LAPORAN PRAKTIKUM
RANCANG BANGUN JARINGAN KOMPUTER
PMI 1411
Minggu 5

Oleh:

Nama: Lulu Hidayah

NPM : 21753020

Dosen Pengampu:

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D3 MANAJEMEN INFORMATIKA

POLITENIK NEGERI LAMPUNG

2023

KATA PENGHANTAR

Pertama-tama puji syukur saya ucapkan atas kehadirat Allah Subhanahu wata'ala, karena dengan rahmat dan karunia-Nya lah kami masih diberi kesempatan untuk menyelesaikan laporan praktikum ini.

Tidak lupa saya ucapkan terima kasih kepada Bapak Imam Asrowardi, S.Kom., M.Kom selaku dosen pada mata kuliah Rancang Bnagun Jaringan Komputer dan teman-teman semua yang memberi dukungan dalam menyelesaikan laporan praktikum ini. Saya menyadari dalam penulian laporan ini masih banyak kekurangan.

Oleh sebab itu, saya mengharapkan kritik dan saran untuk bahan pertimbangan perbaikan laporan dan semoga dengan selesainya laporan ini dapat bermanfaat bagi pembaca dan teman-teman. Aamiin.

Demikian yang dapat kami paparkan dalam laporan praktikum ini jika ada kata yang kurang berkenan mohon dimaafkan, sekian dan terimakasih.

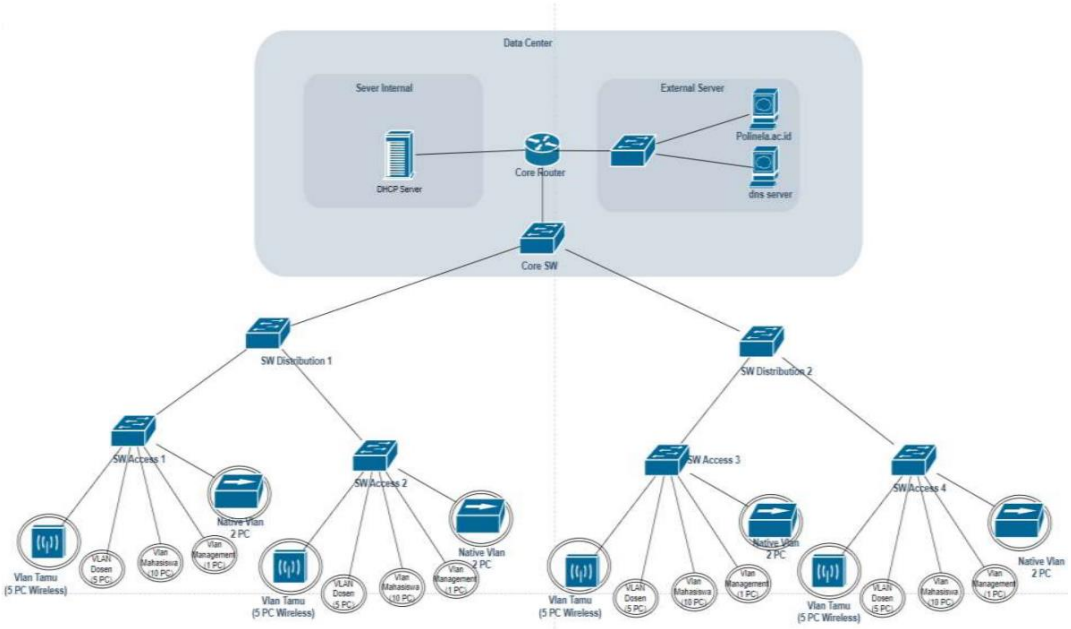
Bandar Lampung, 20 Maret 2023

Penyusun

Lulu Hidayah

Membuat Topologi dan memberikan kabel sesuai dengan device/perangkat

- Kabel cross berfungsi menghubungkan 2 perangkat yang sama, contohnya menghubungkan PC ke PC, laptop ke laptop, Switch ke Switch, dan lain sebagainya.
- Kabel straight digunakan untuk membentuk hubungan antarperangkat yang berbeda, seperti perangkat komputer dengan hub, komputer dengan switch, switch dengan router ataupun router dengan hub.



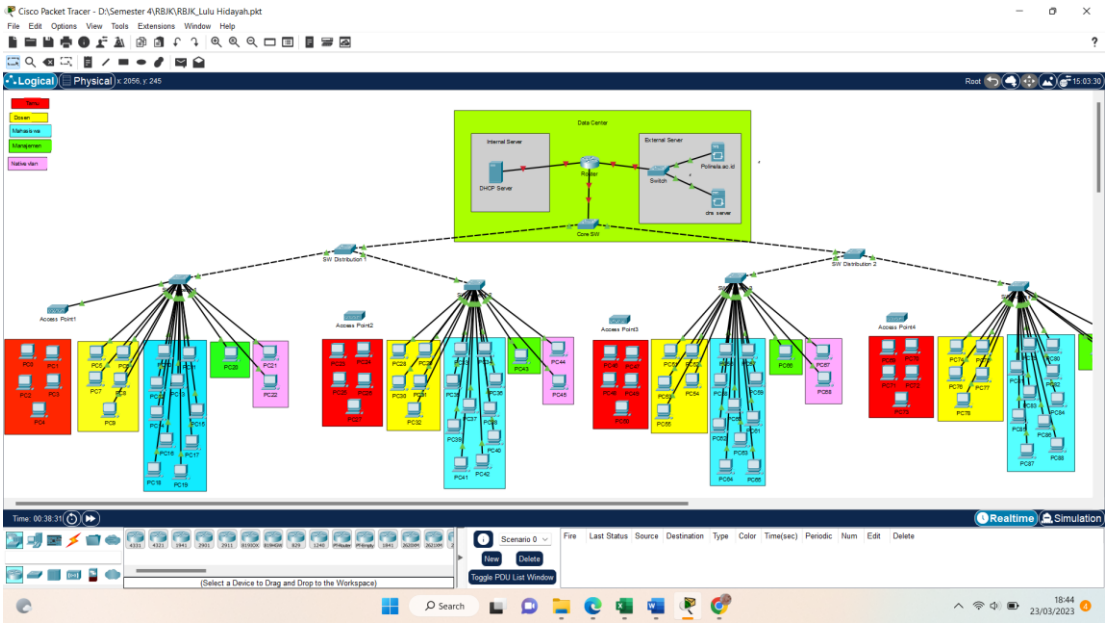
Dan disini terdapat 3 Gedung

1. Gedung Data Center
   Pada Gedung data center terdapat Server Internal (DHCP Server), Core Router, Core SW dan External Server (Polinela.ac.id dan dns server).

2. Gedung A
   Pada Gedung A terdapat SW Distribution1, SW Access, SW Access2, Access Point1 dan Access Point2
   - SW Access1 Terdapat: Vlan Tamu (5 Pc Wirelless), Vlan Dosen (5 PC), Vlan Mahasiswa (10 PC), Vlan Management (1 PC), dan Native Vlan (2 Pc).
     Dengan Keterangan warna pada paket tracer: Merah= Dosen, Kuning= Tamu, Biru=Mahasiswa, Hijau= Manajemen, Ungu=Native vlan.
   - SW Access2 Terdapat: Vlan Tamu (5 Pc Wirelless), Vlan Dosen (5 PC), Vlan Mahasiswa (10 PC), Vlan Management (1 PC), dan Native Vlan (2 Pc).
     Dengan Keterangan warna pada paket tracer: Merah= Dosen, Kuning= Tamu, Biru=Mahasiswa, Hijau= Manajemen, Ungu=Native vlan.
   - Access Point adalah perangkat keras jaringan komputer yang menghubungkan piranti *nirkabel* (tanpa kabel) dengan jaringan lokal menggunakan teknologi seperti *wifi, bluetooth, wireless*, dan lain sebagainya.

