E-UTS PRAKTIKUM JARINGAN KOMPUTER

Oleh:

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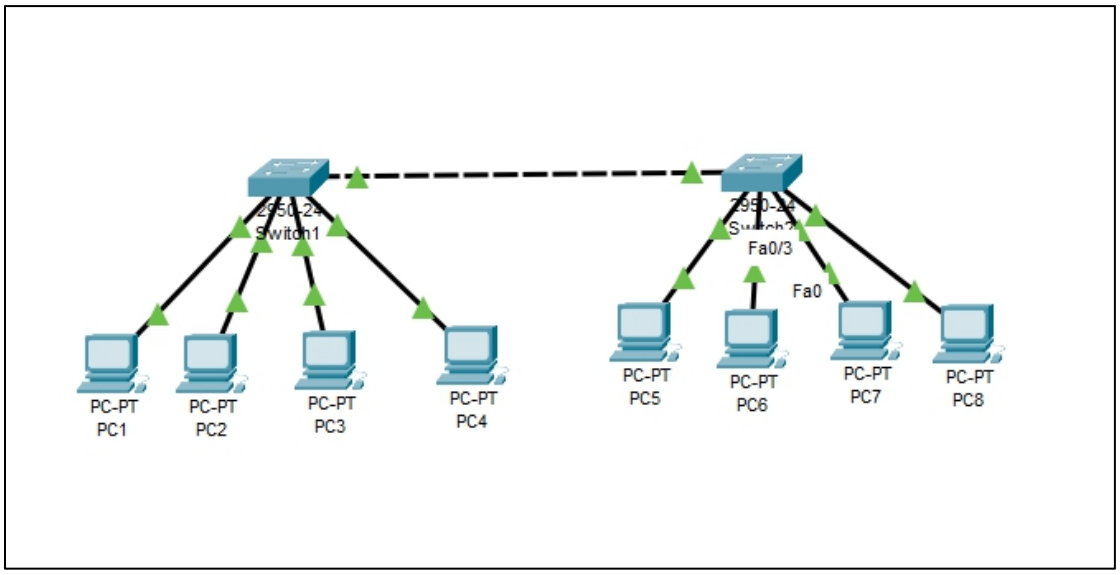
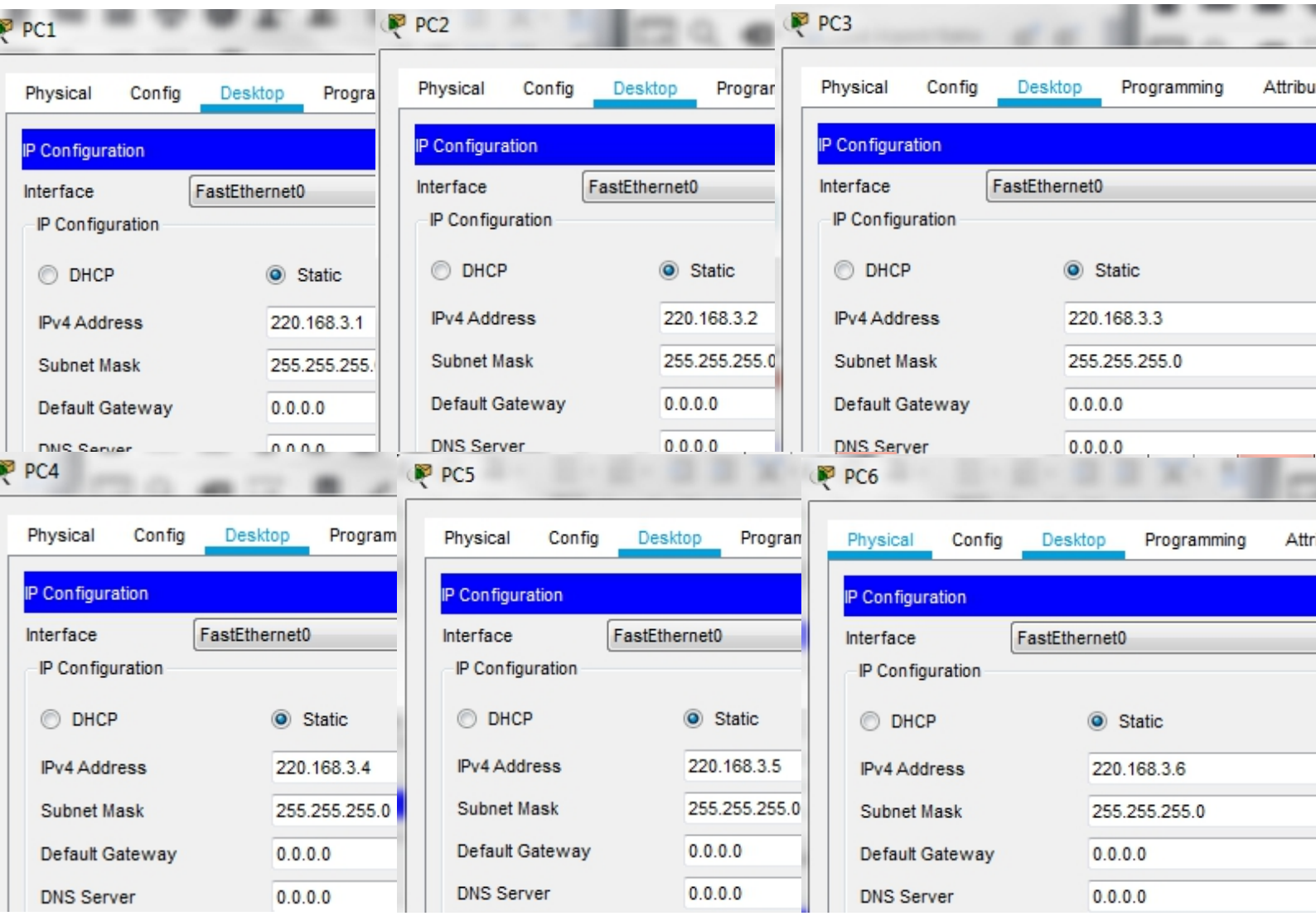
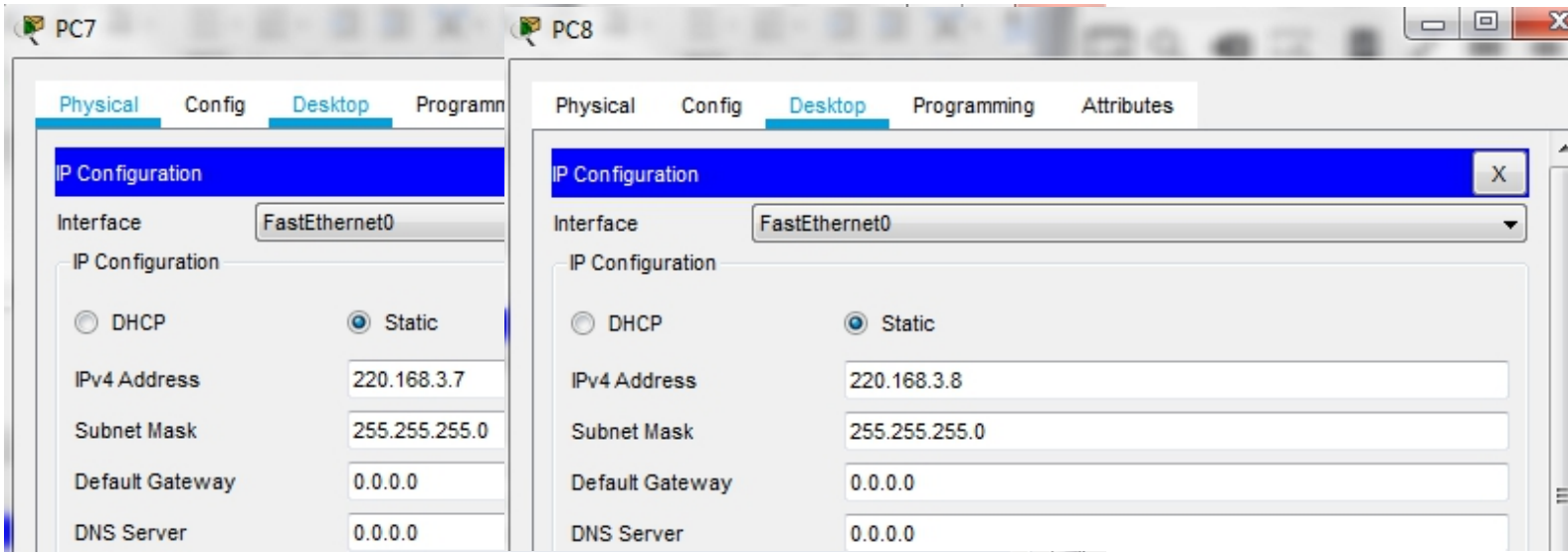
Nomor 1

