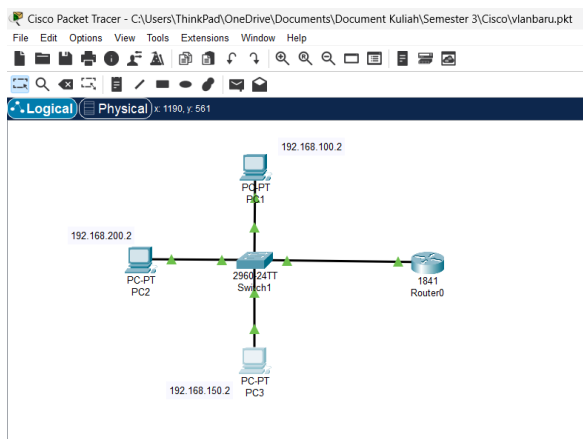


LAPORAN KONFIGURASI VLAN & INTER-VLAN

Nama : Cisa Livia Virnandyka
NIM : 09010182327016
Kelas : MI3A
MK : Praktikum Jaringan Komputer

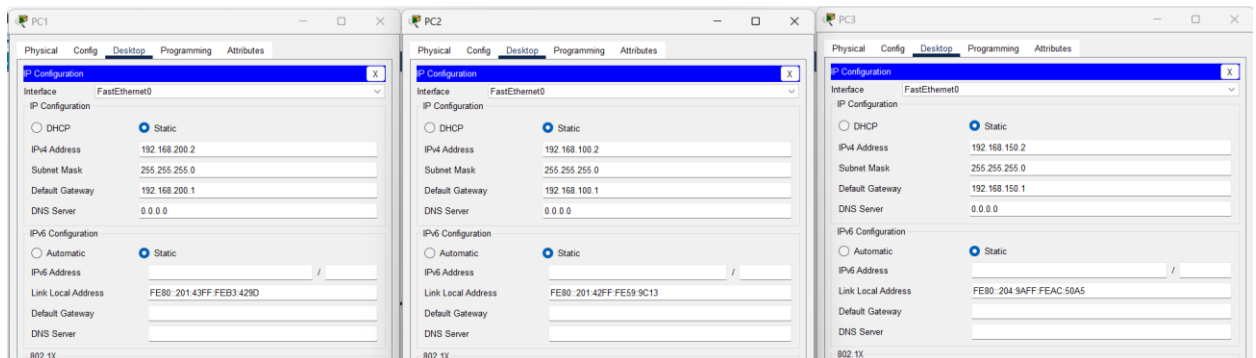
PERCOBAAN

1. Topologi



2. Pengalamatan di PC

No	Nama Device	Alamat	Netmask
1	PC1	192.168.100.2	255.255.255.0
2	PC2	192.168.200.2	255.255.255.0
3	PC3	192.168.150.2	255.255.255.0



