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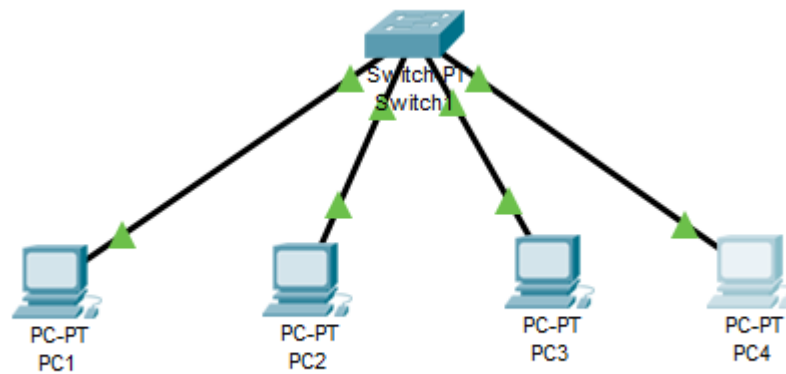
MODUL 3 JARINGAN KOMPUTER

SUBNETING

1. Kegiatan Praktikum I : Desain dan Konfigurasi Subnetting

Kegiatan I yang dilakukan pada saat praktikum jaringan komputer adalah pembelajaran subnetting kelas C dan Desain pada Packet Tracer dengan subnetting IP kelas C

Langkah I Membuat Desain pada packet tracer :



(Gambar Konfigurasi Desain)

Langkah II Konfigurasi IP pada setiap PC yang terkoneksi pada Switch

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 201.222.5.1

Subnet Mask 255.255.255.248

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:FFFF:FEA0:5B04

IPv6 Gateway

IPv6 DNS Server

☐ Top

(PC 1)

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 201.222.5.2

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::205:5EFF:FE7C:BB27

IPv6 Gateway

IPv6 DNS Server

☐ Top

(PC 2)

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 201.222.5.9

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::204:9AFF:FE4D:153C

IPv6 Gateway

IPv6 DNS Server

☐ Top

(PC 3)

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 201.222.5.10

Subnet Mask 255.255.255.248

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::20B:BEFF:FECD:5804

IPv6 Gateway

IPv6 DNS Server

☐ Top

Langkah III, Uji coba PING PC 1 ke 2 dan ke 3

```
C:\>ping 201.222.5.2

Pinging 201.222.5.2 with 32 bytes of data:

Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128
Reply from 201.222.5.2: bytes=32 time<1ms TTL=128

Ping statistics for 201.222.5.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

(PC 1 ke PC 2 SUKSES)

Sukses karena memiliki subnetting yang benar dan pas

```
C:\>ping 201.222.5.9

Pinging 201.222.5.9 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 201.222.5.9:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

(PC 1 ke PC 3 GAGAL)

