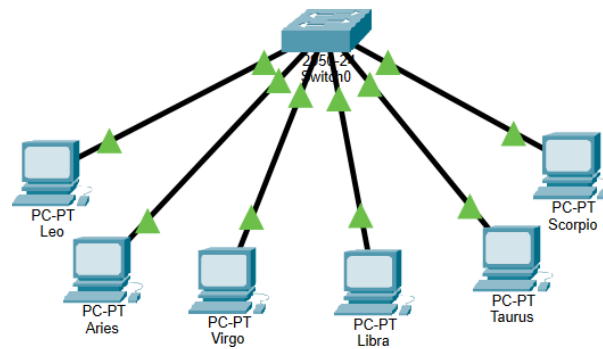


Nama : moch afrizal NIM :
L200180022

MODUL 4

Kegiatan 1. Topologi 1

Membuat topologi



Konfigurasi masing-masing pc

Configuration

☐ DHCP ☒ Static

IP Address: 172.21.1.1

Subnet Mask: 255.255.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address:

Link Local Address: FE80::201:C9FF:FEBA:E0

IPv6 Gateway:

☐ DHCP ☒ Static

IP Address: 172.21.1.2

Subnet Mask: 255.255.0.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address:

Link Local Address: FE80::201:63FF:FE86:8403

IPv6 Gateway:

IPv6 DNS Server:

IP Configuration

☐ DHCP
☒ Static

IP Address

172.21.1.3

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address

Link Local Address

FE80::2D0:58FF:FE68:1

IPv6 Gateway

IP Configuration

☐ DHCP
☒ Static

IP Address

172.21.1.4

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address

Link Local Address

FE80::209:7CFF:F

IPv6 Gateway

IP Configuration

☐ DHCP
☒ Static

IP Address

172.21.1.5

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address

Link Local Address

FE80::201:97FF:F

IPv6 Gateway

IP Configuration

☐ DHCP
☒ Static

IP Address

172.21.1.6

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP
☐ Auto Config
☒ Static

IPv6 Address

Link Local Address

FE80::2D0:D3

IPv6 Gateway

Konfigurasi pada switch dan konfigurasi port-port switch

Physical

Config

CLI

Attributes

IOS Command Line Interface

```

Switch>enable
Switch#conf
Configuring from terminal, memory, or network [terminal]?
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)#interface FastEthernet0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#interface FastEthernet0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
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 FastEthernet0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#interface FastEthernet0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
Switch(config)#interface FastEthernet0/1
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/1
Switch(config-if)#exit
Switch(config)#
Ctrl+F6 to exit CLI focus

```

☐ Top

Melihat Konfigurasi VLAN yang telah dibuat

```
Physical Config CLI Attributes
IOS Command Line Interface

Switch>enable
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#show vlan id 1

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

VLAN Type  SAID      MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
1    enet  100001  1500  -    -    -    -    -    0    0

Switch#show vlan id 2
VLAN id 2 not found in current VLAN database
Switch#show vlan id 3
VLAN id 3 not found in current VLAN database
Switch#show vlan id 4
VLAN id 4 not found in current VLAN database
Switch#show vlan id 10

Ctrl+F6 to exit CLI focus

☐ Top
```

```
Physical Config CLI Attributes
IOS Command Line Interface

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#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

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

Switch#

Switch con0 is now available

Ctrl+F6 to exit CLI focus

☐ Top
```

Tugas 6A :

| No | Variabel | Nilai |
|----|------------|-------|
| 1. | Nomor VLAN | 10 |

| | | |
|----|-----------|--------------|
| 2. | Nama VLAN | zodiak1 |
| 3. | Port | Fa0/1, Fa0/4 |
| 4. | Status | active |