3. Gedung B
   Pada Gedung B terdapat SW Distribution2, SW Access3, SW Access4, Access Point3 dan Access Point4

   - SW Access3 Terdapat: Vlan Tamu (5 Pc Wirelless), Vlan Dosen (5 PC), Vlan Mahasiswa (10 PC), Vlan Management (1 PC), dan Native Vlan (2 Pc).
     Dengan Keterangan warna pada paket tracer: Merah= Dosen, Kuning= Tamu, Biru=Mahasiswa, Hijau= Manajemen, Ungu=Native vlan.
   - SW Access4 Terdapat: Vlan Tamu (5 Pc Wirelless), Vlan Dosen (5 PC), Vlan Mahasiswa (10 PC), Vlan Management (1 PC), dan Native Vlan (2 Pc).
     Dengan Keterangan warna pada paket tracer: Merah= Dosen, Kuning= Tamu, Biru=Mahasiswa, Hijau= Manajemen, Ungu=Native vlan.
   - Access Point adalah perangkat keras jaringan komputer yang menghubungkan piranti *nirkabel* (tanpa kabel) dengan jaringan lokal menggunakan teknologi seperti *wifi, bluetooth, wireless*, dan lain sebagainya.



Addressing table

Nama : Lulu Hidayah
Kelas : MI 4A

Subnet Name	Needed Size	Allocated Size	Address	Mask	Dec Mask	Assignable Range	Broadcast
Vlan 10 Mahasiswa	500	510	172.16.0.0	/23	255.255.254.0	172.16.0.1 - 172.16.1.254	172.16.1.255
Vlan 20 Dosen	300	510	172.16.2.0	/23	255.255.254.0	172.16.2.1 - 172.16.3.254	172.16.3.255
Vlan 30 Tamu	100	126	172.16.4.0	/25	255.255.255.128	172.16.4.1 - 172.16.4.126	172.16.4.127
Vlan 1 Native	50	62	172.16.4.128	/26	255.255.255.192	172.16.4.129 - 172.16.4.190	172.16.4.191
Server Farm	20	30	172.16.4.129	/27	255.255.255.224	172.16.4.192 - 172.16.4.254	172.16.4.223
Vlan 40 Manajemen	20	30	172.16.4.224	/27	255.255.255.224	172.16.4.225 - 172.16.1.254	172.16.4.255
External Server (IP Public)	254	254	10.10.10.0	/24	255.255.255.255.0	10.10.10.1 - 10.10.10.254	10.10.10.255

Daftar Kebutuhan Hardware, Software dan jasa

Nama : Lulu Hidayah
Kelas : MI 4A

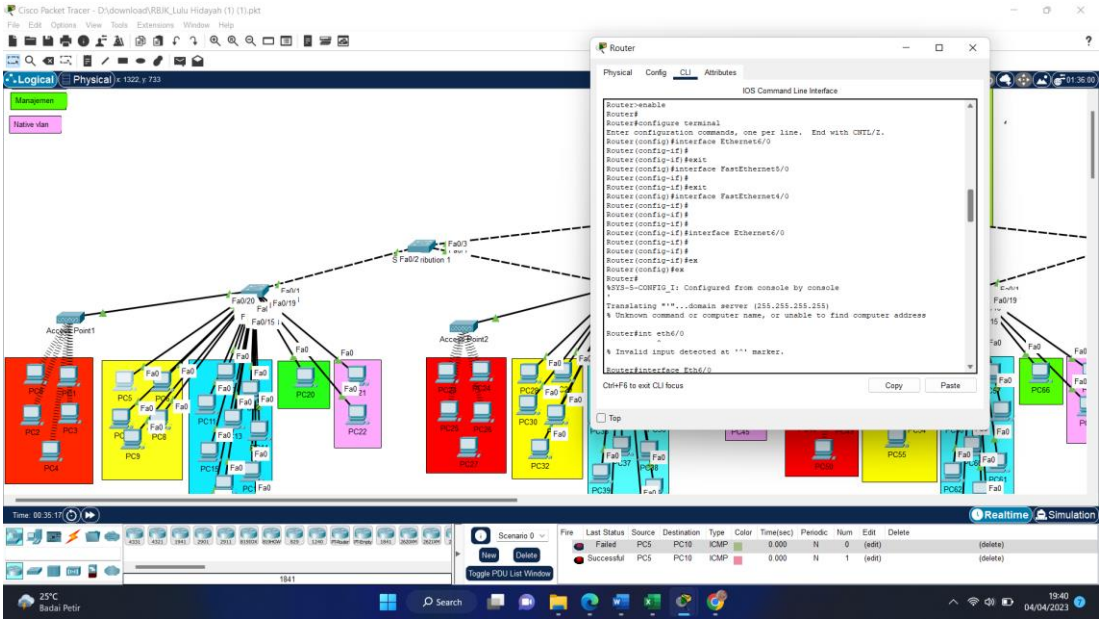
No	Nama Alat	Merk	Sepesifikasi	Satuan	Jumlah Unit	Harga satuan	Jumlah
1	Router	Cisco	ISR 4321 with 2 onboard GE, 2 NIM slots, 1 ISC slot, 4 GB Flash Memory default, 4 GB DRAM default	Unit	1	Rp 27.800.000,00	Rp 27.800.000,00
2	PC	Asus	Core i5, HDD 500GBB, Intel h55 Motherboard, VGA 2GB, USB, LAN	Unit	92	Rp 4.500.000,00	Rp 414.000.000,00
3	Switch	Toto Link	24 Port, LAN Network, 10/100Mbps, RJ45	Unit	7	Rp 415.000,00	Rp 2.905.000,00
4	Access Point	Cisco	Cisco AIR-PWRINJ5= Power Injector (802.3af) for AP 1600, 2600 and 3600 w/o mod	Unit	4	Rp 900.000,00	Rp 3.600.000,00
5	Kabel Lan UTP	ZimmLINK	Cat 5E, 305M, Single Cable, LAN, 24 AWG	Box	3	Rp 450.000	Rp 1.350.000,00
6.	Server	DELL	AM 8GB, SATA 3.5, LAN Port, Serial Port, 1TB SSD, Network FE,GBE	unit	3	Rp 10.000.000	Rp 30.000.000,00
7.	Konektor RJ45	BELDEN	RJ45 Belden, CAT5E, 50Pcs	Box	6	Rp 100.000,00	Rp 600.000,00
8.	Antivirus	smadav	smadav antivirus pro		15	Rp 100.000,00	Rp 1.500.000,00
9.	Pelatihan	Cisco	pelatihan cisco di netcampus dengan weekday class			Rp 5.750.000,00	Rp 5.750.000,00
			Jumlah				Rp 487.505.000,00

