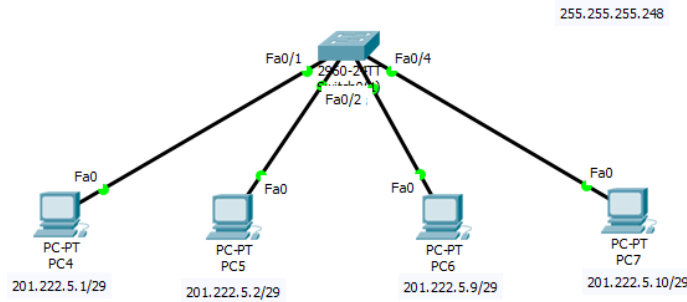


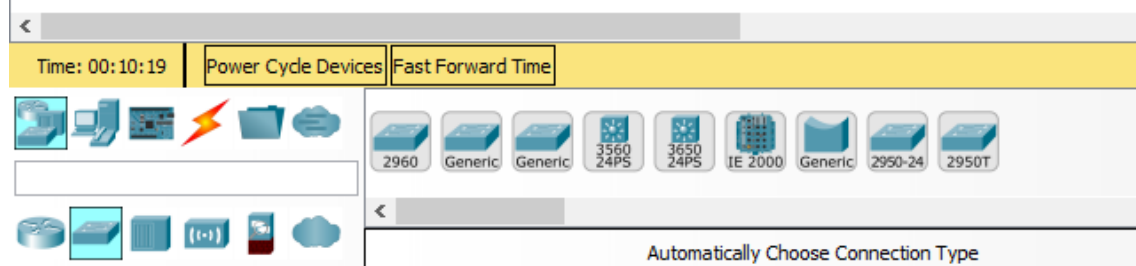
Nama : Muhammad Vicky Al H.
NIM : L200170065
Kelas : B
Modul : BAB III - Subnetting

1. Kegiatan-1



Perhatikan gambar diatas. Ada 4 unit komputer yang terhubung melalui switch. PC4 dan PC5 berada pada subnet address 1 (201.222.5.0/29) sedangkan PC6 dan PC7 berada pada subnet address 2 (201.222.5.8/29). Ikutilah langkah-langkah berikut untuk mendesain jaringan tersebut.

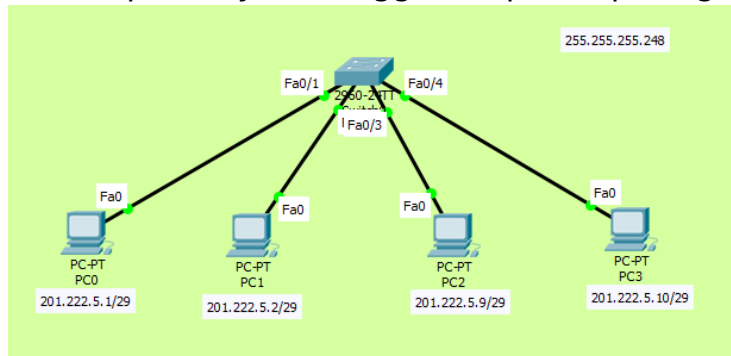
1. Bukalah aplikasi Packet Tracer
2. Pada kolom [Device and Connectors] pilih [Available Switches] , lanjutkan dengan memilih [2960 Series]
3. Klik dua kali pada switch tersebut sehingga masuk ke kolom kanan dan beri nama [SW-2]



4. Lanjutkan dengan menambahkan 4 unit PC dan berikan nama masing-masing PC1,PC2,PC3, dan PC4
5. Tambahkan koneksi dari masing-masing [PC] ke [SW-2] dengan aturan seperti tercantum dalam tabel dibawah ini.

PC	Ethernet	Terhubung ke	Switch Ethernet (port)
1	0		1
2	0		2
3	0		3
4	0		4

6. Atur posisinya sehingga tampak seperti gambar di bawah ini :



7. Setelah Packet Tracer terbuka, lakukan pengaturan alamat IP pada masing masing [PC] dengan mengikuti ketentuan berikut ini :

PC	IP address	Subnet Mask
1	201.222.5.1	255.255.255.248
2	202.222.5.2	
3	203.222.5.9	
4	204.222.5.10	

D. Tugas Modul

1. Diketahui sebuah supermarket akan memasang sebuah jaringan komputer yang menggunakan network ID 202.155.19.0 dengan subnet mask default 255.255.255.0. Supermarket tersebut mempunyai 5 divisi dan masing-masing divisi dapat berisi hingga 25 komputer.
2. Tugas Anda adalah :
 - (a) Buatlah desain jaringan tersebut dengan Packet Tracer.
 - (b) Gunakan switch seri generic dan gunakan juga 10 unit PC.
 - (c) Tentukan subnet mask yang harus digunakan pada semua komputer tersebut.
 - (d) Tentukan subnet address yang terbentuk.
 - (e) Implementasikan menggunakan simulator.
 - (f) Lakukan tes koneksi antara komputer komputer yang ada.