3. Konfigurasi switch.

```
SWITCH_09010182327016(config)#banner motd #Selamat Datang di SWITCH#
SWITCH_09010182327016(config)#line console 0
SWITCH_09010182327016(config-line)#password switch
SWITCH_09010182327016(config-line)#login
SWITCH_09010182327016(config)#enable password switch
SWITCH_09010182327016(config)#enable secret switch
SWITCH_09010182327016(config)#line vty 0 4
SWITCH_09010182327016(config-line)#password switch
SWITCH_09010182327016(config-line)#login
SWITCH_09010182327016(config)#vlan 2
SWITCH_09010182327016(config-vlan)#name HUMAS
SWITCH_09010182327016(config-vlan)#exit
SWITCH_09010182327016(config)#vlan 3
SWITCH_09010182327016(config-vlan)#name KEUANGAN
SWITCH_09010182327016(config-vlan)#exit
SWITCH_09010182327016(config)#vlan 4
SWITCH_09010182327016(config-vlan)#name IT
SWITCH_09010182327016(config-vlan)#exit
SWITCH_09010182327016(config)#vlan 5
SWITCH_09010182327016(config-vlan)#name PIMPINAN
SWITCH_09010182327016(config-vlan)#exit
SWITCH_09010182327016#
%SYS-5-CONFIG_I: Configured from console by console

SWITCH_09010182327016#config t
Enter Configuration commands, one per line. End with CNTL/Z.
SWITCH_09010182327016(config)#int fa 0/1
SWITCH_09010182327016(config-if)#swi mode acc
SWITCH_09010182327016(config-if)#swi acc vlan 2
SWITCH_09010182327016(config-if)#exit
SWITCH_09010182327016(config)#int fa 0/2
SWITCH_09010182327016(config-if)#swi mode acc
SWITCH_09010182327016(config-if)#swi acc vlan 3
SWITCH_09010182327016(config-if)#exit
SWITCH_09010182327016(config)#int fa 0/3
SWITCH_09010182327016(config-if)#swi mode acc
SWITCH_09010182327016(config-if)#swi acc vlan 4
SWITCH_09010182327016(config-if)#exit
SWITCH_09010182327016(config)#int fa 0/24
SWITCH_09010182327016(config-if)#swi mode trunk
SWITCH_09010182327016(config-if)#exit
```

```
SWITCH_09010182327016(config-if)#swi mode acc
SWITCH_09010182327016(config-if)#swi acc vlan 2
SWITCH_09010182327016(config-if)#exit
SWITCH_09010182327016(config)#int fa 0/2
SWITCH_09010182327016(config-if)#swi mode acc
SWITCH_09010182327016(config-if)#swi acc vlan 3
SWITCH_09010182327016(config-if)#exit
SWITCH_09010182327016(config)#int fa 0/3
SWITCH_09010182327016(config-if)#swi mode acc
SWITCH_09010182327016(config-if)#swi acc vlan 4
SWITCH_09010182327016(config-if)#exit
SWITCH_09010182327016(config)#int fa 0/24
SWITCH_09010182327016(config-if)#swi mode trunk
SWITCH_09010182327016(config-if)#exit

% Invalid input detected at '^' marker.

SWITCH_09010182327016(config)#exit
%SYS-5-CONFIG_I: Configured from console by console

SWITCH_09010182327016#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
SWITCH_09010182327016#show vlan

VLAN Name                Status      Ports
-----
1  default              active      Fa0/4, Fa0/5, Fa0/6, 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, Gig0/1, Gig0/2
2  HUMAS                active      Fa0/1
3  KEUANGAN             active      Fa0/2
4  IT                   active      Fa0/3
5  PIMPINAN             active
1002 fddi-default        active
1003 token-ring-default  active
1004 fddinet-default     active
1005 trnet-default       active

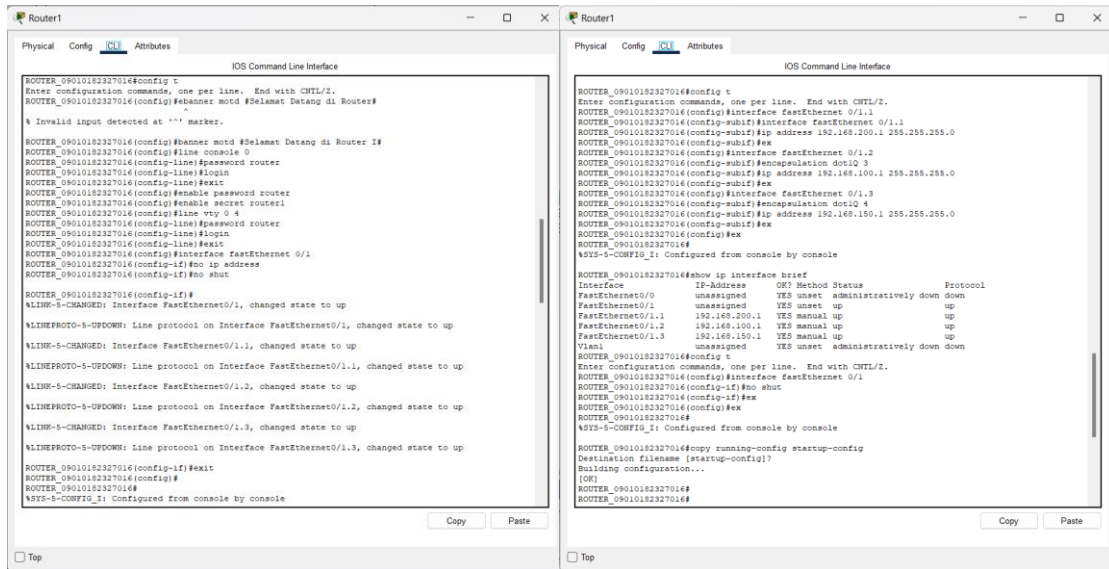
VLAN Type  SAID             MTU    Parent RingNo BridgeNo Stp    BrdgMode Trans1 Trans2
-----
1  enet    100001          1500   -    -    -    -    -    0      0
2  enet    100002          1500   -    -    -    -    -    0      0
--More--
%LINK-5-CHANGED: Interface FastEthernet0/24, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up
```