Memberikan IP Addresss, Subnet Mask, Default Gateway, dns

- **Dengan melakukan konfigurasi dhcp**

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Ethernet6/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet5/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet4/0
Router(config-if)#
Router(config-if)#
Router(config-if)#
Router(config-if)#interface Ethernet6/0
Router(config-if)#
Router(config-if)#
Router(config-if)#ex
Router(config)#int eth6/0
Router(config-if)#no shutdown
Router(config-if)#ex
Router(config)#int eth6/0.10
Router(config-subif)#encapsulation dot1Q 10
Router(config-subif)#ip address 172.16.0.1 255.255.254.0
Router(config-subif)#ex
Router(config)#ip dhcp pool mahasiswa
Router(dhcp-config)#network 172.16.0.0 255.255.254.0
Router(dhcp-config)#default-router 172.16.0.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#ex
Router(config)#interface eth6/0.20
Router(config-subif)#encapsulation dot1Q 20
Router(config-subif)#ip address 172.16.2.1 255.255.254.0
Router(config-subif)#ip dhcp pool dosen
```

Router(dhcp-config)#network 172.16.2.0 255.255.254.0
Router(dhcp-config)#default-router 172.16.2.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#ex
Router(config)#int eth6/0.30
Router(config-subif)#encapsulation dot1Q 30
Router(config-subif)#ip address 172.16.4.1 255.255.255.128
Router(config-subif)#ip dhcp pool tamu
Router(dhcp-config)#network 172.16.4.0 255.255.255.128
Router(dhcp-config)#default-router 172.16.4.1
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#ex
Router(config)#int eth6/0.40
Router(config-subif)#encapsulation dot1Q 40
Router(config-subif)#ip address 172.16.4.225 255.255.255.224
Router(config-subif)#ip dhcp pool manajemen
Router(dhcp-config)#network 172.16.4.224 255.255.255.224
Router(dhcp-config)#default-router 172.16.4.225
Router(dhcp-config)#ex
Router(config)#int eth6/0.50
Router(config-subif)#encapsulation dot1Q 50
Router(config-subif)#ip address 172.16.4.192 255.255.255.192
Bad mask /26 for address 172.16.4.192
Router(config-subif)#encapsulation dot1Q 50
Router(config-subif)#ip address 172.16.4.129 255.255.255.192
% 172.16.4.128 overlaps with Ethernet6/0
Router(config-subif)#ip dhcp pool native
Router(dhcp-config)#network 172.16.4.128 255.255.255.192
Router(dhcp-config)#default-router 172.16.4.129
Router(dhcp-config)#dns-server 8.8.8.8
Router(dhcp-config)#ex



Addresing Table

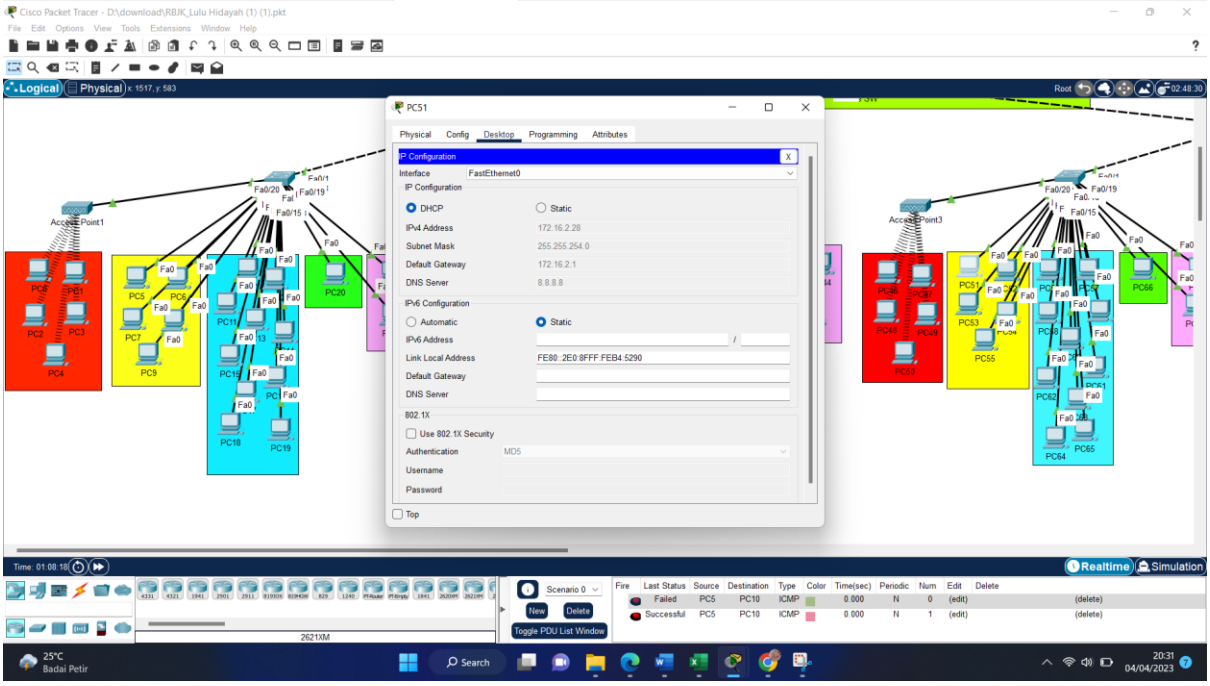
Nama : Lulu Hidayah
Kelas : MI 4A

Merah= Tamu	Hijau= Manajemen
Kuning= Dosen	Ungu= Native
Biru= Mahasiswa	

No	Lokasi	Device/Perangkat	Port Interfase	Keterangan	Ip Address	Netmask	CIDR	Broadcast	Default Gateway	IP DNS
1.	Data Center	DHCP Server	xxxxx	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		Router	eth6/0	xxxxxxx	172.16.4.129	255.255.255.192	/26	172.16.4.191	xxxxxx	xxxxxx
		Switch	xxxxx	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		Polinela.ac.id	xxxxx	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		Dns server	xxxxx	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		Core SW	f0/1-3	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
2.	Gedung A	SW Distribution1	f0/1-3	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		SW Distribution2	f0/1-3	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		SW Access1	f0/1	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		SW Access2	f0/1	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		SW Access3	f0/1	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		SW Access4	F0/1	xxxxxxx	xxxxx	xxxxxxx	xxxx	xxxxxx	xxxxxx	xxxxxx