1. Membuat sebuah jaringan dengan 2 buah switch 2950, dan setiap switch memiliki 4 PC.

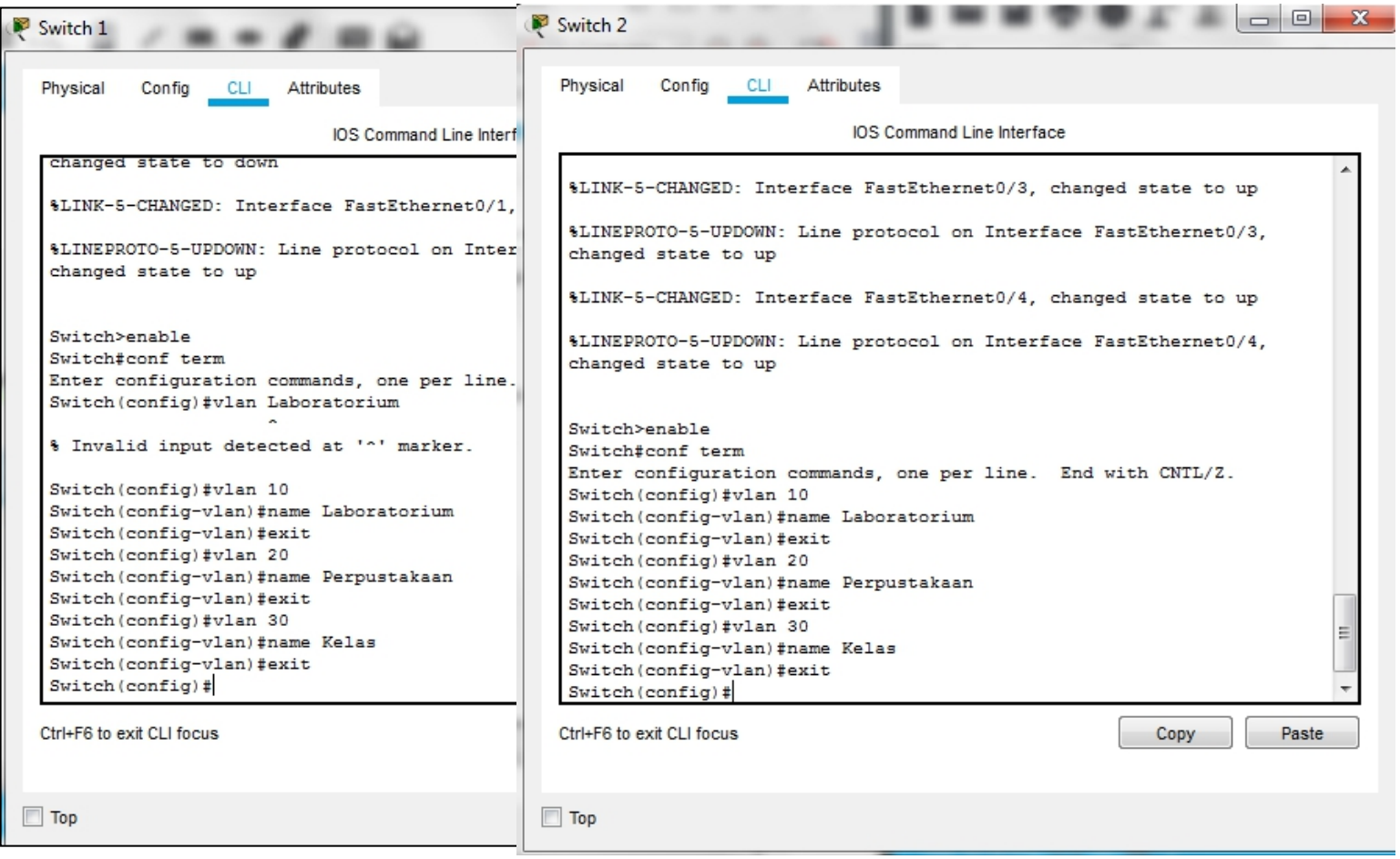