Melihat Daftar Vlan

SWITCH_09010182327016#show vlan

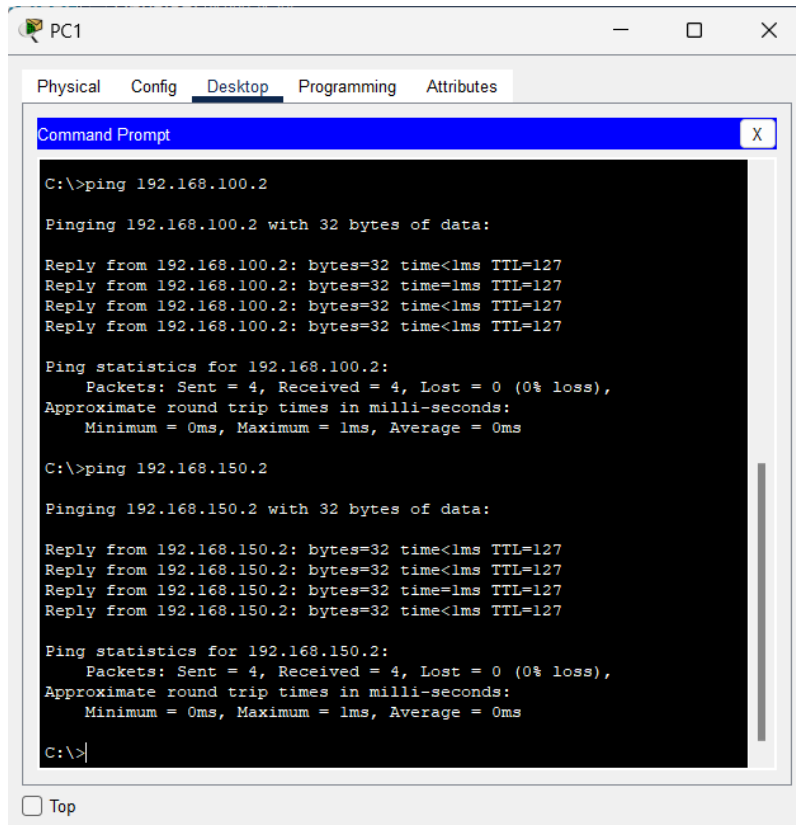
Vlan	Name	Status	Port
1	default	active	Fa0/4, Fa0/5, Fa0/6, Fa0/7, Fa0/8, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Fa0/13, Fa0/14, Fa0/15, Fa0/16, Fa0/17, Fa0/18, Fa0/19, Fa0/20, Fa0/21, Fa0/22, Fa0/23, Gig0/1, Gig0/2
2	Humas	active	Fa0/1
3	Keuangan	active	Fa0/2
4	IT	active	Fa0/3
5	Pimpinan	active	