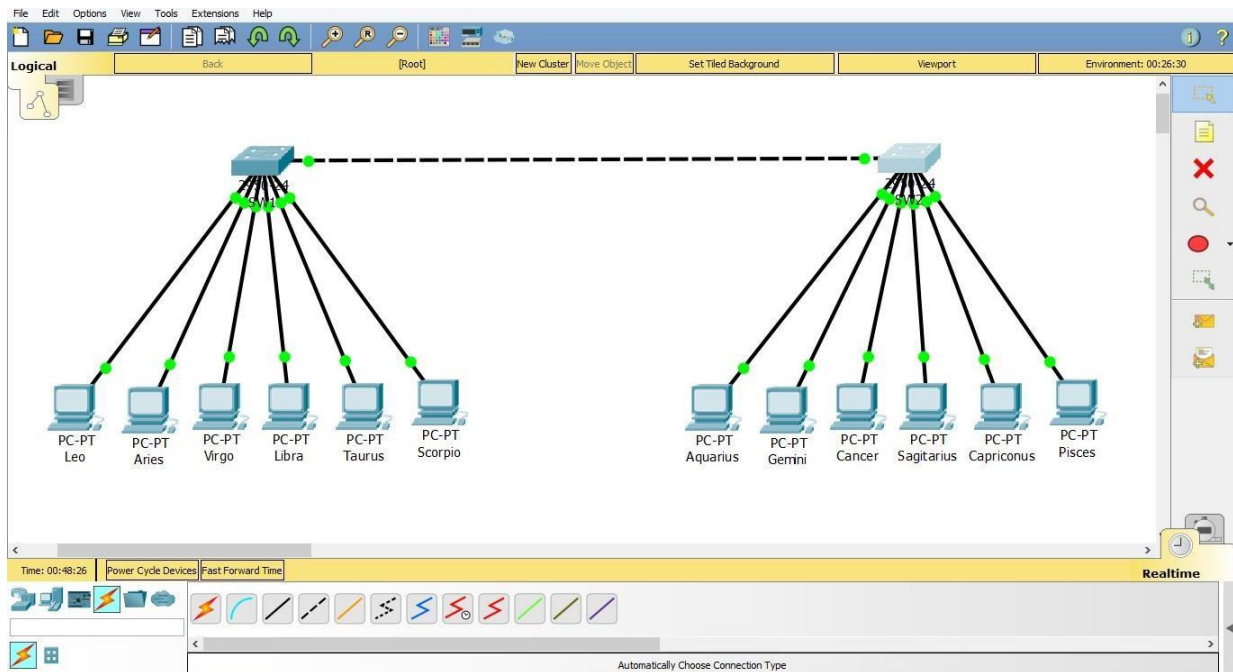
| No | Variabel | Nilai |
|----|------------|--------------|
| 1. | Nomor VLAN | 20 |
| 2. | Nama VLAN | zodiak2 |
| 3. | Port | Fa0/2, Fa0/5 |
| 4. | Status | active |

| No | Variabel | Nilai |
|----|------------|--------------|
| 1. | Nomor VLAN | 30 |
| 2. | Nama VLAN | zodiak3 |
| 3. | Port | Fa0/3, Fa0/6 |
| 4. | Status | active |

Tugas 6B :

Hasil dari 6A yaitu configuration yang kita lakukan telah menjadikan 3 id vlan yang terdiri dari zodiak1(10), zodiak2(20), zodiak3(30) dan masing-masing id vlan diisi dengan 2 port (PC) dan semua vlan statusnya telah aktif.

Kegiatan 2. Topologi 2 Membuat topologi dan memberi penamaan



Konfigurasi masing-masing pc (Memasukkan IP)

Leo

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.1

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address

Link Local Address FE80::290:CFF:FE14:B0D8

IPv6 Gateway

IPv6 DNS Server

☐ Top

Aries

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.21.1.2

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address

Link Local Address FE80::201:C9FF:FE22:94AE

IPv6 Gateway

IPv6 DNS Server

☐ Top

Virgo

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address172.21.2.1

Subnet Mask255.255.0.0

Default Gateway0.0.0.0

DNS Server0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local AddressFE80::20A:41FF:FE1B:1751

IPv6 Gateway

IPv6 DNS Server

☐ Top

Libra

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address172.21.2.2

Subnet Mask255.255.0.0

Default Gateway0.0.0.0

DNS Server0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local AddressFE80::260:47FF:FEC7:48B

