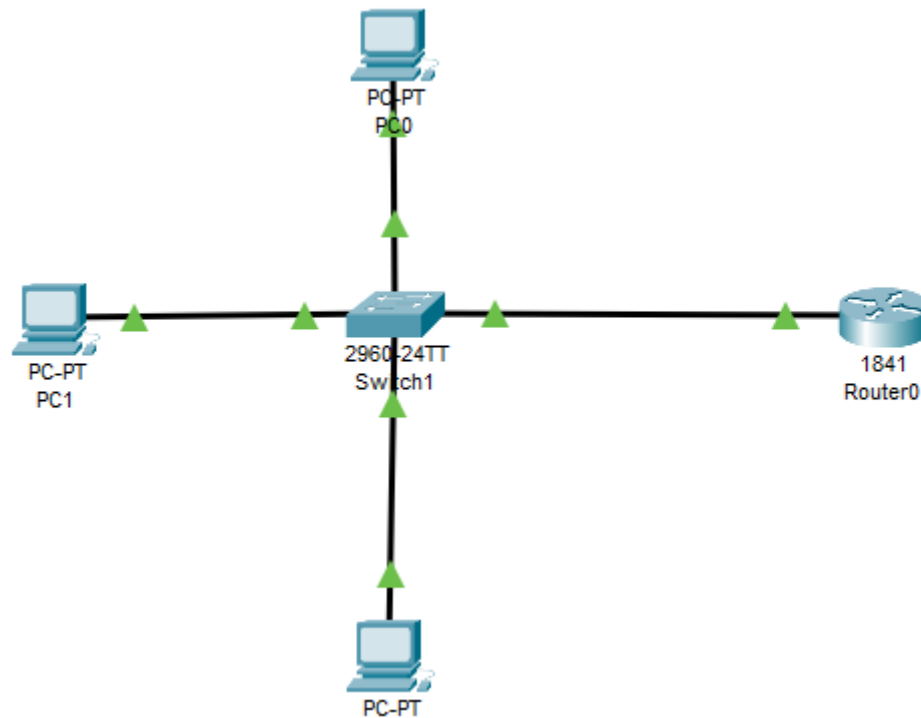


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1. Buat Topologi Seperti Gambar diatas
2. Buat Pengalamatan di PC

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

Tabel 11.1 Pengalamatan PC Client

3. Selanjutnya kita aktifkan power switch tunggu beberapa menit switch akan booting

```

Checking for PCIe device presence...done
System integrity status: 0x610
Rom image verified correctly

System Bootstrap, Version 16.7(3r), RELEASE SOFTWARE
Copyright (c) 1994-2018 by cisco Systems, Inc.

Current image running: Boot ROM0

Last reset cause: LocalSoft
Cisco ISR4331/K9 platform with 4194304 Kbytes of main memory

no valid BOOT image found
Final autoboot attempt from default boot device...
Located isr4300-universalk9.16.06.04.SPA.bin
#####

```

Gambar 11.5 Boot Device

4. Setelah selesai switch loading sekarang kita lanjut konfigurasi switch

Memberi nama SWITCH_DISTRIBUSI

```

SWITCH_DISTRIBUSI#configure terminal
SWITCH_DISTRIBUSI(config)Hostname SWITCH_NIM

```

Membuat Banner

```

SWITCH_DISTRIBUSI(config)#banner motd #Selamat Datang di
SWITCH_DISTRIBUSI #

```

Membuat Password

```

SWITCH_DISTRIBUSI(config)#line console 0
SWITCH_DISTRIBUSI(config-line)#password cisco
SWITCH_DISTRIBUSI(config-line)#login
SWITCH_DISTRIBUSI(config-line)#exit

```

Mensetting U/ Telnet

```

SWITCH_DISTRIBUSI(config)#line vty 0 4
SWITCH_DISTRIBUSI(config-line)#password cisco
SWITCH_DISTRIBUSI(config-line)#login
SWITCH_DISTRIBUSI(config-line)#exit

```

```

SWITCH_DISTRIBUSI(config)#enable password cisco
SWITCH_DISTRIBUSI(config)#enable secret cisco