4. Konfigurasi Router

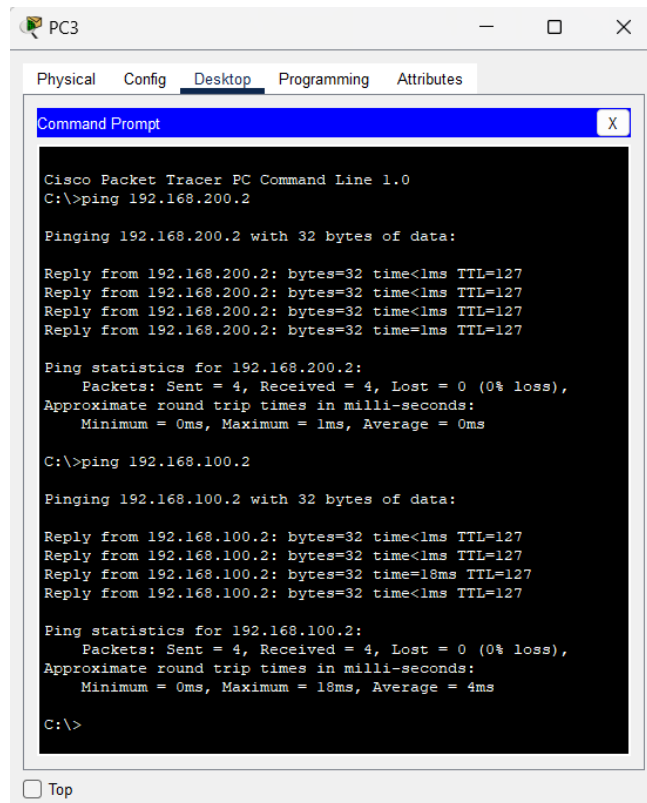


Tes Koneksi dengan menggunakan ICMP (catat hasil yang anda dapat)

- PC1



- PC2



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC3. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt displays the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.200.2

Pinging 192.168.200.2 with 32 bytes of data:

Reply from 192.168.200.2: bytes=32 time<1ms TTL=127
Reply from 192.168.200.2: bytes=32 time<1ms TTL=127
Reply from 192.168.200.2: bytes=32 time<1ms TTL=127
Reply from 192.168.200.2: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.200.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.100.2

Pinging 192.168.100.2 with 32 bytes of data:

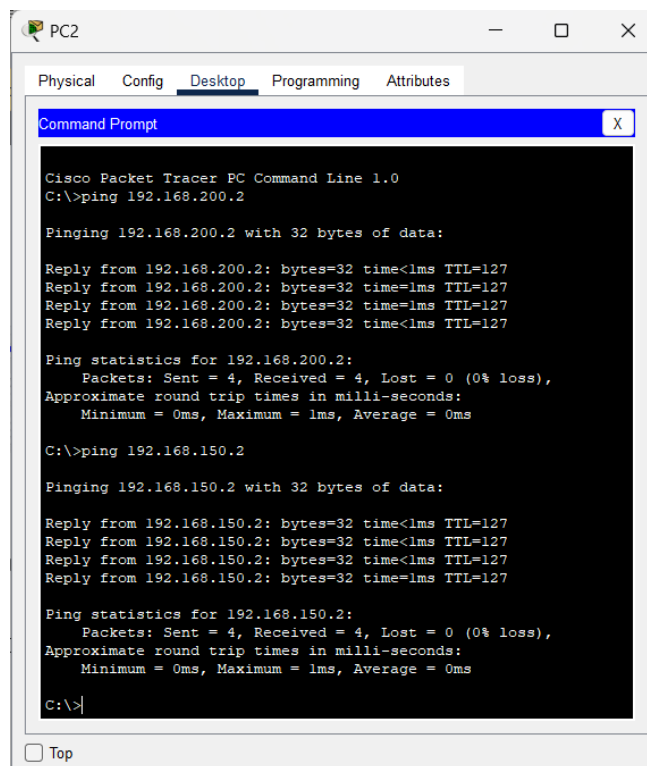
Reply from 192.168.100.2: bytes=32 time<1ms TTL=127
Reply from 192.168.100.2: bytes=32 time<1ms TTL=127
Reply from 192.168.100.2: bytes=32 time=18ms TTL=127
Reply from 192.168.100.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.100.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 18ms, Average = 4ms

