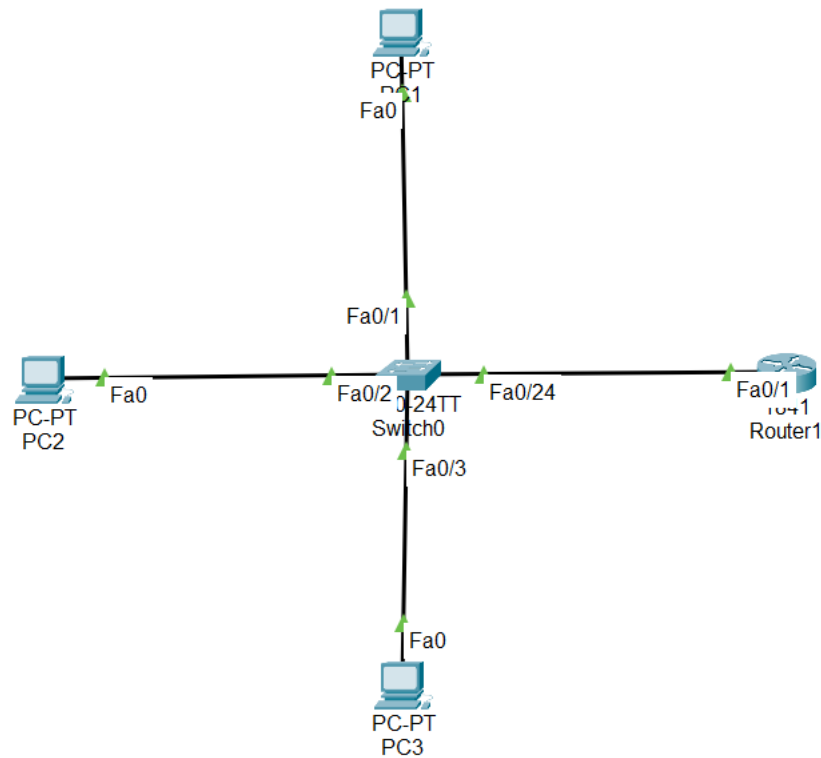


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## PRAKTIKUM JARINGAN KOMPUTER



### Pengalamatan PC

No	Nama device	IPv4 address	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

### Konfigurasi Switch

## Melihat daftar VLAN

```
SWITCH 09010282327037#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--

VLAN	Nama	Status	Port
2	Humas	active	Fa0/1
3	Keuangan	active	Fa0/2
4	IT	active	Fa0/3
5	Pimpinan	active	-

## Konfigurasi router

```

Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#Hostname ROUTER_09010282327037
ROUTER_09010282327037(config)#banner motd #Selamat Datang di Router I#
ROUTER_09010282327037(config)#line console 0
ROUTER_09010282327037(config-line)#password cisco
ROUTER_09010282327037(config-line)#login
ROUTER_09010282327037(config-line)#exit
ROUTER_09010282327037(config)#enable password cisco
ROUTER_09010282327037(config)#enable secret cisco
The enable secret you have chosen is the same as your enable password.
This is not recommended. Re-enter the enable secret.
ROUTER_09010282327037(config)#line vty 0 4
ROUTER_09010282327037(config-line)#password cisco
ROUTER_09010282327037(config-line)#login
ROUTER_09010282327037(config-line)#exit
ROUTER_09010282327037(config)#interface fastEthernet 0/1
ROUTER_09010282327037(config-if)#no ip address
ROUTER_09010282327037(config-if)#no shutdown

ROUTER_09010282327037(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

ROUTER_09010282327037(config-if)#exit
ROUTER_09010282327037(config)#interface fastEthernet 0/1.1
ROUTER_09010282327037(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/1.1, changed state to up

ROUTER_09010282327037(config-subif)#encapsulation dot1Q 2
ROUTER_09010282327037(config-subif)#ip address 192.168.200.1 255.255.255.0
ROUTER_09010282327037(config-subif)#exit
ROUTER_09010282327037(config)#interface fastEthernet 0/1.2
ROUTER_09010282327037(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/1.2, changed state to up

ROUTER_09010282327037(config-subif)#encapsulation dot1Q 3
ROUTER_09010282327037(config-subif)#ip address 192.168.100.1 255.255.255.0
ROUTER_09010282327037(config-subif)#exit
ROUTER_09010282327037(config)#interface fastEthernet 0/1.3
ROUTER_09010282327037(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/1.3, changed state to up

ROUTER_09010282327037(config-subif)#encapsulation dot1Q 4
ROUTER_09010282327037(config-subif)#ip address 192.168.150.1 255.255.255.0
ROUTER_09010282327037(config-subif)#exit

```

## Tes koneksi menggunakan ICMP

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PC1	PC2	Ya	
		PC3	Ya	
		PC1	Ya	

2	PC2	PC3	Ya	
3	PC3	PC1	Ya	
		PC2	Ya	

## Hasil screenshot

- PC1

```
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=12ms TTL=127
Reply from 192.168.200.2: bytes=32 time=12ms TTL=127
Reply from 192.168.200.2: bytes=32 time=12ms 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 = 12ms, Average = 9ms

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=11ms TTL=127
Reply from 192.168.150.2: bytes=32 time=12ms TTL=127
Reply from 192.168.150.2: bytes=32 time=11ms 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 = 12ms, Average = 8ms
```

- PC2

```
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=12ms TTL=127
Reply from 192.168.100.2: bytes=32 time=13ms TTL=127
Reply from 192.168.100.2: bytes=32 time=14ms 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 = 14ms, Average = 9ms

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=12ms TTL=127
Reply from 192.168.150.2: bytes=32 time=12ms TTL=127
Reply from 192.168.150.2: bytes=32 time=12ms 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 = 1ms, Maximum = 12ms, Average = 9ms
```

- PC3

```
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=12ms TTL=127
Reply from 192.168.200.2: bytes=32 time<1ms TTL=127
Reply from 192.168.200.2: bytes=32 time=13ms 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 = 13ms, Average = 6ms

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=12ms TTL=127
Reply from 192.168.100.2: bytes=32 time=11ms 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 = 12ms, Average = 5ms
```

## Analisis percobaan

Percobaan ini menggunakan 1 switch, 1 router, dan 3 PC yang masing-masing bernama **PC1**, **PC2**, **PC3**. Memulai dari mengkonfigurasi switch dengan memasukkan password dan login. Kemudian membuat daftar VLAN untuk melihat hasil VLAN yang ditampilkan dengan nama **Humas**, **Keuangan**, **IT**, dan **Pimpinan**. Kemudian melakukan konfigurasi router dengan memasukkan fa dan encapsulation. Dan hasil konfigurasi router tersebut akan diuji coba menggunakan ICMP pada setiap PC ke PC lainnya apakah dapat berfungsi atau tidak.

## Kesimpulan

Hasil pengujian dari 3 PC ke PC lain dapat berjalan sebaik mungkin. Dengan adanya IP pada setiap PC maka VLAN dengan metode Encapsulation dapat berfungsi dengan baik.