```

Setting Vlan

```

SWITCH_DISTRIBUSI(config)#Vlan 2
SWITCH_DISTRIBUSI(config-vlan)#Name Humas
SWITCH_DISTRIBUSI(config-vlan)#exit

```

```

SWITCH_DISTRIBUSI(config)#Vlan 3
SWITCH_DISTRIBUSI(config-vlan)#Name Keuangan
SWITCH_DISTRIBUSI(config-vlan)#exit

```

```

SWITCH_DISTRIBUSI(config)#Vlan 4
SWITCH_DISTRIBUSI(config-vlan)#Name IT
SWITCH_DISTRIBUSI(config-vlan)#exit

```

```

SWITCH_DISTRIBUSI(config)#Vlan 5
SWITCH_DISTRIBUSI(config-vlan)#Name Pimpinan
SWITCH_DISTRIBUSI(config-vlan)#exit
SWITCH_DISTRIBUSI(config)#exit

```

Setting Member port untuk Tiap Vlan

```
SWITCH_DISTRIBUSI(config)#interface fastEthernet 0/1
SWITCH_DISTRIBUSI(config-if)# switchport mode access
SWITCH_DISTRIBUSI(config-if)# switchport access vlan 2
SWITCH_DISTRIBUSI(config-if)#exit
```

```
SWITCH_DISTRIBUSI(config)#interface fastEthernet 0/2
SWITCH_DISTRIBUSI(config-if)# switchport mode access
SWITCH_DISTRIBUSI(config-if)# switchport access vlan 3
SWITCH_DISTRIBUSI(config-if)#exit
```

```
SWITCH_DISTRIBUSI(config)#interface fastEthernet 0/3
SWITCH_DISTRIBUSI(config-if)# switchport mode access
SWITCH_DISTRIBUSI(config-if)# switchport access vlan 4
SWITCH_DISTRIBUSI(config-if)#exit
```

Setting Port Trunk

```
SWITCH_DISTRIBUSI(config)# interface fastEthernet 0/24
SWITCH_DISTRIBUSI(config-if)# switchport mode trunk
SWITCH_DISTRIBUSI(config-if)# exit
SWITCH_DISTRIBUSI(config)# exit
```

SWITCH_DISTRIBUSI#copy run start --- untuk menyimpan konfigurasi di NVRAM

Melihat Daftar Vlan

```
SWITCH_DISTRIBUSI#show vlan
```

```
SWITCH_26#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

Tulis hasil yang anda dapat

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	-

5. Konfigurasi Router

Memberi nama Router

```
Router#configure terminal
Router(config)Hostname ROUTER_NIM
```

Membuat Banner

```
ROUTER_I (config)#banner motd  #Selamat Datang di Router I#
```

Membuat Password

```
ROUTER_I (config)#line console 0
ROUTER_I (config-line)#password cisco
ROUTER_I (config-line)#login
ROUTER_I (config-line)#exit
ROUTER_I (config)#enable password cisco
ROUTER_I (config)#enable secret cisco
```

Mensetting U/ Telnet