		PC0	wireless	access point1	172.16.4.2	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC1	wireless	access point1	172.16.4.3	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC2	wireless	access point1	172.16.4.8	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC3	wireless	access point1	172.16.4.21	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC4	wireless	access point1	172.16.4.16	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC5	f0/2	Ke switch1 f0/2	172.16.2.2	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC6	f0/3	Ke switch1 f0/3	172.16.2.10	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC7	f0/4	Ke switch1 f0/4	172.16.2.11	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC8	f0/5	Ke switch1 f0/5	172.16.2.24	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC9	f0/6	Ke switch1 f0/6	172.16.2.25	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC10	f0/7	ke switch1 f0/7	172.16.0.2	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC10	f0/7	ke switch1 f0/7	172.16.0.2	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC11	f0/8	ke switch1 f0/8	172.16.0.4	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC12	f0/9	ke switch1 f0/9	172.16.0.3	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC13	f0/10	ke switch1 f0/10	172.16.0.5	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC14	f0/11	ke switch1 f0/11	172.16.0.6	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC15	f0/12	ke switch1 f0/12	172.16.0.15	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC16	f0/13	ke switch1 f0/13	172.16.0.8	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC17	f0/14	ke switch1 f0/14	172.16.0.9	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC18	f0/15	ke switch1 f0/15	172.16.0.10	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC19	f0/16	ke switch1 f0/16	172.16.0.11	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC20	f0/17	ke switch1 f0/17	172.16.4.229	255.255.255.224	/27	172.16.4.255	172.16.4.225	xxxxxx
		PC21	f0/18	ke switch1 f0/18	172.16.4.137	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
		PC22	f0/19	ke switch1 f0/19	172.16.4.138	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
		PC23	wireless	ke switch2 wireles	172.16.4.23	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC24	wireless	ke switch2 wireles	172.16.4.24	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC25	wireless	ke switch2 wireles	172.16.4.25	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC26	wireless	ke switch2 wireles	172.16.4.26	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC27	wireless	ke switch2 wireles	172.16.4.27	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC28	f0/2	ke switch2 f0/2	172.16.2.3	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC29	f0/3	ke switch2 f0/3	172.16.2.4	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC30	f0/4	ke switch2 f0/4	172.16.2.26	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC31	f0/5	ke switch2 f0/5	172.16.2.26	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC32	f0/6	ke switch2 f0/6	172.16.2.27	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC33	f0/7	ke switch2 f0/7	172.16.0.12	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC34	f0/8	ke switch2 f0/8	172.16.0.13	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC35	f0/9	ke switch2 f0/9	172.16.0.14	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC36	f0/10	ke switch2 f0/10	172.16.0.15	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC37	