Gagal Karena memiliki subnetting yang berbeda meskipun kelasnya sama sama kelas C.
kita coba uji coba PC 4 ke PC 3

```
C:\>ping 201.222.5.9

Pinging 201.222.5.9 with 32 bytes of data:

Reply from 201.222.5.9: bytes=32 time=1ms TTL=128
Reply from 201.222.5.9: bytes=32 time=2ms TTL=128
Reply from 201.222.5.9: bytes=32 time<1ms TTL=128
Reply from 201.222.5.9: bytes=32 time<1ms TTL=128

Ping statistics for 201.222.5.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

(PC 4 ke PC 3 BERHASIL)

BERHASIL karena memiliki subnetting yang sama dan pass

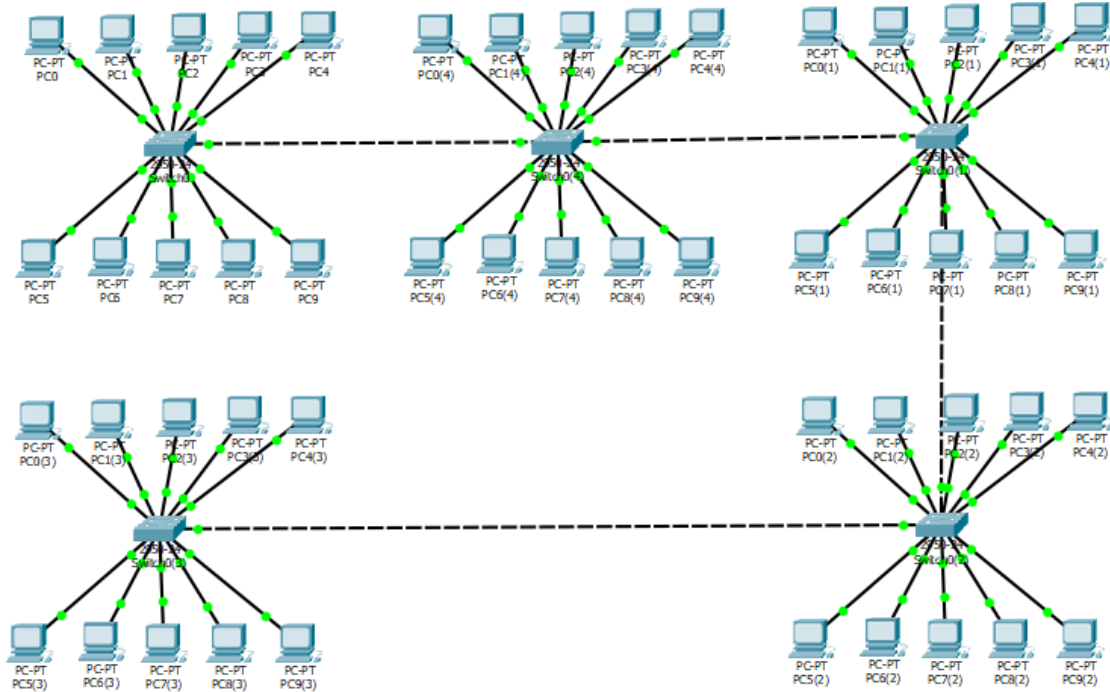
2. TUGAS KEGIATAN

SOAL :

- Soal Tertera Pada Modul Praktikum, Modul ke – 3

JAWABAN :

Design Pada Packet Tracer :



Konfigurasi / Subnetting IP pada Jaringan diatas : Kita Memilih /27 karena terdiri dari 5 divisi dan tiap divisi dapat berisi 25 komputer

IP : 202.155.19.0/27
Bentuk Biner : 11001010.10011011.00010011.00000000
Subnetmask : 255.255.255.224