IPv6 Gateway

IPv6 DNS Server

☐ Top

Taurus

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.3.1

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::240:BFF:FE52:46E2

IPv6 Gateway

IPv6 DNS Server

☐ Top

Scorpio

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.3.2

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::2E0:A3FF:FE38:77A2

IPv6 Gateway

IPv6 DNS Server

☐ Top

Aquarius

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.1.3

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::290:2BFF:FEC1:1671

IPv6 Gateway

IPv6 DNS Server

☐ Top

Gemini

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.1.4

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::250:FFF:FE0B:90EA

IPv6 Gateway

IPv6 DNS Server

☐ Top

Cancer

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.2.3

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::2E0:8FFF:FE67:B04D

IPv6 Gateway

IPv6 DNS Server

☐ Top

Sagittarius

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.2.4

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::20A:F3FF:FE8E:A6C9

IPv6 Gateway

IPv6 DNS Server

☐ Top

Pisces

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.3.4

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

FE80::201:C7FF:FE7C:6801

IPv6 Gateway

IPv6 DNS Server

☐ Top

Capricornus

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

IP Configuration

☐ DHCP

☒ Static

IP Address

172.21.3.3

Subnet Mask

255.255.0.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

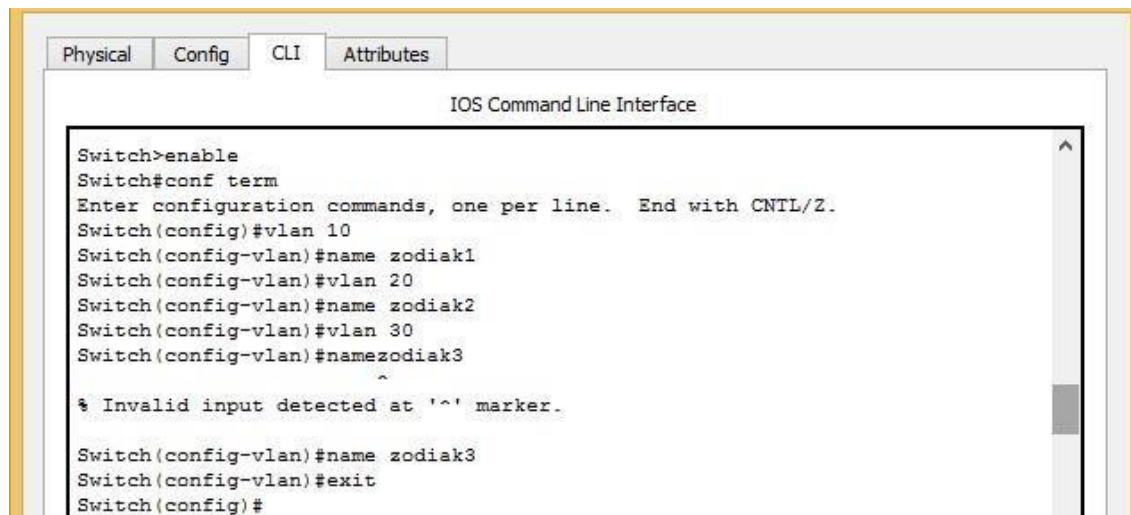
FE80::206:2AFF:FE90:361A

IPv6 Gateway

IPv6 DNS Server

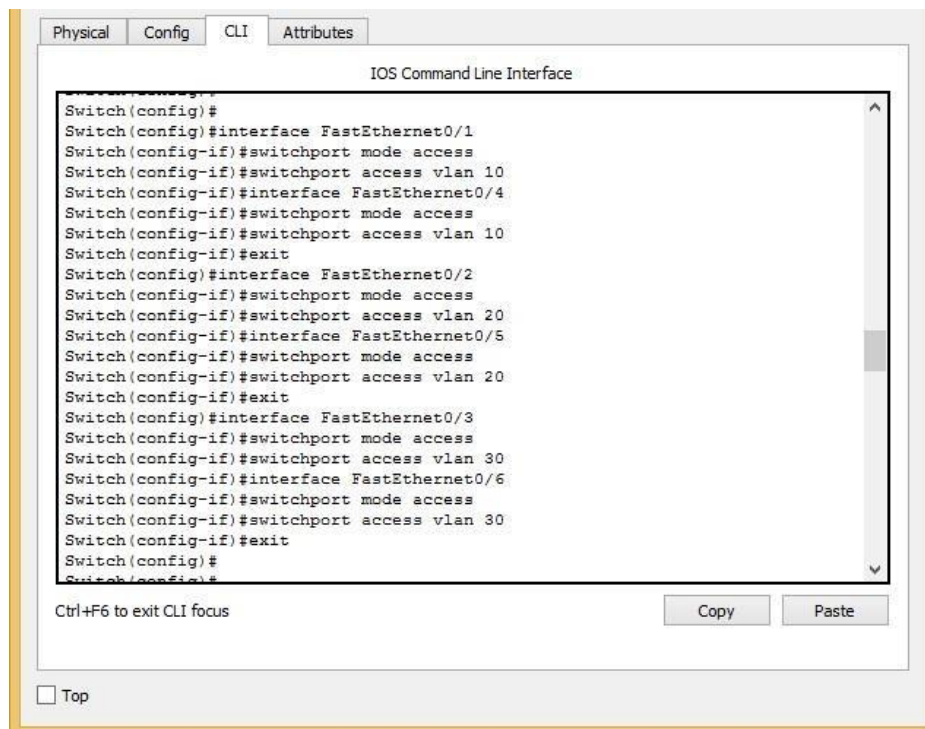
☐ Top

Configurasi pada switch untuk membuat 3 Vlan dengan nama zodiak1, zodiak2, zodiak3



```
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)#^
% Invalid input detected at '^' marker.
Switch(config-vlan)#name zodiak3
Switch(config-vlan)#exit
Switch(config)#
```