f0/11	ke switch2 f0/11	172.16.0.16	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC38	f0/12	ke switch2 f0/12	172.16.0.17	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC39	f0/13	ke switch2 f0/13	172.16.0.18	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC40	f0/14	ke switch2 f0/14	172.16.0.19	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC41	f0/15	ke switch2 f0/15	172.16.0.20	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC42	f0/16	ke switch2 f0/16	172.16.0.21	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC43	f0/17	ke switch2 f0/17	172.16.4.230	255.255.255.224	/27	172.16.4.255	172.16.4.225	xxxxxx
		PC44	f0/18	ke switch2 f0/18	172.16.4.139	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
		PC45	f0/19	ke switch2 f0/19	172.16.4.140	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
	Gedung B	PC46	wireless	ke switch3 wireles	172.16.4.28	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC47	wireless	ke switch3 wireles	172.16.4.29	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC48	wireless	ke switch3 wireles	172.16.4.30	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC49	wireless	ke switch3 wireles	172.16.4.31	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC50	wireless	ke switch3 wireles	172.16.4.32	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
		PC51	f0/2	ke switch3 f0/2	172.16.2.28	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC52	f0/3	ke switch3 f0/3	172.16.2.29	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC53	f0/4	ke switch3 f0/4	172.16.2.30	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC54	f0/5	ke switch3 f0/5	172.16.2.31	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC55	f0/6	ke switch3 f0/6	172.16.2.32	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
		PC56	f0/7	ke switch3 f0/7	172.16.0.22	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC57	f0/8	ke switch3 f0/8	172.16.0.23	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC58	f0/9	ke switch3 f0/9	172.16.0.24	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC59	f0/10	ke switch3 f0/10	172.16.0.25	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC60	f0/11	ke switch3 f0/11	172.16.0.26	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC61	f0/12	ke switch3 f0/12	172.16.0.27	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC62	f0/13	ke switch3 f0/13	172.16.0.28	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC63	f0/14	ke switch3 f0/14	172.16.0.29	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC64	f0/15	ke switch3 f0/15	172.16.0.30	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC65	f0/16	ke switch3 f0/16	172.16.0.31	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
		PC66	f0/17	ke switch3 f0/17	172.16.4.231	255.255.255.224	/27	172.16.4.255	172.16.4.225	xxxxxx
		PC67	f0/18	ke switch3 f0/18	172.16.4.141	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
		PC68	f0/19	ke switch3 f0/19	172.16.4.142	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
		PC69	wireless	ke switch4 wireles	172.16.4.36	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8

			PC69	wireless	ke switch4 wireles	172.16.4.36	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
			PC70	wireless	ke switch4 wireles	172.16.4.37	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
			PC71	wireless	ke switch4 wireles	172.16.4.38	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
			PC72	wireless	ke switch4 wireles	172.16.4.39	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
