Laporan Hasil Praktikum

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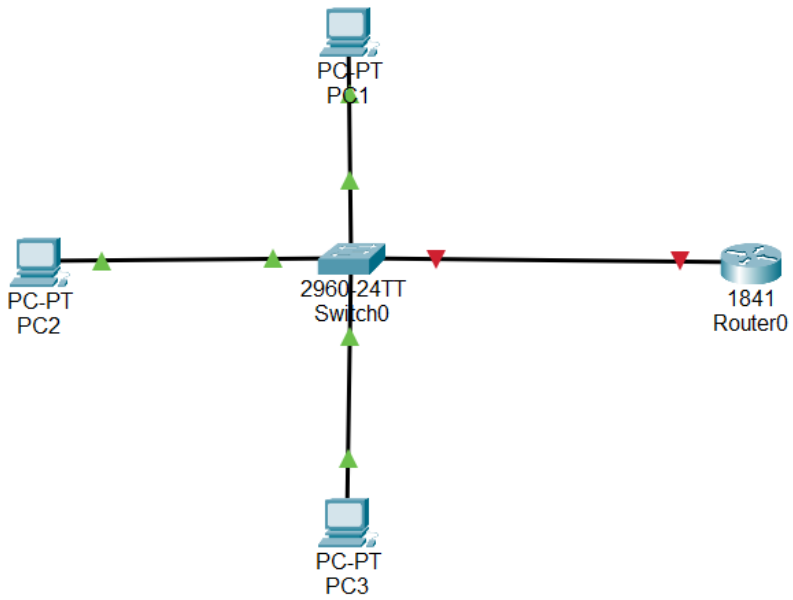
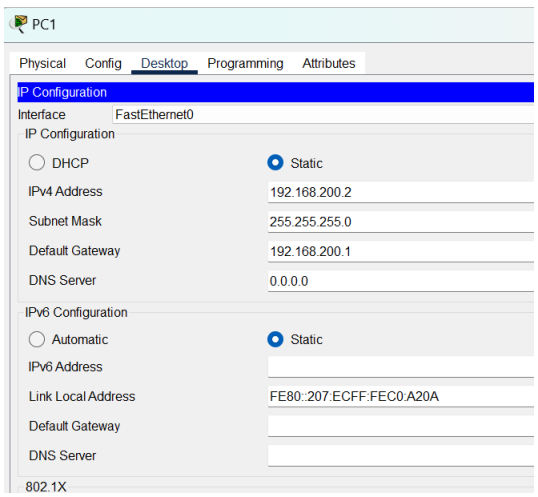
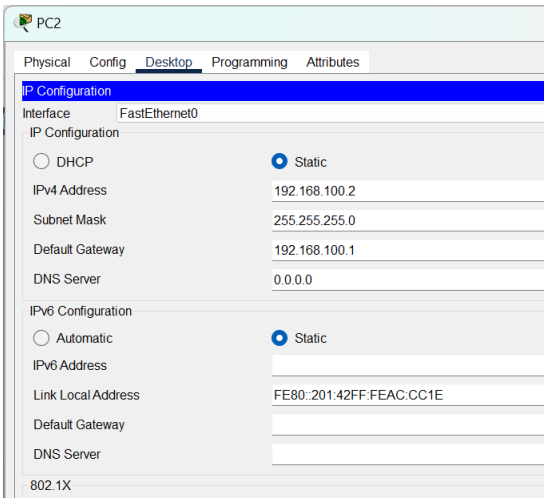
Kelas: MI. 3A

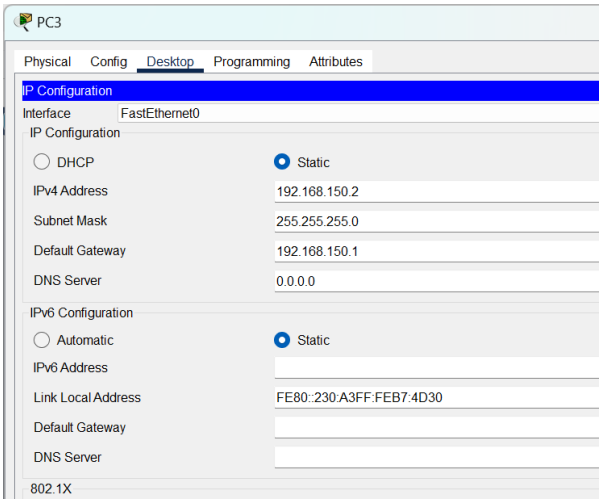
Mata Kuliah: Praktikum Jaringan Komputer

Judul Percobaan: Vlan & Inter-Vlan









Daftar Vlan

```
SWITCH_09010282327030#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	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, Fa0/24, Gig0/1, Gig0/2
2	Humas	active	Fa0/1

3	Keuangan	active	Fa0/2
4	IT	active	Fa0/3
5	Pimpinan	active	

Tes Koneksi dengan menggunakan ICMP

```
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:

Percobaan Vlan dan Inter-Vlan ini menggunakan perangkat jaringan switch dan router. Dalam percobaan ini melakukan topologi jaringan dengan tiga PC yang masing-masing terhubung ke switch. Alamat IP di setiap PC, yaitu: PC1 (192.168.200.2), PC2 (192.168.100.2), dan PC3 (192.168.150.2).

Switch akan dikonfigurasi dengan membuat vlan Humas, vlan Keuangan, vlan IT, vlan Pimpinan dan setting port untuk tiap vlan. Selanjutnya, setting intervlan routing dengan menggunakan interface dan pengalamatan IP. Terakhir, diuji menggunakan ICMP (ping) untuk memastikan bahwa komunikasi antar vlan berjalan berhasil.

Kesimpulan Percobaan:

Kesimpulannya adalah vlan membagi jaringan menjadi lebih baik dan meningkatkan keamanan data serta Inter-vlan routing memungkinkan komunikasi antar vlan yang berbeda, yang tidak dapat dilakukan tanpa router. Percobaan ini memberikan pemahaman mengenai pengaturan jaringan berbasis vlan serta pentingnya routing dalam komunikasi antar kelompok jaringan.