Melakukan konfigurasi port-port switch ke dalam Vlan zodiak1, zodiak2, dan zodiak3 pada switch 1



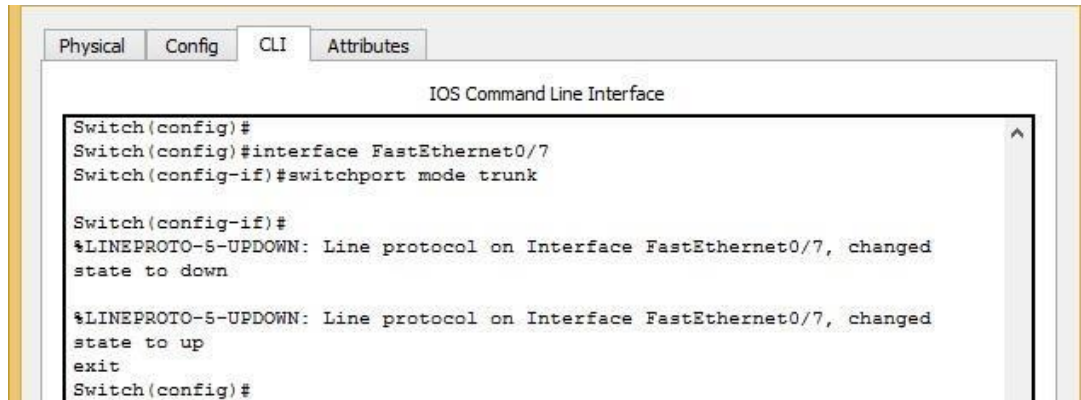
```
Switch(config)#
Switch(config)#interface FastEthernet0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#interface FastEthernet0/4
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 10
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#interface FastEthernet0/5
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 20
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/3
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#interface FastEthernet0/6
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 30
Switch(config-if)#exit
Switch(config)#
Switch(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

Konfigurasi Vlan trunking pada switch 1

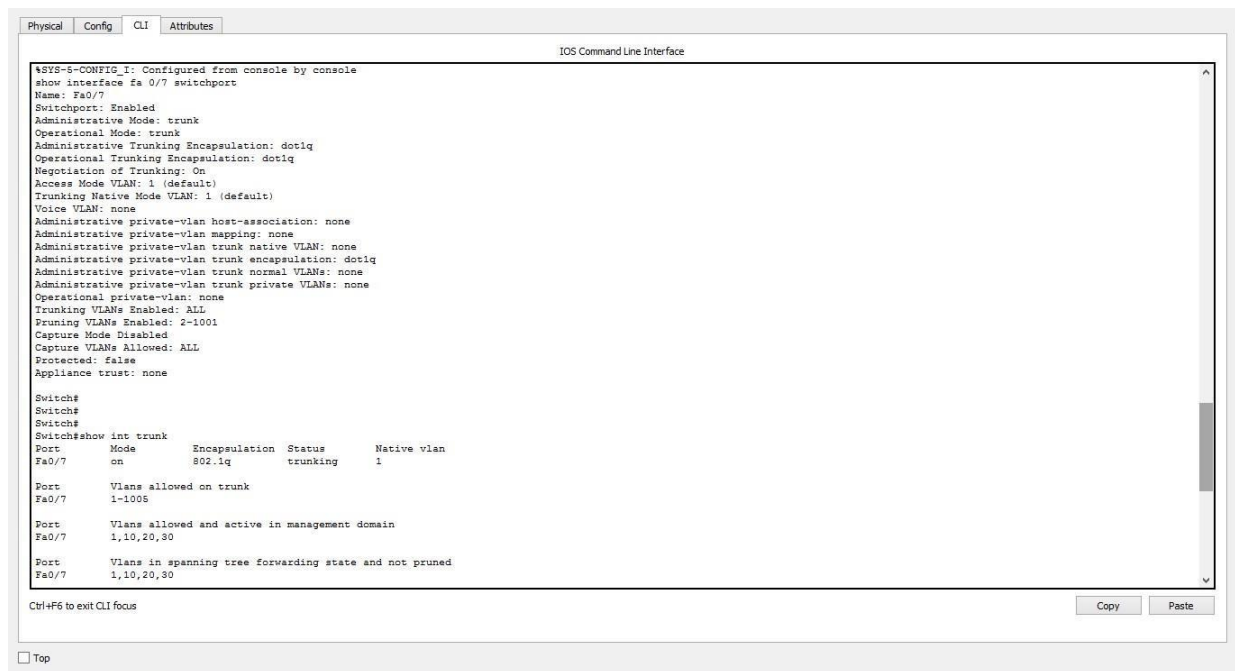