Jawab :

1. Network ID 202.155.19.0/24 dibagi 5 divisi masing2 divisi 25 komputer, jadi pakai /27

202.155.19.0/27

"IIIIIIII.IIIIIII.IIIIIII.III00000"

Jumlah Subnet → 2^3 = 8 Subnet

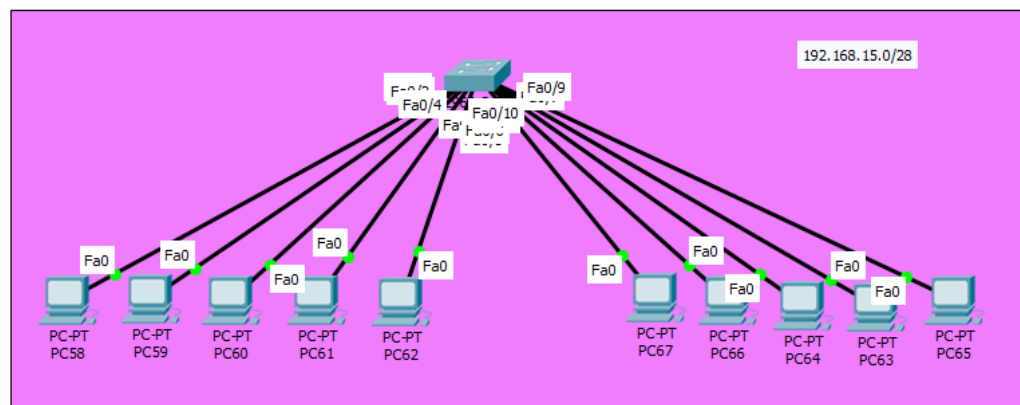
Host Subnet → $2^5 - 2$ = 30 Host

Blok Subnet → $256 - 224$ = 32 IP

SUBNET	Subnet Address	IP valid	IP Broadcast	Subnet Mask
1	202.155.19.0	202.155.19.1 - 202.155.19.30	202.155.19.31	255.255.255.248
2	202.155.19.32	202.155.19.32 - 202.155.19.62	202.155.19.63	255.255.255.248
3	202.155.19.64	202.155.19.64 - 202.155.19.94	202.155.19.95	255.255.255.248
4	202.155.19.96	202.155.19.97 - 202.155.19.126	202.155.19.127	255.255.255.248
5	202.155.19.128	202.155.19.129 - 202.155.19.158	202.155.19.159	255.255.255.248

- 2.

(b)



- (c) 192.168.15.0/28

dengan cidr /28 maka IP komputer yang dapat digunakan maksimal 14 host/pc.

192.168.15.0/28

"IIIIIIII.IIIIIII.IIIIIII.III00000"

Jumlah Subnet → 2^4 = 16 Subnet

Host Subnet → $2^4 - 2$ = 14 Host

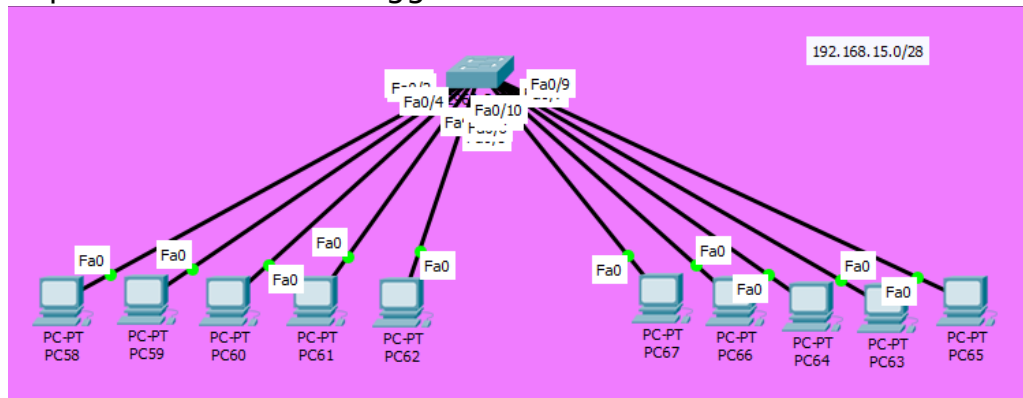
Blok Subnet → $256 - 240$ = 16 IP

SUBNET	Subnet Address	IP valid	IP Broadcast	Subnet Mask
1	192.168.15.0	192.168.15.0 - 192.168.15.14	192.168.15.15	255.255.255.240
2	192.168.15.16	192.168.15.17 - 192.168.15.30	192.168.15.31	255.255.255.240
3	192.168.15.32	192.168.15.33 - 192.168.15.46	192.168.15.47	255.255.255.240
4	192.168.15.48	192.168.15.49 - 192.168.15.62	192.168.15.63	255.255.255.240
5	192.168.15.64	192.168.15.65 - 192.168.15.78	192.168.15.79	255.255.255.240