			PC73	wireless	ke switch4 wireles	172.16.4.40	255.255.255.128	/25	172.16.4.127	172.16.4.1	8.8.8.8
			PC74	f0/2	ke switch4 f0/2	172.16.2.33	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
			PC75	f0/3	ke switch4 f0/3	172.16.2.34	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
			PC76	f0/4	ke switch4 f0/4	172.16.2.35	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
			PC77	f0/5	ke switch4 f0/5	172.16.2.36	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
			PC78	f0/6	ke switch4 f0/6	172.16.2.23	255.255.254.0	/23	172.16.3.255	172.16.2.1	8.8.8.8
			PC79	f0/7	ke switch4 f0/7	172.16.0.32	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC80	f0/8	ke switch4 f0/8	172.16.0.33	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC81	f0/9	ke switch4 f0/9	172.16.0.34	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC82	f0/10	ke switch4 f0/10	172.16.0.35	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC83	f0/11	ke switch4 f0/11	172.16.0.36	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC84	f0/12	ke switch4 f0/12	172.16.0.37	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC85	f0/13	ke switch4 f0/13	172.16.0.38	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC86	f0/14	ke switch4 f0/14	172.16.0.39	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC87	f0/15	ke switch4 f0/15	172.16.0.40	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC88	f0/16	ke switch4 f0/16	172.16.0.41	255.255.254.0	/23	172.16.1.255	172.16.0.1	8.8.8.8
			PC89	f0/17	ke switch4 f0/17	172.16.4.232	255.255.255.224	/27	172.16.4.255	172.16.4.225	xxxxxx
			PC90	f0/18	ke switch4 f0/18	172.16.4.143	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8
			PC91	f0/19	ke switch4 f0/19	172.16.4.144	255.255.255.192	/26	172.16.4.191	172.16.4.129	8.8.8.8

Device/Perangkat	Port status/ssd	password
Access_Point1	AP1	switch1
Access_Point2	AP2	switch2
Access_Point3	AP3	switch3
Access_Point4	AP4	switch4



Configuration Documentation

Nama : Lulu Hidayah
Kelas : MI 4A

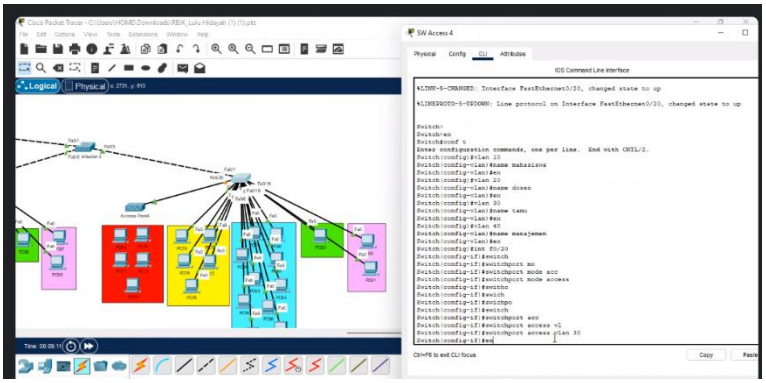
No	Lokasi	Device/Perangkat	Port Interface	IP address	Netmask	Konfigurasi ip address	Keterangan tambahan	Konfigurasi Hostname	
1.		Router	Eth6/0	172.16.4.129	255.255.255.192	Router(config)#int eth6/0 uter(config-subif)#ip address 172.16.4.129 255.255.254.192 Router(config-subif)#ex	perintah yang bisa digunakan diantaranya 1. Sh ip inter brief -- >menampilkan ringkasan singkat interface/antarmuka pada perangkat. Ini berguna untuk memeriksa status perangkat		
2.		Core SW	f0/1-3	172.16.0.1 172.16.2.1 172.16.4.1 172.16.4.129 172.16.4.225	255.255.254.0 255.255.254.0 255.255.255.128 255.255.255.192 255.255.255.224		Switch(config)#int range f0/1-3 Switch(config-if-range)#swit Switch(config-if-range)#switchport mode trunk Switch>en Switch#show interfaces Perintah untuk menampilkan status dan parameter yang diset pada interface dari router atau switch.	Switch>en Switch#conf t Switch(config)#vlan 10 Switch(config-vlan)#name mahasiswa Switch(config-vlan)#ex Switch(config)#vlan 20 Switch(config-vlan)#name dosen Switch(config-vlan)#ex Switch(config)#vlan 30 Switch(config-vlan)#name tamu Switch(config-vlan)#ex Switch(config)#vlan 40 Switch(config-vlan)#name manajemen Switch(config-vlan)#ex	