```
Switch(config)#
Switch(config)#interface FastEthernet0/7
Switch(config-if)#switchport mode trunk

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)#
```

Melihat konfigurasi trunking pada switch 1



```
*SYS-S-CONFIG-I: Configured from console by console
show interface 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

Switch#
Switch#
Switch#
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

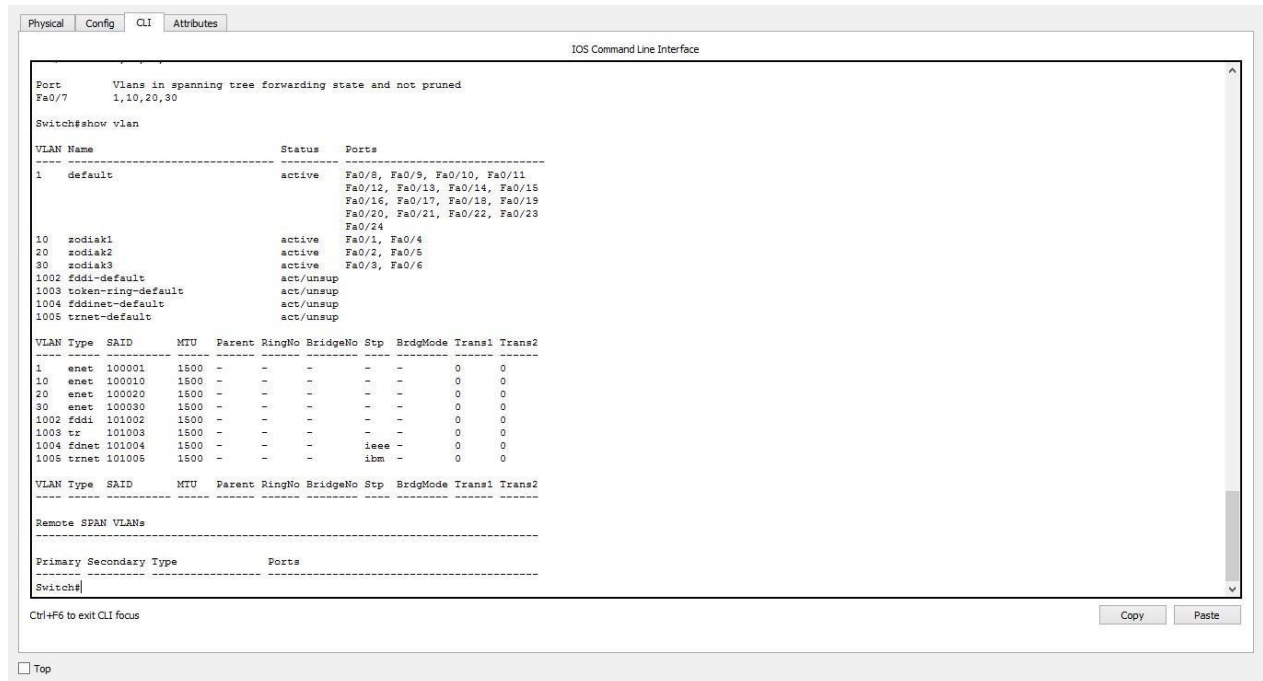
Port      Vlans allowed and active in management domain
Fa0/7     1,10,20,30