```
ROUTER_I (config)#line vty 0 4
ROUTER_I (config-line)#password cisco
ROUTER_I (config-line)#login
ROUTER_I (config-line)#exit
```

Setting IP di Interface 0/1

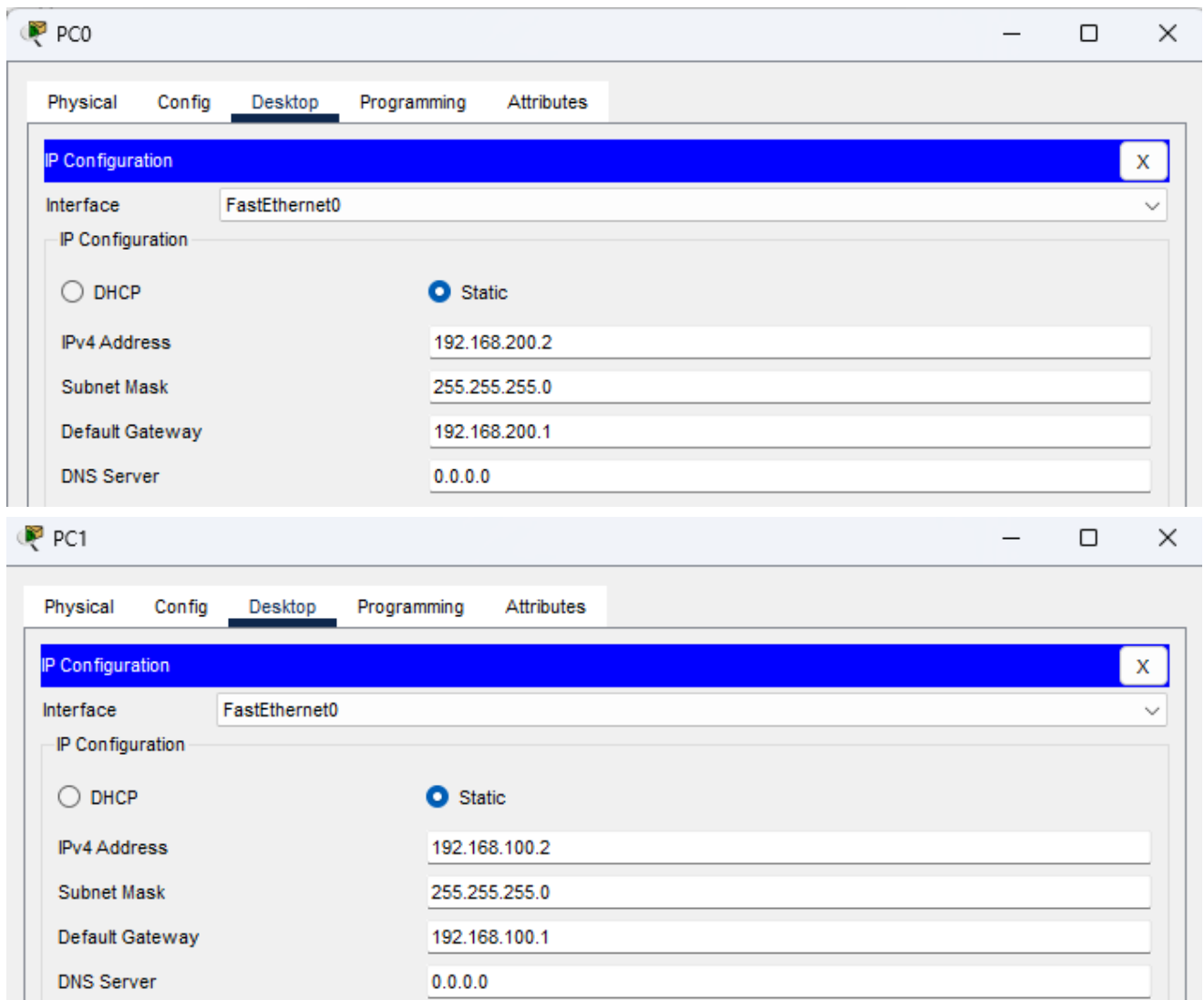
```
ROUTER_I #configure terminal
ROUTER_I (config)#interface fastEthernet 0/1
ROUTER_I (config-if)#no ip address
ROUTER_I (config-if)#no shutdown
ROUTER_I (config-if)#exit
```

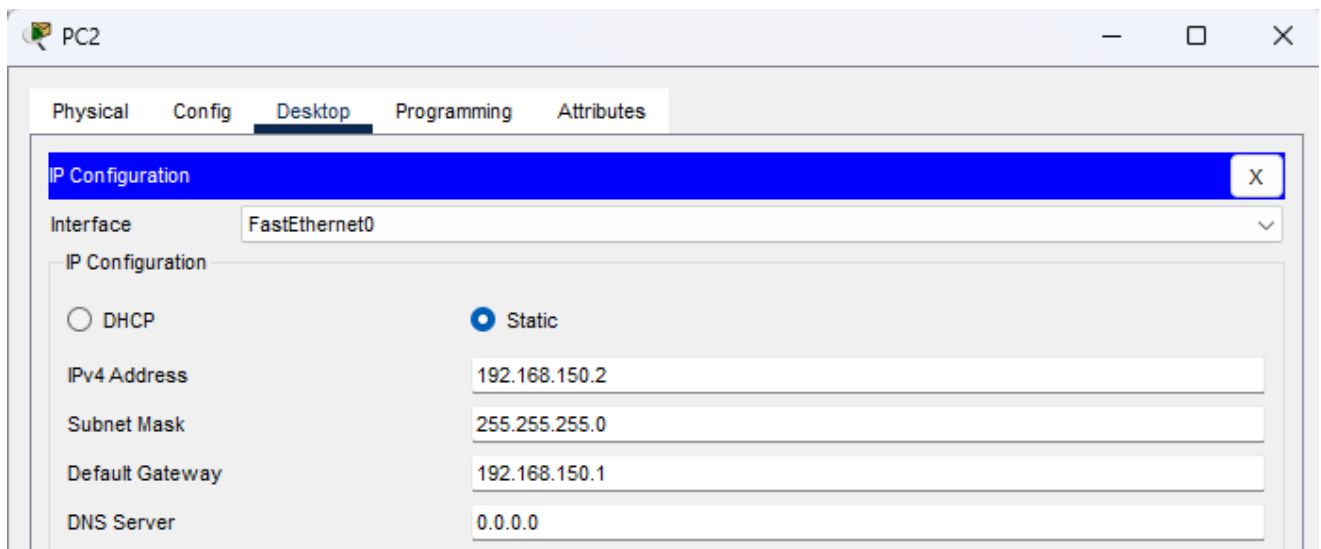
Setting Intervlan Routing