3.		Sw distributation 1 Sw distributation 2	f0/1-3 f0/1-3	172.16.0.1 172.16.2.1 172.16.4.1 172.16.4.129 172.16.4.225	255.255.254.0 255.255.254.0 255.255.255.128 255.255.255.192 255.255.255.224		Switch(config)#int range f0/1-3 Switch(config-if-range)#swit Switch(config-if-range)#switchport mode trunk	Switch>en Switch#conf t Switch(config)#vlan 10 Switch(config-vlan)#name mahasiswa Switch(config-vlan)#ex Switch(config)#vlan 20 Switch(config-vlan)#name dosen Switch(config-vlan)#ex Switch(config)#vlan 30 Switch(config-vlan)#name tamu Switch(config-vlan)#ex Switch(config)#vlan 40	Ket: Trunk memiliki fungsi sebagai penghubung antara dua switch yang telah terkonfigurasi VLAN.Trunk berfungsi sebagai penghubung yang menghubungkan beberapa perangkat dalam satu pusat sehingga lalu lintas data menjadi terarah.

8									Switch(config-vlan)#ex Switch(config)#vlan 40 Switch(config-vlan)#name manajemen Switch(config-vlan)#ex
	4.		Swicth Access 1 Swicth Access 2 Swicth Access 3 Swicth Access 4	F0/20 F0/2-6 F0/7-16 F0/18-19 F0/1			Switch(config)#int f0/20 Switch(config-if)#switchport mode access Switch(config-if)#switchport access vlan 30 Switch(config-if)#ex Switch(config)#int range f0/2-6 Switch(config-if-range)#switchport mode acc Switch(config-if-range)#switchport access vlan 20 Switch(config-if-range)#ex Switch(config)#int range f0/7-16 Switch(config-if-range)#switch Switch(config-if-range)#switchport mode acc Switch(config-if-range)#switchport access vlan 10 Switch(config-if-range)#ex Switch(config)#int f0/17 Switch(config-if)#switchport mode access Switch(config-if)#switchport access vlan 40 Switch(config-if)#ex Switch(config)#int range f0/18-19 Switch(config-if-range)#switchport mode access Switch(config-if-range)#switchport mode trunk Switch(config-if-range)#ex Switch(config)#int f0/1 Switch(config-if)#switchport mode trunk Switch(config-if)#ex		Switch>en Switch#conf t Switch(config)#vlan 10 Switch(config-vlan)#name mahasiswa Switch(config-vlan)#ex Switch(config)#vlan 20 Switch(config-vlan)#name dosen Switch(config-vlan)#ex Switch(config)#vlan 30 Switch(config-vlan)#name tamu Switch(config-vlan)#ex Switch(config)#vlan 40 Switch(config-vlan)#name manajemen Switch(config-vlan)#ex

Disini selanjutnya Konfigurasi

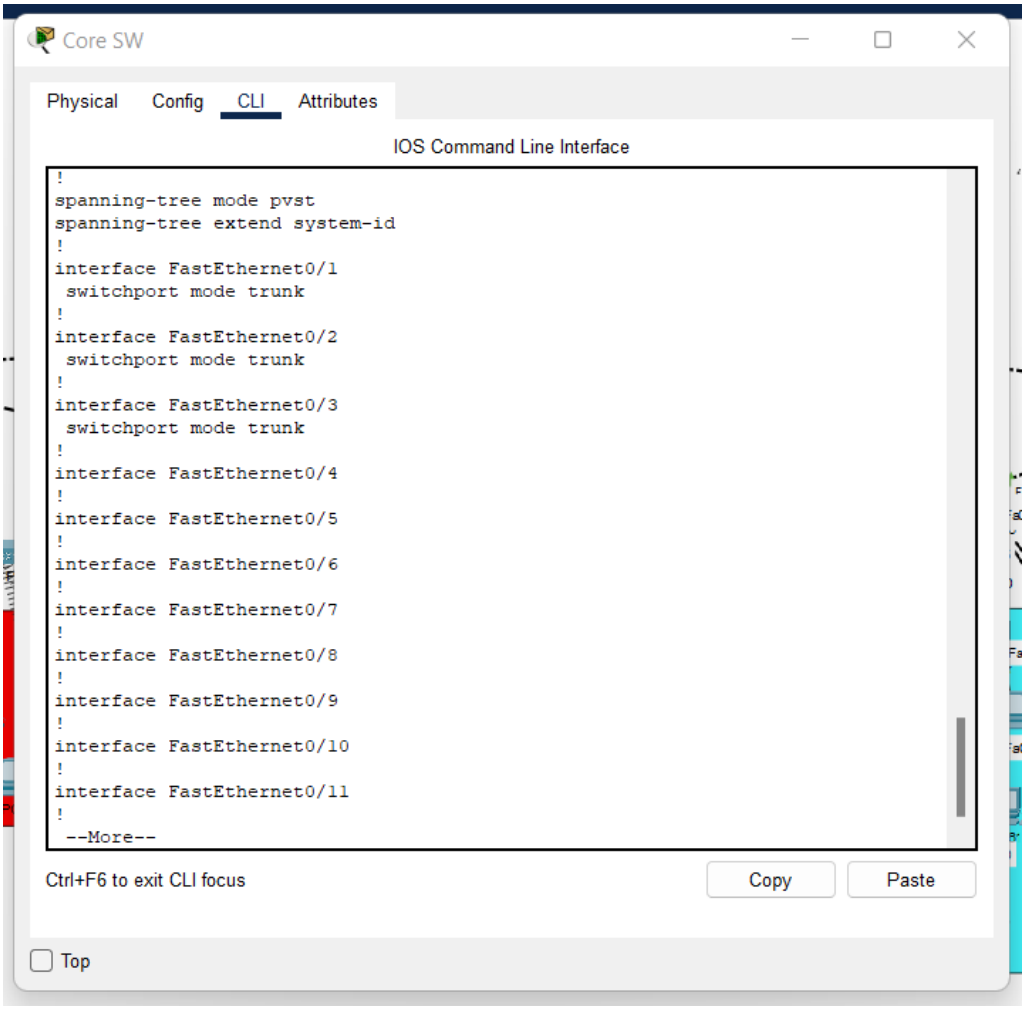
- **Konfigurasi Router**

  Router>en
  Router#conf t
  Enter configuration commands, one per line. End with CNTL/Z.
  Router(config)#int eth06/0
  Router(config-if)#no shu
  Router(config-if)#no shutdown
  Router(config-if)#ex
  Router(config)#int eth6/0.10
  Router(config-subif)#en
  Router(config-subif)#encapsulation dot1q 10
  Router(config-subif)#ip address 172.16.0.1 255.255.254.0
  Router(config-subif)#ex
  Router(config)#int eth6/0.20
  Router(config-subif)#encapsulation dot1q 20
  Router(config-subif)#ip address 172.16.2.1 255.255.254.0
  Router(config-subif)#ex
  Router(config)#int eth6/0.30
  Router(config-subif)#en
  Router(config-subif)#encapsulation dot1Q 30
  Router(config-subif)#ip address 172.16.4.1 255.255.255.128
  Router(config-subif)#ex
  Router(config)#int eth6/0.40
  Router(config-subif)#encapsulation dot1q 40
  Router(config-subif)#ip address 172.16.4.225 255.255.255.224
  Router(config-subif)#ex
  Router(config)#int eth6/0
  Router(config-if)#ip address 172.16.4.129 255.255.255.192
  Router(config-if)#ex
  Router(config)#
  Press RETURN to get started.

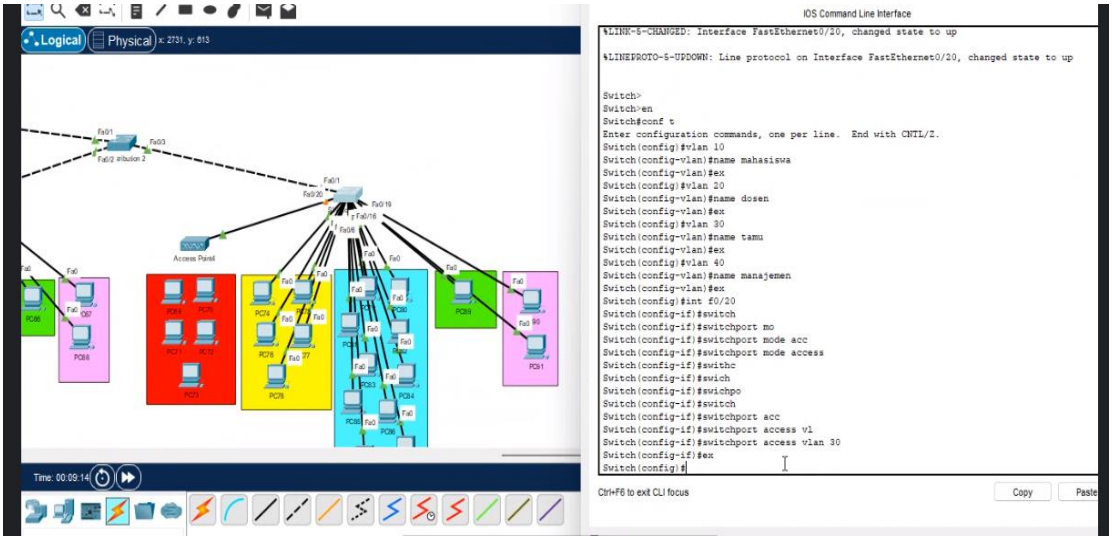


- **Konfigurasi SW CORE**

  Switch>en
  Switch#conf t
  Enter configuration commands, one per line. End with CNTL/Z.
  Switch(config)#vlan 10
  Switch(config-vlan)#name mahasiswa
  Switch(config-vlan)#ex
  Switch(config)#vlan 20
  Switch(config-vlan)#name dosen
  Switch(config-vlan)#ex
  Switch(config)#vlan 30