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

Ctrl+F6 to exit CLI focus

Copy Paste

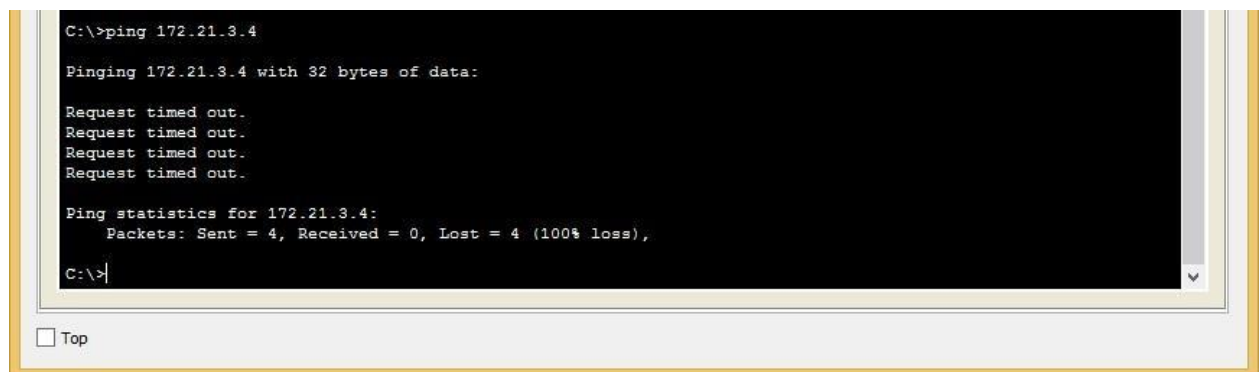
☐ Top



Tugas 7A : Hasil yang diperoleh dari langkah 7

Mengaktifkan switch port Fa0/1(port yang digunakan untuk trunk), Administrative mode menjadi trunk dan juga Operational Mode trunk.

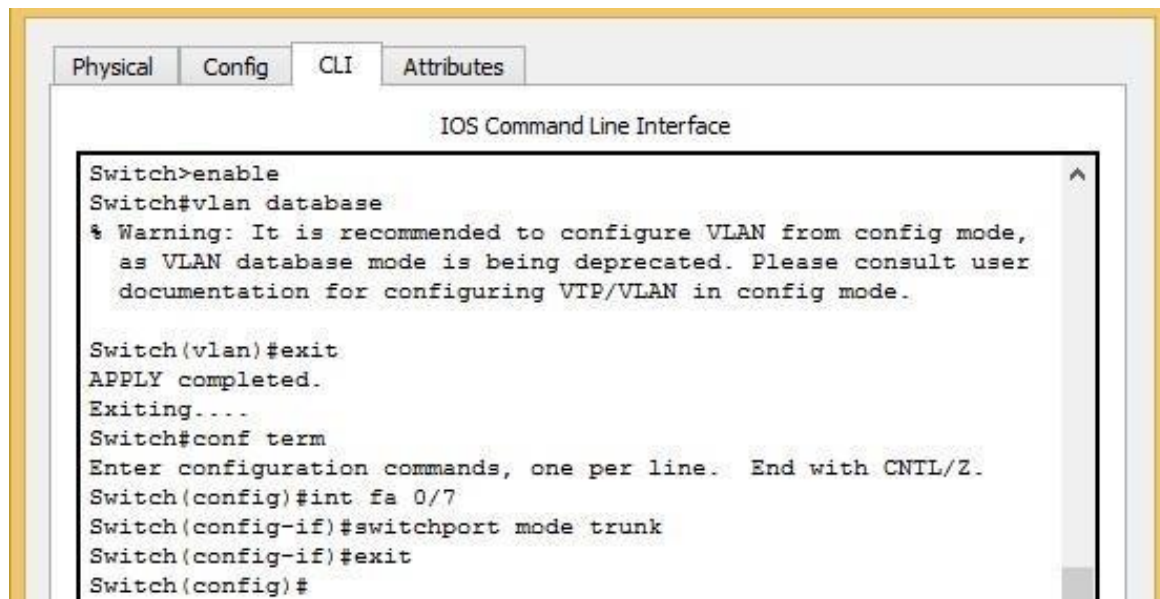
Melakukan ping dari PC leo ke PC Pisces



Tugas 8A : Jelaskan secara singkat mengapa hasil yang anda peroleh dari langkah 8 mendapatkan status“RTO”?

Ping dari PC leo ke PC Pisces mendapatkan status RTO atau Request Time Out karena keduanya berada pada jaringan yang berbeda dan dalam kondisi VLAN keduanya berada dalam VLAN yang berbeda(VLAN zodiak1 dan VLAN zodiak2)