2. Setting alamat IP PC1 sampai PC8.

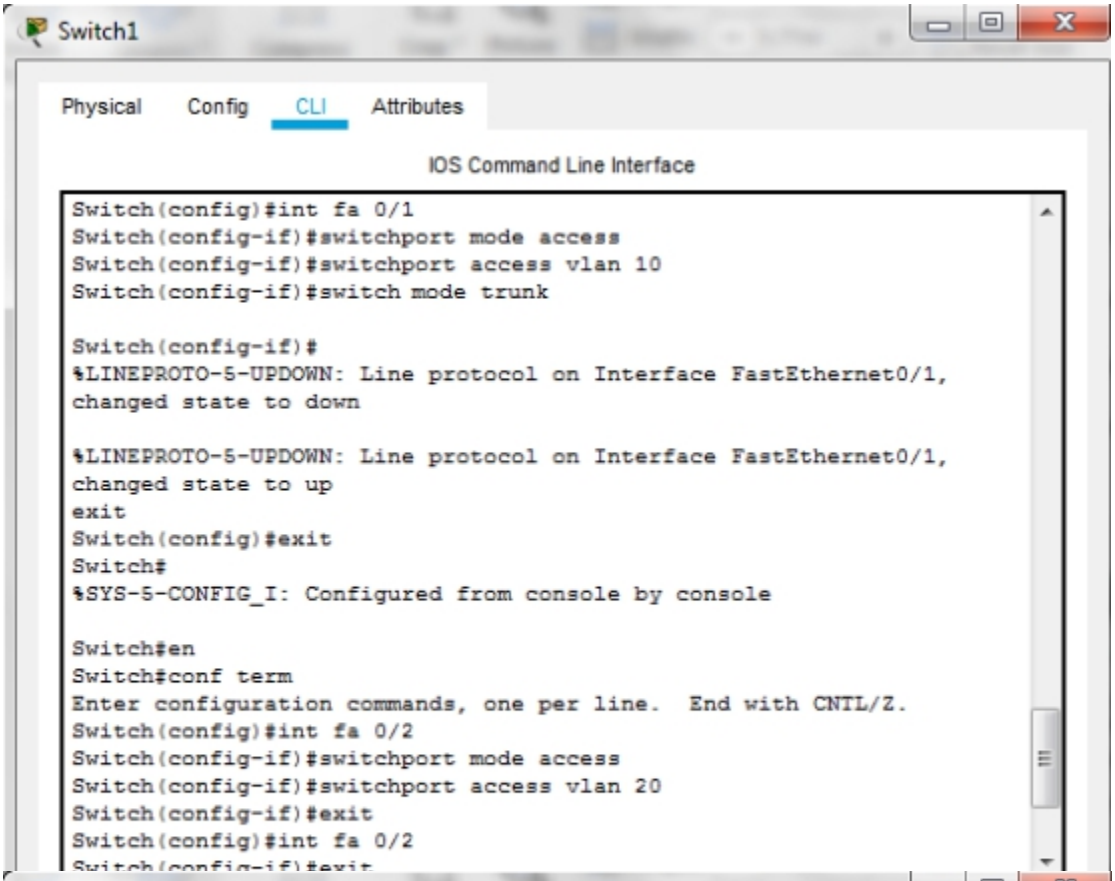