Subnetmask Biner : 11111111.11111111.11111111.11100000
Jumlah Subnet = 8
Jumlah Host per-Subnet = 30
Blok Subnet = 32

Tabel SUBNET :

Network Address	Usable Host Range	Broadcast Address:
202.222.5.0	202.222.5.1 - 202.222.5.30	202.222.5.31
202.222.5.32	202.222.5.33 - 202.222.5.62	202.222.5.63
202.222.5.64	202.222.5.65 - 202.222.5.94	202.222.5.95
202.222.5.96	202.222.5.97 - 202.222.5.126	202.222.5.127
202.222.5.128	202.222.5.129 - 202.222.5.158	202.222.5.159
202.222.5.160	202.222.5.161 - 202.222.5.190	202.222.5.191
202.222.5.192	202.222.5.193 - 202.222.5.222	202.222.5.223
202.222.5.224	202.222.5.225 - 202.222.5.254	202.222.5.255

Konfigurasi IP address pada Design Packet Tracer :

PC0

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address: 202.222.5.1

Subnet Mask: 255.255.255.224

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::201:96FF:FE9A:7C8A

IPv6 Gateway:

IPv6 DNS Server:

☐ Top

PC1

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 202.222.5.2

Subnet Mask 255.255.255.224

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:FECB:6267

IPv6 Gateway

IPv6 DNS Server

☐ Top

Sampai PC ke 49 dan ke 50

PC8(3)

Physical Config Desktop Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IP Address 202.222.5.49

Subnet Mask 255.255.255.224

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

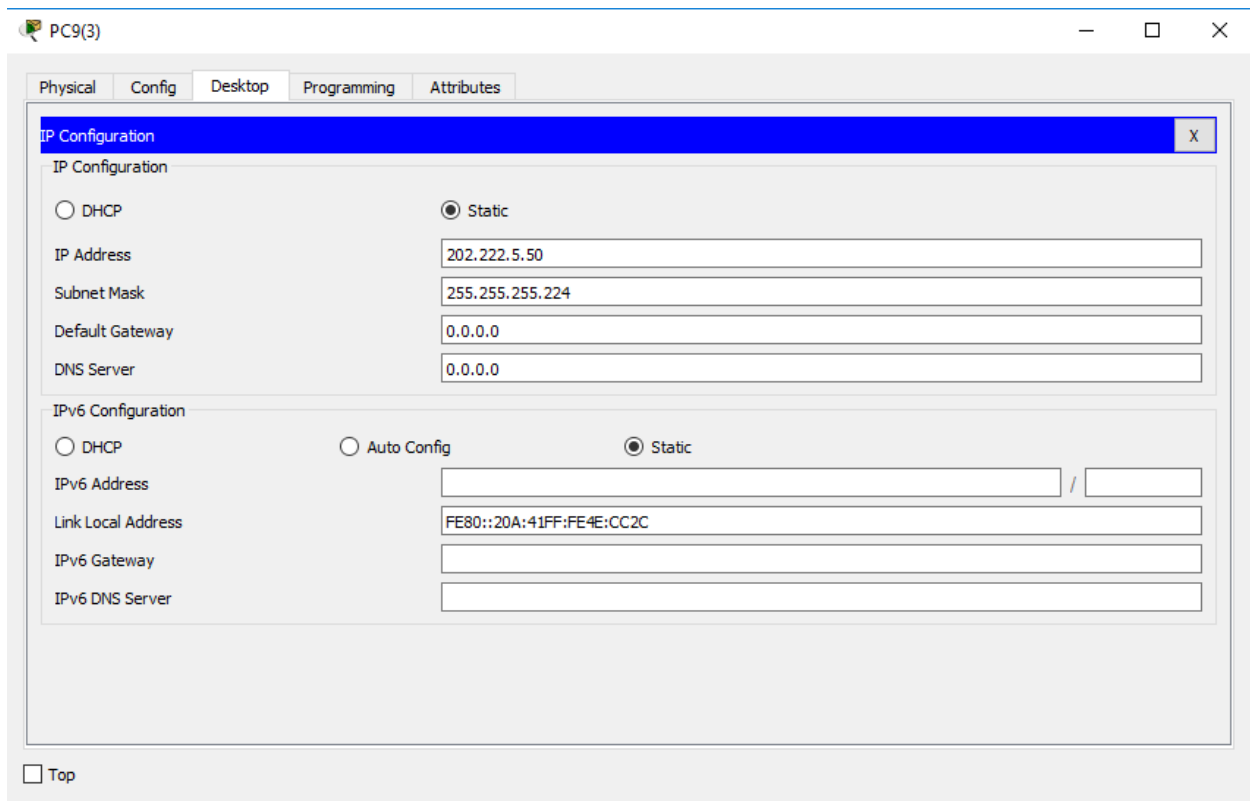
Link Local Address FE80::210:11FF:FE7E:B2A9

IPv6 Gateway

IPv6 DNS Server

☐ Top

(PC ke 49)

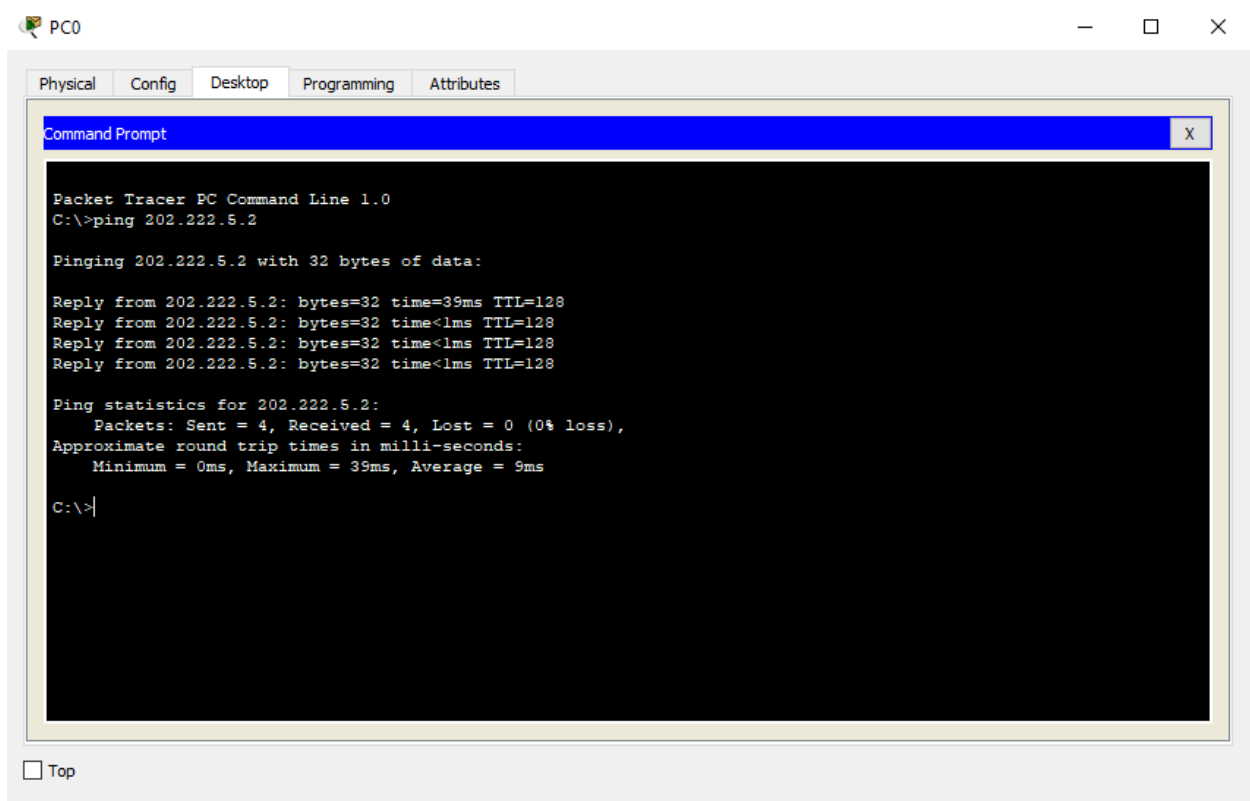


(PC ke 50)

UJI COBA :

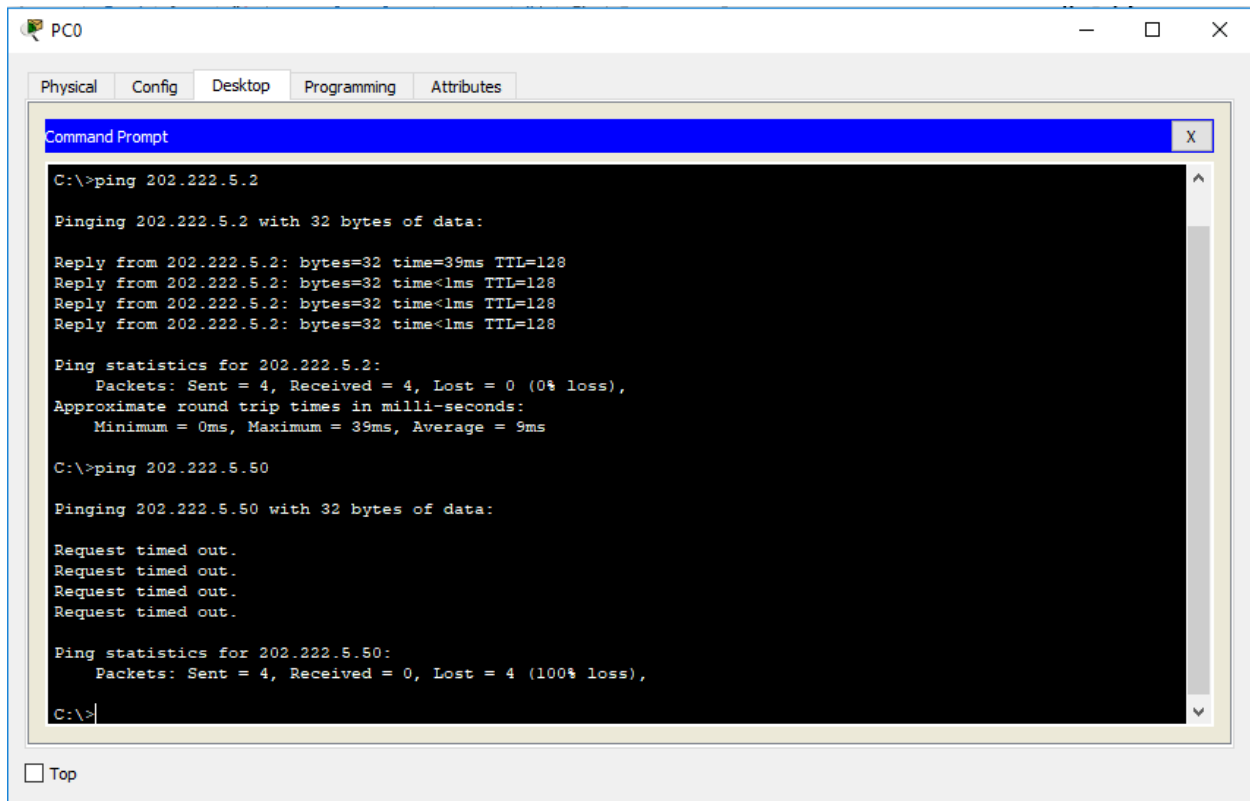
Pada dasarnya tiap switch dan tiap divisi ketika divisi 1 akan ping ke divisi 5 dan lainnya pasti akan gagal karena SUBNETING divisinya BERBEDA.

UJI COBA PC ke 1 dengan PC ke 2



(SUKSES KARENA SATU DIVISI)

UJI COBA PC ke 1 dengan PC ke 50,



The screenshot shows a window titled 'PC0' with tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The Command Prompt shows the following text:

```
C:\>ping 202.222.5.2

Pinging 202.222.5.2 with 32 bytes of data:

Reply from 202.222.5.2: bytes=32 time=39ms TTL=128
Reply from 202.222.5.2: bytes=32 time<1ms TTL=128
Reply from 202.222.5.2: bytes=32 time<1ms TTL=128
Reply from 202.222.5.2: bytes=32 time<1ms TTL=128

Ping statistics for 202.222.5.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 39ms, Average = 9ms

C:\>ping 202.222.5.50

Pinging 202.222.5.50 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 202.222.5.50:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

At the bottom left of the PC0 window, there is a checkbox labeled 'Top'.

(RTO)

Karena Berbeda DIVISI SUBNETINGNYA walaupun IP satu kelas dan berada pada satu NETWORK yang sama

KESIMPULAN :

Subnetting akan berpengaruh kepada koneksi atau konektivitas pada tiap komputer yang memiliki IP. ***Karena jika divisi subnetting berbeda walaupun IP SATU KELAS dan berada pada satu NETWORK yang sama pasti tidak akan terhubung***