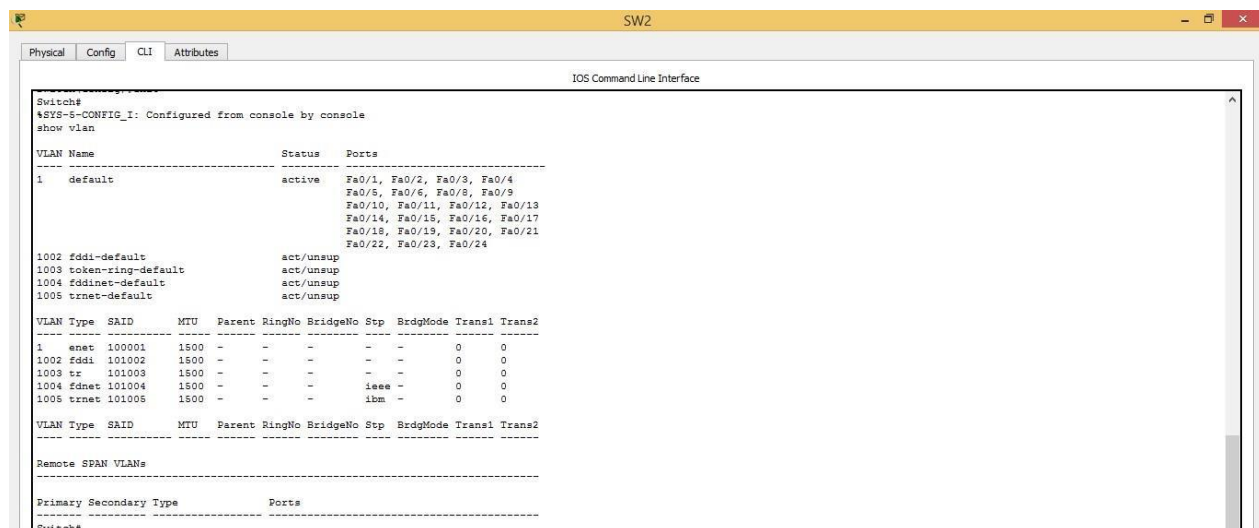
Konfigurasi trunking Vlan pada switch 2



```
Switch>enable
Switch#vlan database
% Warning: It is recommended to configure VLAN from config mode,
as VLAN database mode is being deprecated. Please consult user
documentation for configuring VTP/VLAN in config mode.

Switch(vlan)#exit
APPLY completed.
Exiting....
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)#
```

Melihat konfigurasi trunking pada switch 2



```
Switch#
*SYS-5-CONFIG_I: Configured from console by console
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        act/unsup
1003 token-ring-default  act/unsup
1004 fdmnet-default     act/unsup
1005 trnet-default      act/unsup

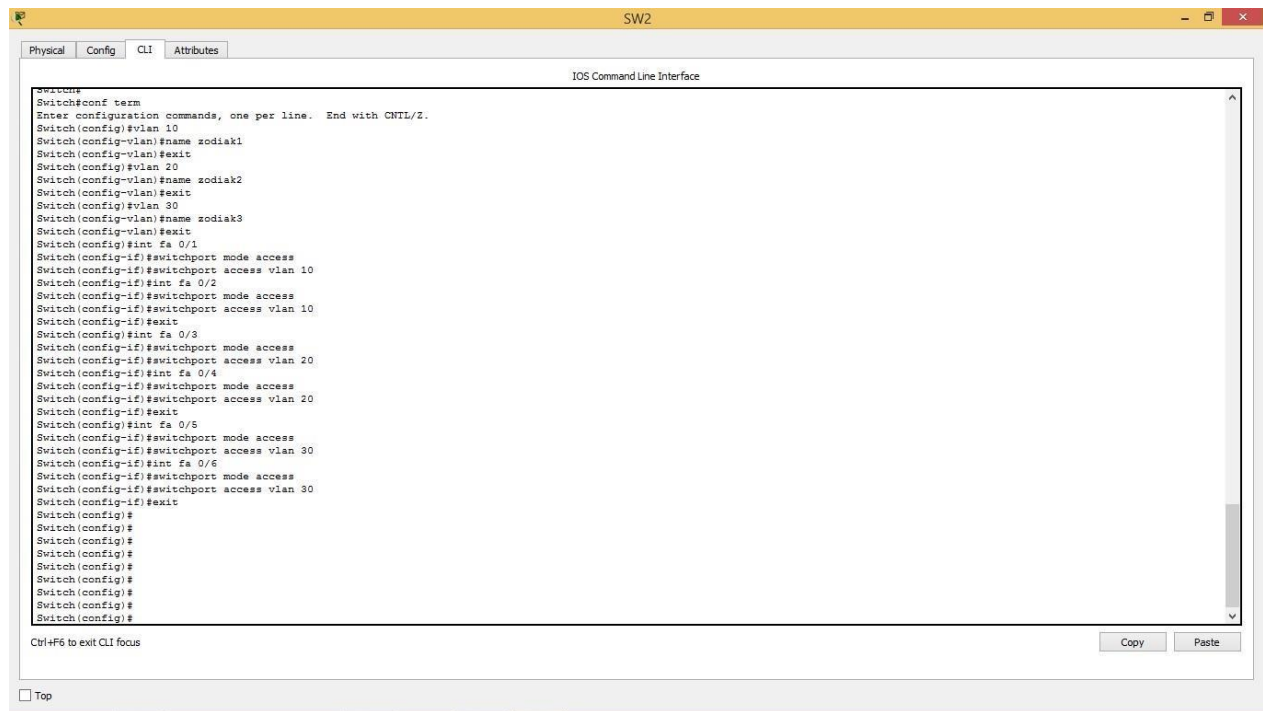
VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp  BrgdMode Transl Trans2
-----
1    enet     100001    1500    -      -      -      -      0      0
1002 fddi     101002    1500    -      -      -      -      0      0
1003 tr      101003    1500    -      -      -      -      0      0
1004 fdmnet  101004    1500    -      -      -      -      0      0
1005 trnet  101005    1500    -      -      -      -      0      0

VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp  BrgdMode Transl Trans2
-----
Remote SPAN VLANs
-----
Primary Secondary Type      Ports
-----
Switch#
```