```
Router(config)#interface fastEthernet 0/1.1
Router(config-subif)#encapsulation dot1Q 2
Router(config-subif)#ip address 192.168.200.1 255.255.255.0
```

```
Router(config-subif)#exit
Router(config)#interface fastEthernet 0/1.2
Router(config-subif)#ip address 192.168.100.1 255.255.255.0
Router(config-subif)#encapsulation dot1Q 3
Router(config-subif)#exit
Router(config)#interface fastEthernet 0/1.3
Router(config-subif)#encapsulation dot1Q 4
Router(config-subif)#ip address 192.168.150.1 255.255.255.0
```

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





```
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<1ms 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 = 0ms, 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=16ms 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 = 16ms, Average = 4ms
```

```
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=3ms TTL=128
Reply from 192.168.150.2: bytes=32 time=10ms TTL=128
Reply from 192.168.150.2: bytes=32 time=7ms TTL=128
Reply from 192.168.150.2: bytes=32 time=8ms TTL=128

Ping statistics for 192.168.150.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 10ms, Average = 7ms
```

```

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=18ms TTL=128
Reply from 192.168.100.2: bytes=32 time=7ms TTL=128
Reply from 192.168.100.2: bytes=32 time=8ms TTL=128
Reply from 192.168.100.2: bytes=32 time=8ms TTL=128

Ping statistics for 192.168.100.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 18ms, Average = 10ms

```

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

2	PC2	PC1	ya	
		PC3	ya	

3	PC3	PC1	ya	
		PC2	ya	

Analisis percobaan:

Untuk menghubungkan antar PC, saat mengatur IP pada setiap PC, perlu ditambahkan ****default gateway**** yang sesuai dengan IP yang sudah diatur melalui CLI. Default gateway pada router ini berfungsi agar PC dapat berkomunikasi dengan jaringan lain di luar subnet lokal.

Kesimpulan percobaan:

Hasil pengujian koneksi pada ketiga PC ini menunjukkan bahwa setiap PC mampu berkomunikasi dengan lancar dalam VLAN yang sama. Penambahan default gateway dalam konfigurasi IP pada masing-masing PC terbukti krusial untuk memungkinkan komunikasi ke jaringan luar melalui router yang telah dikonfigurasi. Secara keseluruhan, konfigurasi VLAN dan default gateway bekerja dengan baik, mendukung komunikasi baik di dalam maupun di luar subnet VLAN.