  Switch(config-vlan)#name tamu
  Switch(config-vlan)#ex
  Switch(config)#vlan 40
  Switch(config-vlan)#name manajemen
  Switch(config-vlan)#ex
  Switch(config)#int range f0/1-3
  Switch(config-if-range)#swit
  Switch(config-if-range)#switchport mode trunk
  Switch(config-if-range)#ex



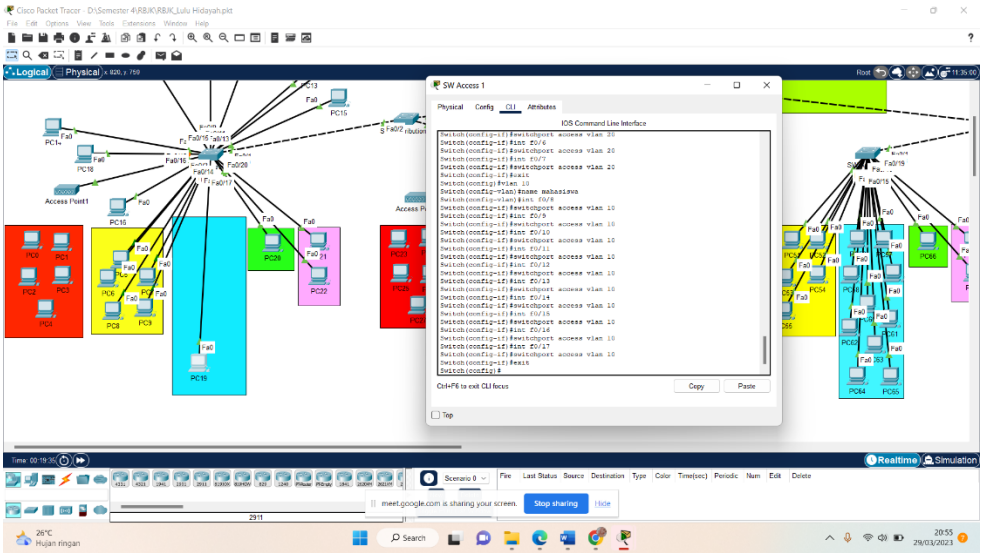
- **Konfigurasi SW Distributation 1 & 2**
  Switch>en
  Switch#conf t
  Enter configuration commands, one per line. End with CNTL/Z.
  Switch(config)#vlan 10
  Switch(config-vlan)#name mahasiswa
  Switch(config-vlan)#ex
  Switch(config)#vlan 20
  Switch(config-vlan)#name dosen
  Switch(config-vlan)#ex
  Switch(config)#vlan 30
  Switch(config-vlan)#name tamu
  Switch(config-vlan)#ex
  Switch(config)#vlan 40
  Switch(config-vlan)#name manajemen
  Switch(config-vlan)#ex
  Switch(config)#int range f0/1-3
  Switch(config-if-range)#switc
  Switch(config-if-range)#switchport mode trunk
  Switch(config-if-range)#



- **Konfigurasi SW access 1,2,3,4**

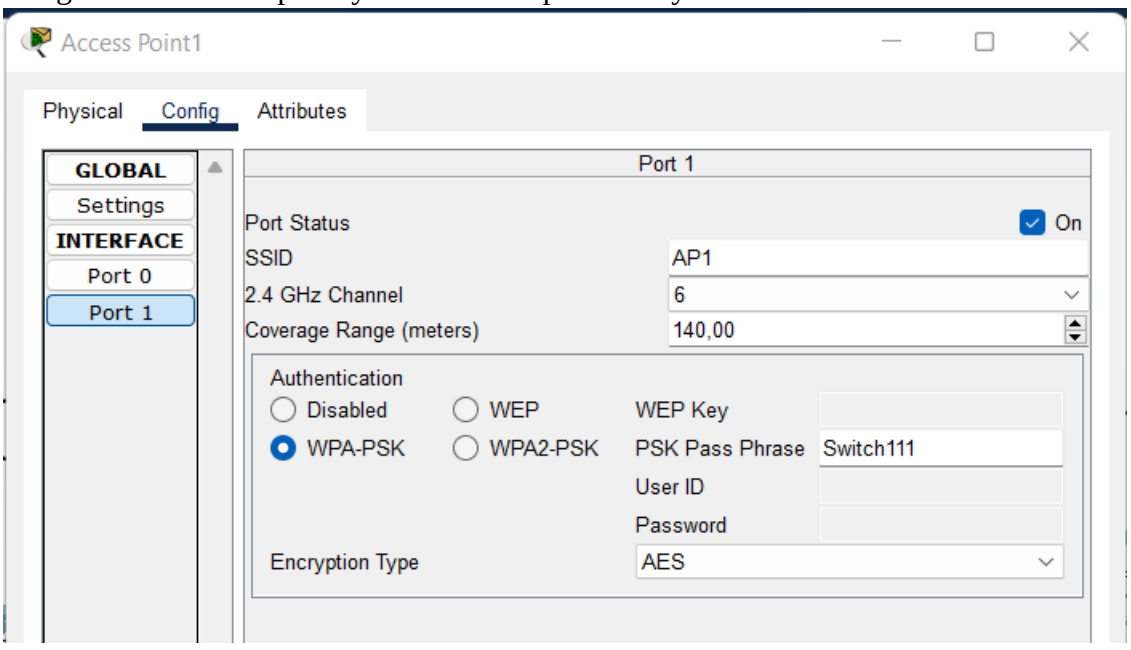
  Switch>en
  Switch#conf t
  Switch(config)#vlan 10
  Switch(config-vlan)#name mahasiswa
  Switch(config-vlan)#ex
  Switch(config)#vlan 20
  Switch(config-vlan)#name dosen
  Switch(config-vlan)#ex
  Switch(config)#vlan 30
  Switch(config-vlan)#name tamu
  Switch(config-vlan)#ex
  Switch(config)#vlan 40
  Switch(config-vlan)#name manajemen
  Switch(config-vlan)#ex
  Switch(config)#int f0/20
  Switch(config-if)#switchport mode access
  Switch(config-if)#switchport access vlan 30
  Switch(config-if)#ex
  Switch(config)#int range f0/2-6
  Switch(config-if-range)#switchport mode access
  Switch(config-if-range)#switchport access vlan 20
  Switch(config-if-range)#ex
  Switch(config)#int range f0/7-16
  Switch(config-if-range)#switchport mode access
  Switch(config-if-range)#switchport mode access vlan 10
  Switch(config-if-range)#switchport access vlan 10
  Switch(config-if-range)#ex
  Switch(config)#int f0/17
  Switch(config-if)#switchport mode access
  Switch(config-if)#switchport access vlan 40
  Switch(config-if)#ex

Switch(config)#int range f0/18-19
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport mode trunk
Switch(config-if-range)#ex
Switch(config)#int f0/1
Switch(config-if)#switchport mode trunk
Switch(config-if)#ex

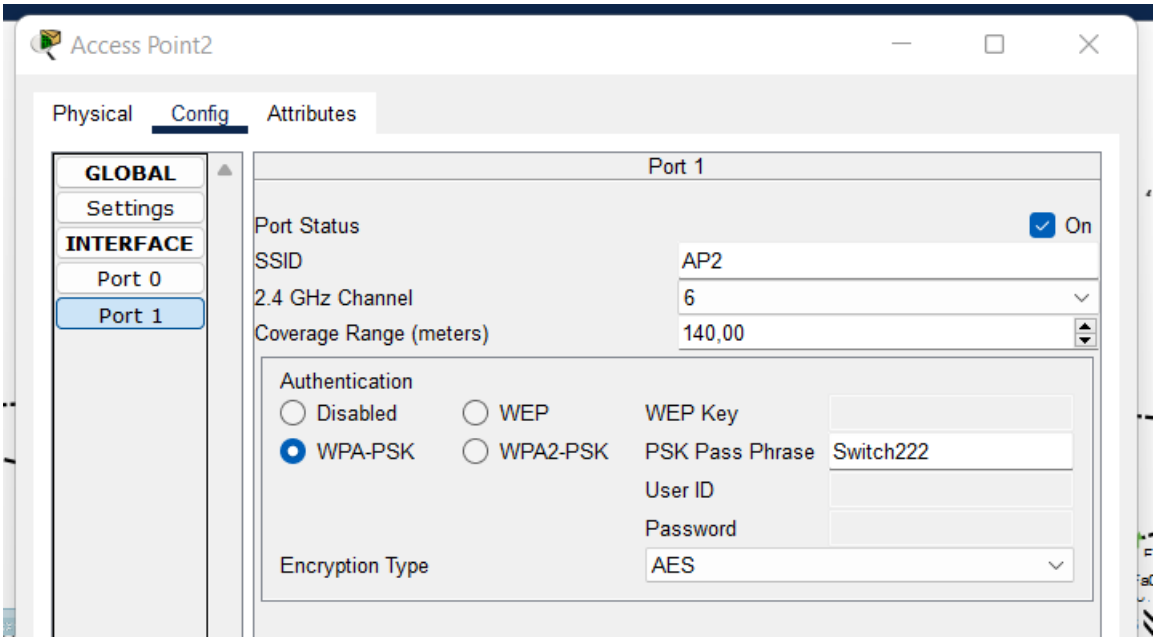


- **Membuat nama dan password pada access point**

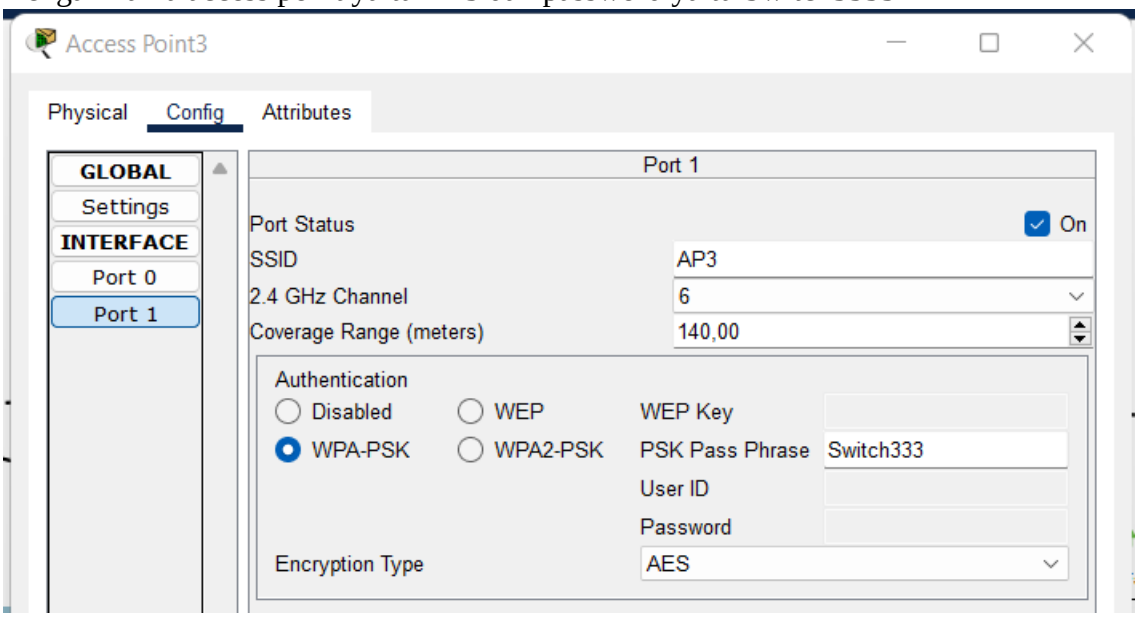
Dengan nama access point yaitu AP1 dan password yaitu Switch1111



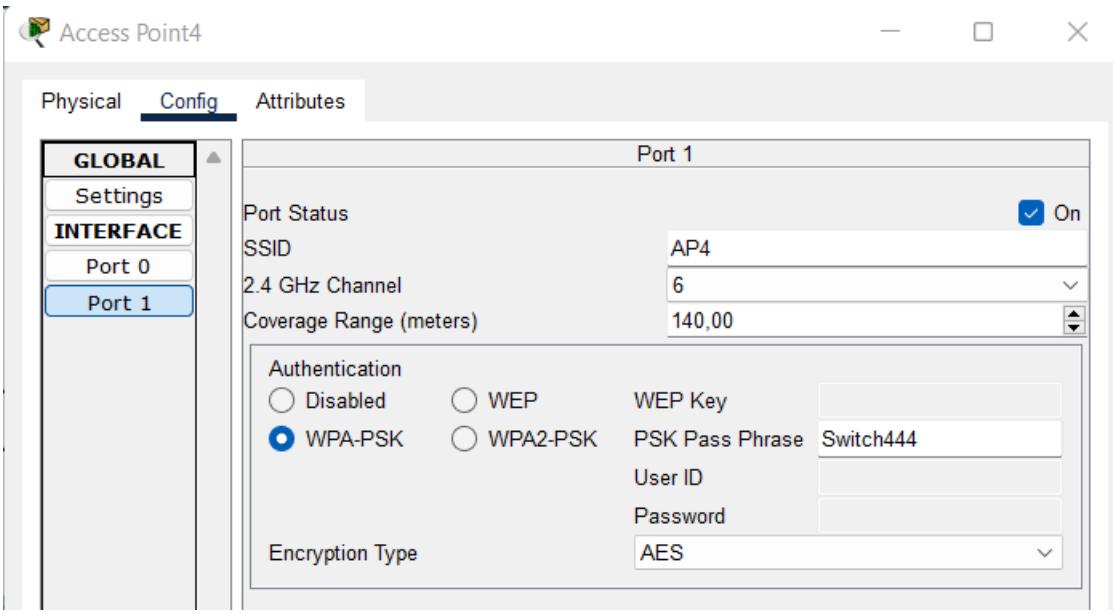
Dengan nama access point yaitu AP2 dan password yaitu Switch2222



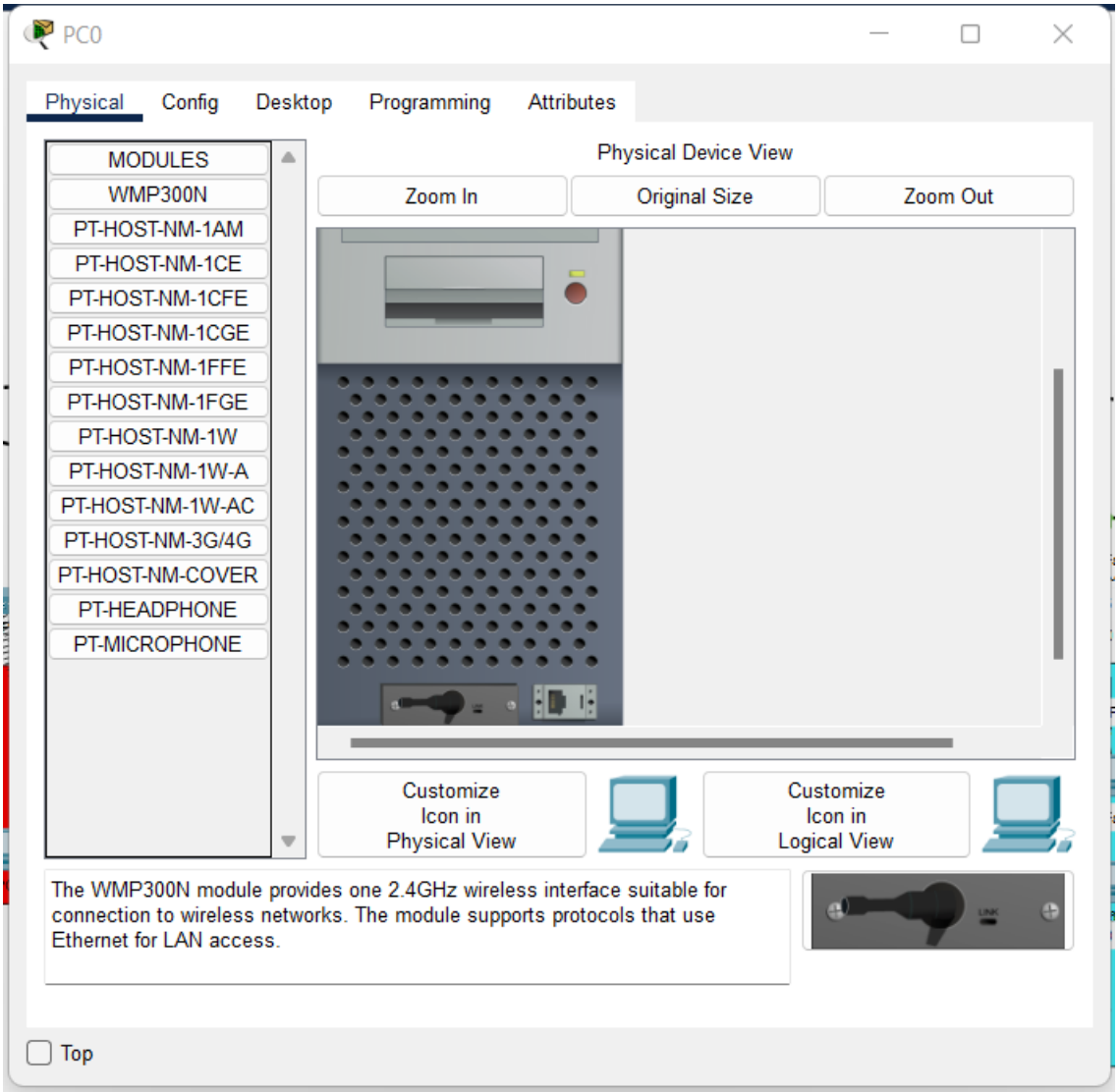
Dengan nama access point yaitu AP3 dan password yaitu Switch3333

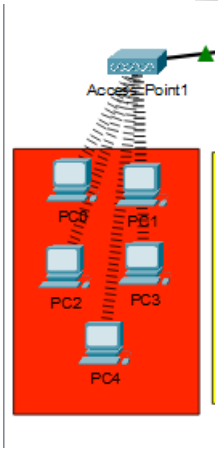


Dengan nama access point yaitu AP3 dan password yaitu Switch3333

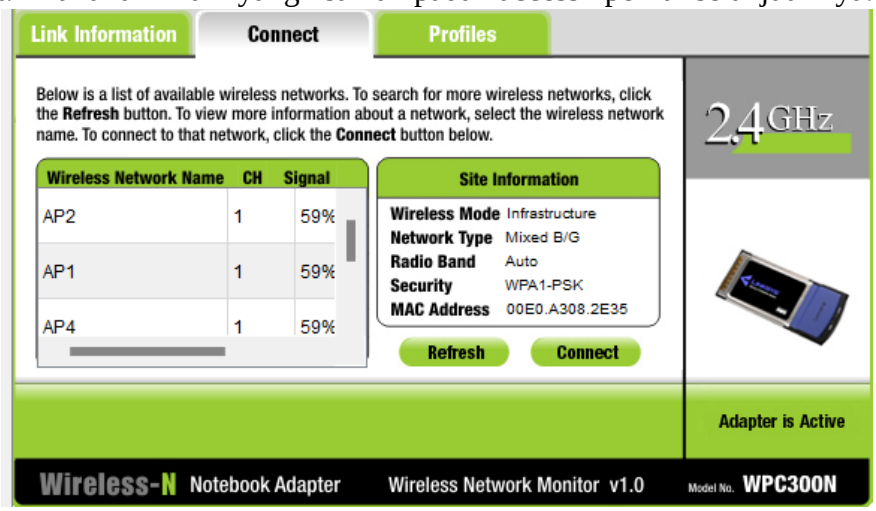


- Kemudian menyambungkan accesspoint ke pc vlan 30 tamu
  Langkah pertama: mengganti port pada PC0-PC4

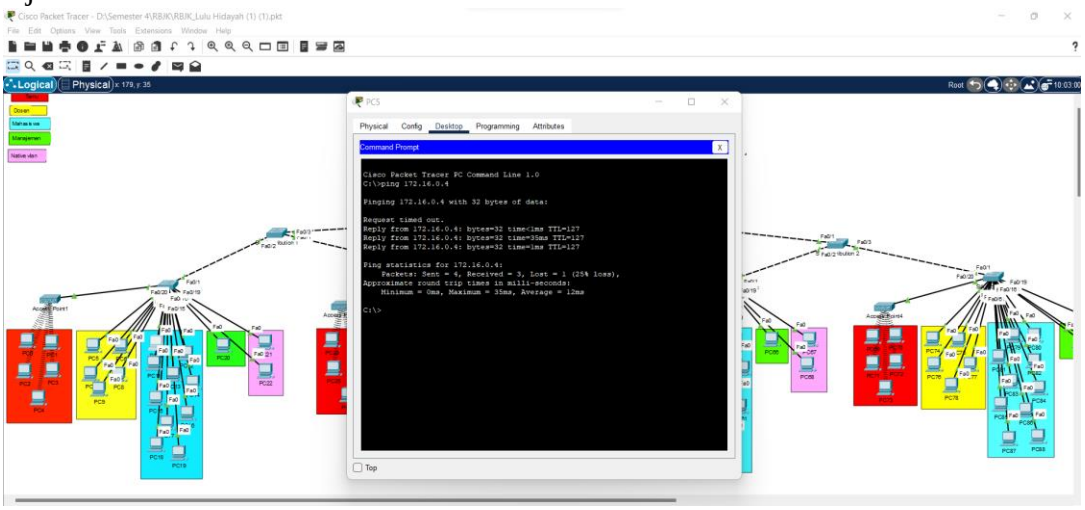




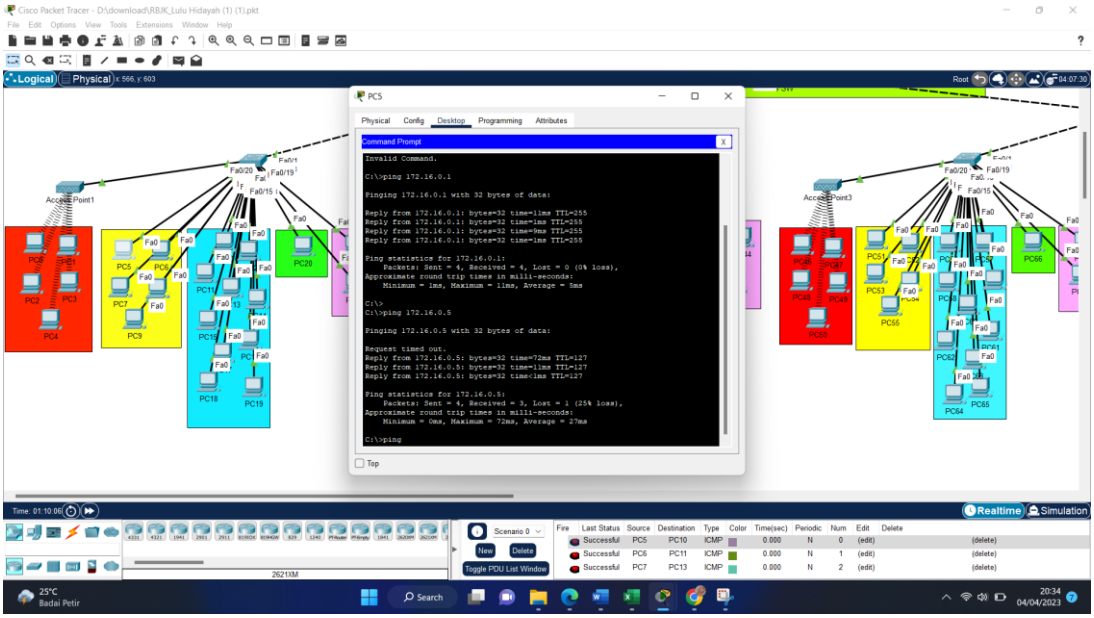
Lalu Langkah selanjutnya: klik desktop > pc wireless > klik connect > pilih Acces point yang di beri nama, missal AP1 > klik > masukkan password > connect. Lakukan hal yang sama pada access point selanjutmnya.



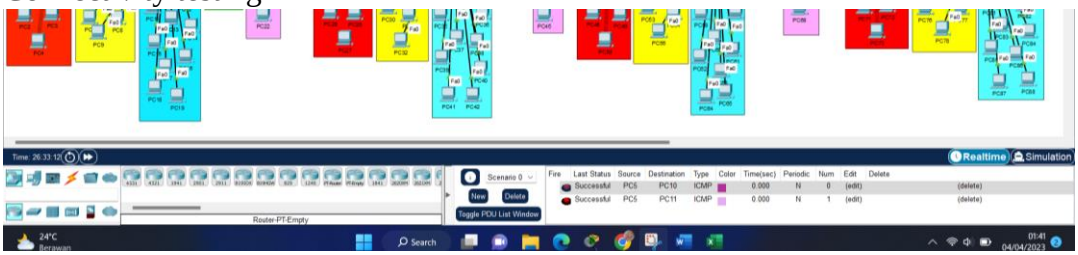
- Uji Konektivitas Vlan Access 2 dari PC5 Dosen ke PC10 Mahasiswa



Dari PC6 ke PC11, Dari PC7 ke PC13
Dan juga uji koneksi: ping 172.16.0.1 dan juga ping 172.16.0.5



- Connectivity testing



Connect Success