C:\>
```

At the bottom of the window, there is a checkbox labeled "Top" which is currently unchecked.

- PC3



The screenshot shows a Cisco Packet Tracer PC Command Line window for PC2. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt displays the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.200.2

Pinging 192.168.200.2 with 32 bytes of data:

Reply from 192.168.200.2: bytes=32 time<1ms TTL=127
Reply from 192.168.200.2: bytes=32 time=1ms TTL=127
Reply from 192.168.200.2: bytes=32 time=1ms TTL=127
Reply from 192.168.200.2: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.200.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.150.2

Pinging 192.168.150.2 with 32 bytes of data:

Reply from 192.168.150.2: bytes=32 time<1ms TTL=127
Reply from 192.168.150.2: bytes=32 time<1ms TTL=127
Reply from 192.168.150.2: bytes=32 time<1ms TTL=127
Reply from 192.168.150.2: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.150.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

At the bottom of the window, there is a checkbox labeled "Top" which is currently unchecked.

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PC1	PC2	√	
		PC3	√	
2	PC2	PC1	√	
		PC3	√	
3	PC3	PC1	√	
		PC2	√	

ANALISIS PERCOBAAN

Percobaan ini dilakukan untuk menguji konektivitas antar tiga PC yang berada di VLAN dan subnet yang berbeda. Setiap PC dikonfigurasi dengan alamat IP, subnet mask, dan default gateway yang dirancang untuk memungkinkan komunikasi antar subnet melalui sebuah router. Default gateway sangat penting dalam jaringan komputer karena memungkinkan perangkat di satu subnet untuk berkomunikasi dengan perangkat lain di subnet yang berbeda melalui router.

Dalam percobaan ini, ditemukan bahwa dua dari tiga PC memiliki konfigurasi default gateway yang tidak sesuai, sehingga menyebabkan kegagalan komunikasi. Berikut analisis konfigurasi masing-masing PC:

1. PC1:

Masalah: Gateway yang digunakan berada di subnet 192.168.200.0/24, sementara PC1 berada di subnet 192.168.100.0/24. Hal ini menyebabkan paket tidak dapat diteruskan ke router yang benar.

Solusi: Ubah gateway menjadi 192.168.100.1 yang sesuai dengan subnet 192.168.100.0/24 (VLAN 3).

2. PC2:

Masalah: Gateway yang digunakan berada di subnet 192.168.100.0/24, padahal PC2 berada di subnet 192.168.200.0/24. Pengaturan ini salah dan menyebabkan kegagalan komunikasi.

Solusi: Ubah gateway menjadi 192.168.200.1 yang sesuai dengan subnet 192.168.200.0/24 (VLAN 2).

3. **PC3:**

Kesimpulan: Konfigurasi PC3 sudah benar karena gateway sesuai dengan subnet yang digunakan, yaitu 192.168.150.0/24 (VLAN 4).

KESIMPULAN PERCOBAAN

Percobaan menunjukkan bahwa kesalahan pengaturan gateway pada PC1 dan PC2 menyebabkan kegagalan komunikasi antar subnet. PC1 dan PC2 tidak dapat saling ping karena menggunakan gateway yang tidak sesuai dengan subnet mereka. Setelah melakukan perubahan pada konfigurasi gateway yang benar, setiap PC dapat berkomunikasi dengan baik, baik di dalam subnet maupun antar subnet melalui router yang dikonfigurasi.