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

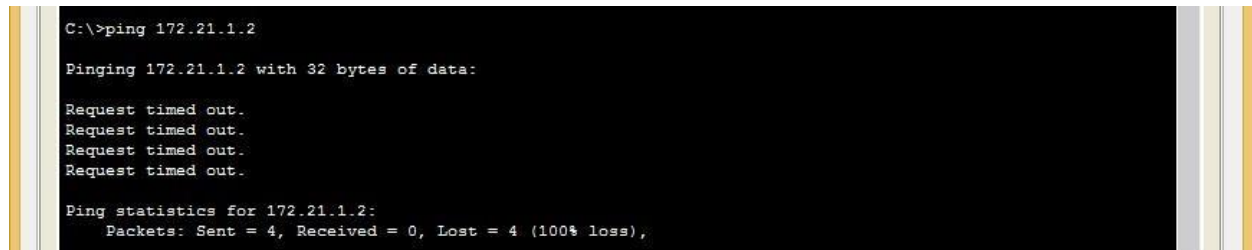
disimpulkan pada konfigurasi trunking sudah dilakukan dan dalam switch menunjukkan konfigurasi trunking sudah berjalan. Port yang telah didaftarkan dalam trunking memiliki kapasitas untuk memanager beberapa hal yang berkaitan dengan domain(1, 10, 20, 30).

Konfigurasi port-port switch ke dalam Vlan zodiak1, zodiak2, zodiak3

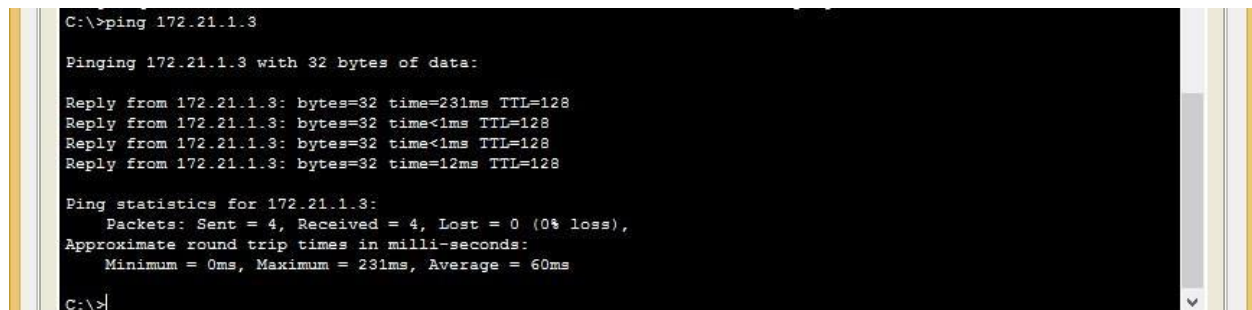


Uji Coba Ping

Leo ke Aries



Leo ke Aquarius



Leo ke 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:\>
```

Libra ke Cancer

```
Packet Tracer PC Command Line 1.0
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:\>
```

Libra ke Leo

```
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=13ms 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 = 13ms, Average = 3ms

C:\>
```

Tugas 12 A :

Dari beberapa hasil percobaan diatas, disimpulkan bila pc berada pada vlan yang sama, maka meghasilkan balasan atau reply dari IP tujuan pada saat melakukan pengujian Ping, seperti contohnya pc Leo ke pc Aquarius dan pc Libra ke PC Leo.

tetapi apabila berada pada Vlan yang berbeda menghasilkan status RTO, seperti contoh pc Leo ke pc Aries, pc Leo ke pc Pisces, dan pc Libra ke pc Cancer.