(d) Subnet address yang terbentuk :

192.168.15.0, 192.168.15.16, 192.168.15.32, 192.168.15.48,
192.168.15.64

(e) Implementasikan menggunakan simulator



(f) Lakukan tes koneksi antara komputer komputer yang ada.

```

Physical Config Desktop Programming Attributes
Command Prompt

Packet Tracer PC Command Line 1.0
C:\>ping 192.168.15.2

Pinging 192.168.15.2 with 32 bytes of data:

Reply from 192.168.15.2: bytes=32 time=1ms TTL=128
Reply from 192.168.15.2: bytes=32 time<1ms TTL=128
Reply from 192.168.15.2: bytes=32 time<1ms TTL=128
Reply from 192.168.15.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.15.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

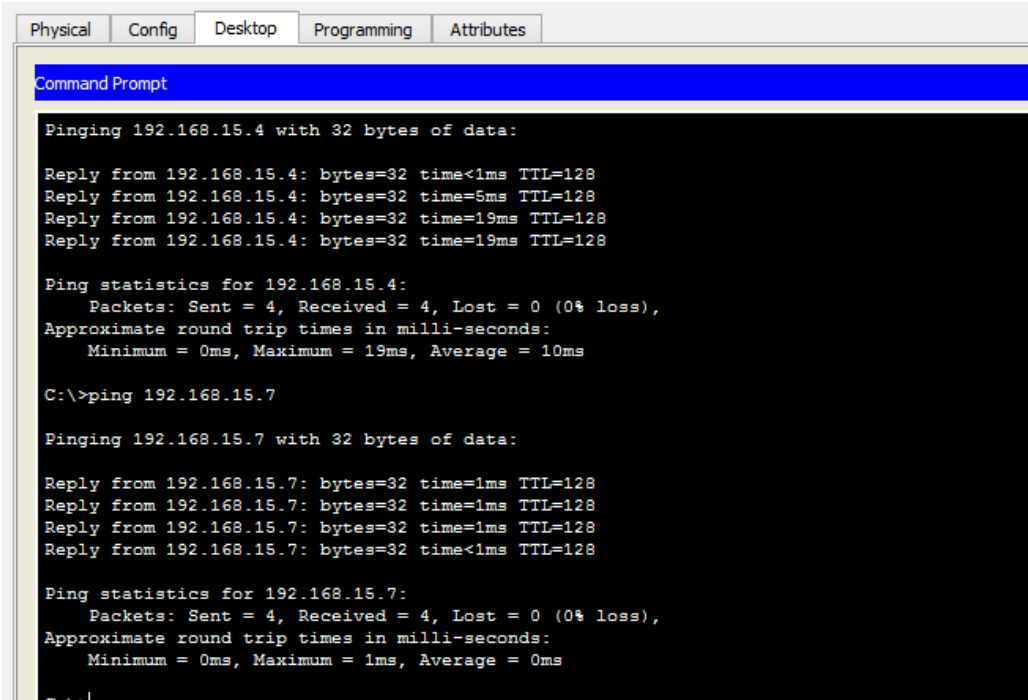
C:\>ping 192.168.15.9

Pinging 192.168.15.9 with 32 bytes of data:

Reply from 192.168.15.9: bytes=32 time<1ms TTL=128
Reply from 192.168.15.9: bytes=32 time=2ms TTL=128
Reply from 192.168.15.9: bytes=32 time<1ms TTL=128
Reply from 192.168.15.9: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.15.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

```



The screenshot shows a Windows-style window with tabs labeled 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The window has a blue title bar and a black background with white text. The text shows two ping commands being executed. The first command is 'ping 192.168.15.4', which returns four replies with varying times (1ms, 5ms, 19ms, 19ms) and a TTL of 128. The statistics for this ping show 4 packets sent and received, 0% loss, and an average round trip time of 10ms. The second command is 'ping 192.168.15.7', which returns four replies, all with a time of 1ms and a TTL of 128. The statistics for this ping show 4 packets sent and received, 0% loss, and an average round trip time of 0ms.

```
Physical Config Desktop Programming Attributes
Command Prompt

Pinging 192.168.15.4 with 32 bytes of data:

Reply from 192.168.15.4: bytes=32 time<1ms TTL=128
Reply from 192.168.15.4: bytes=32 time=5ms TTL=128
Reply from 192.168.15.4: bytes=32 time=19ms TTL=128
Reply from 192.168.15.4: bytes=32 time=19ms TTL=128

Ping statistics for 192.168.15.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 19ms, Average = 10ms

C:\>ping 192.168.15.7

Pinging 192.168.15.7 with 32 bytes of data:

Reply from 192.168.15.7: bytes=32 time=1ms TTL=128
Reply from 192.168.15.7: bytes=32 time=1ms TTL=128
Reply from 192.168.15.7: bytes=32 time=1ms TTL=128
Reply from 192.168.15.7: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.15.7:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```