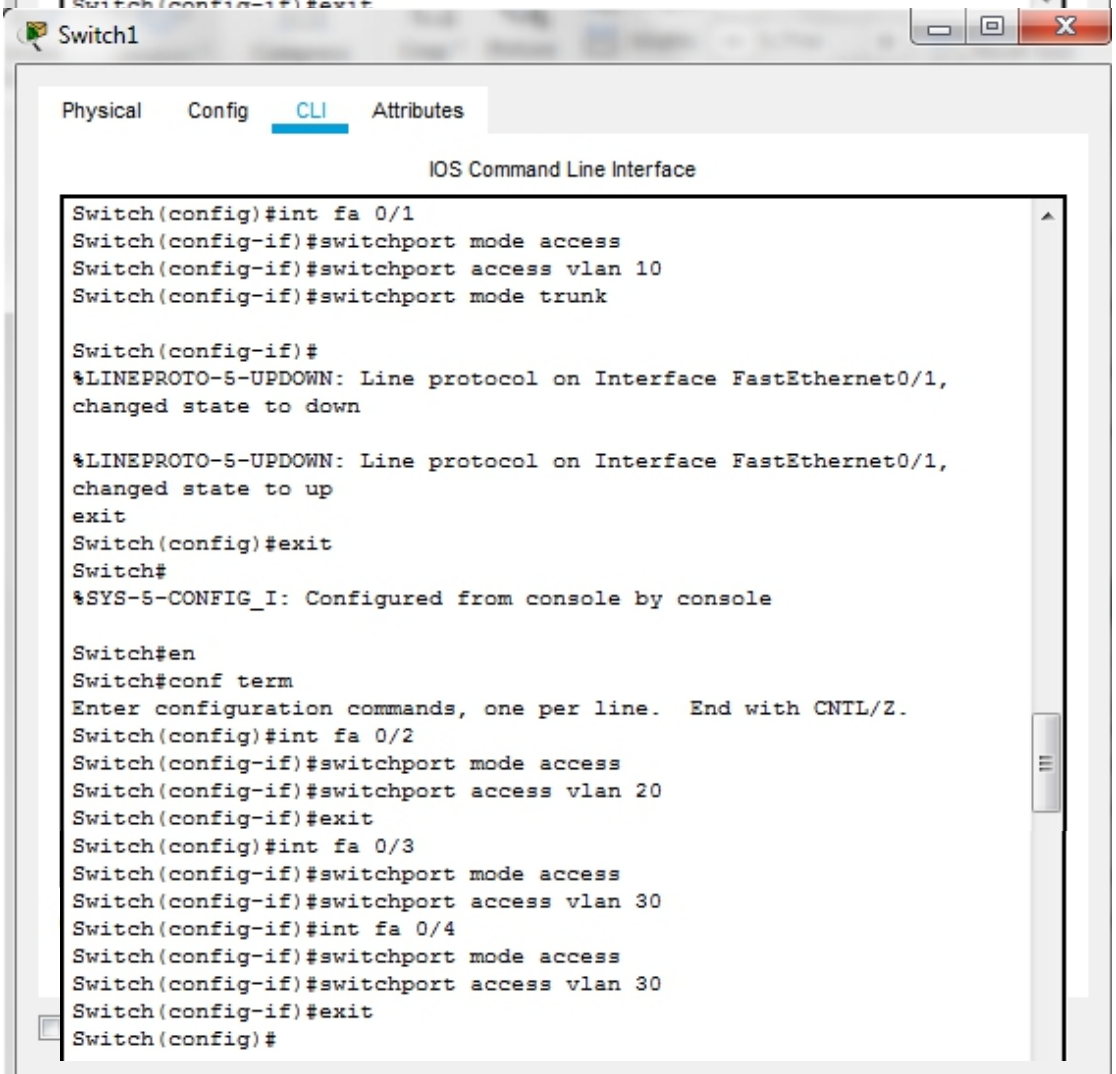


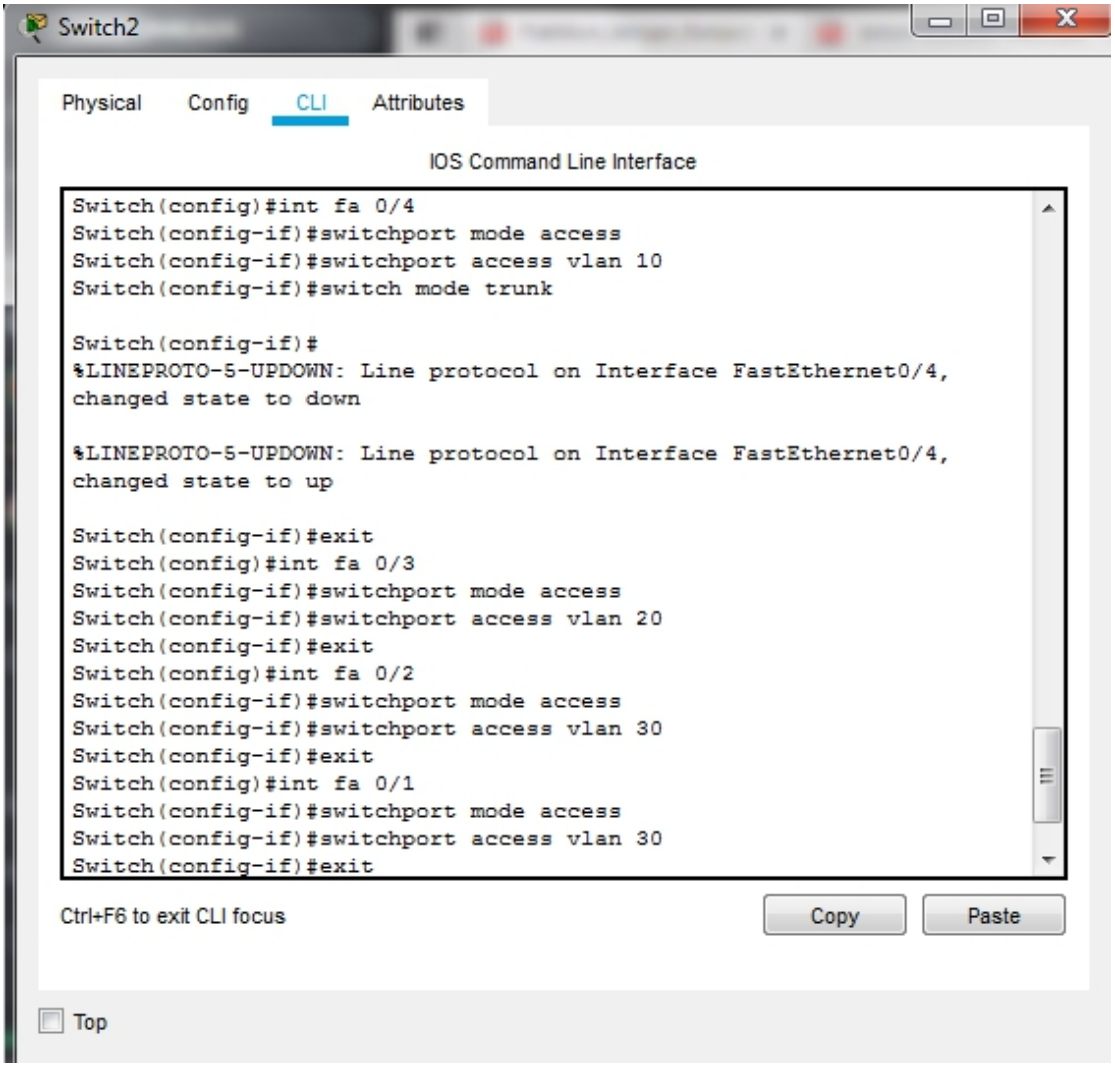
3. Setting vlan Switch1 dan Switch2 dengan memberi nama vlan 10 = Laboratorium, vlan 20 = Perpustakaan, dan vlan 30 = Kelas.



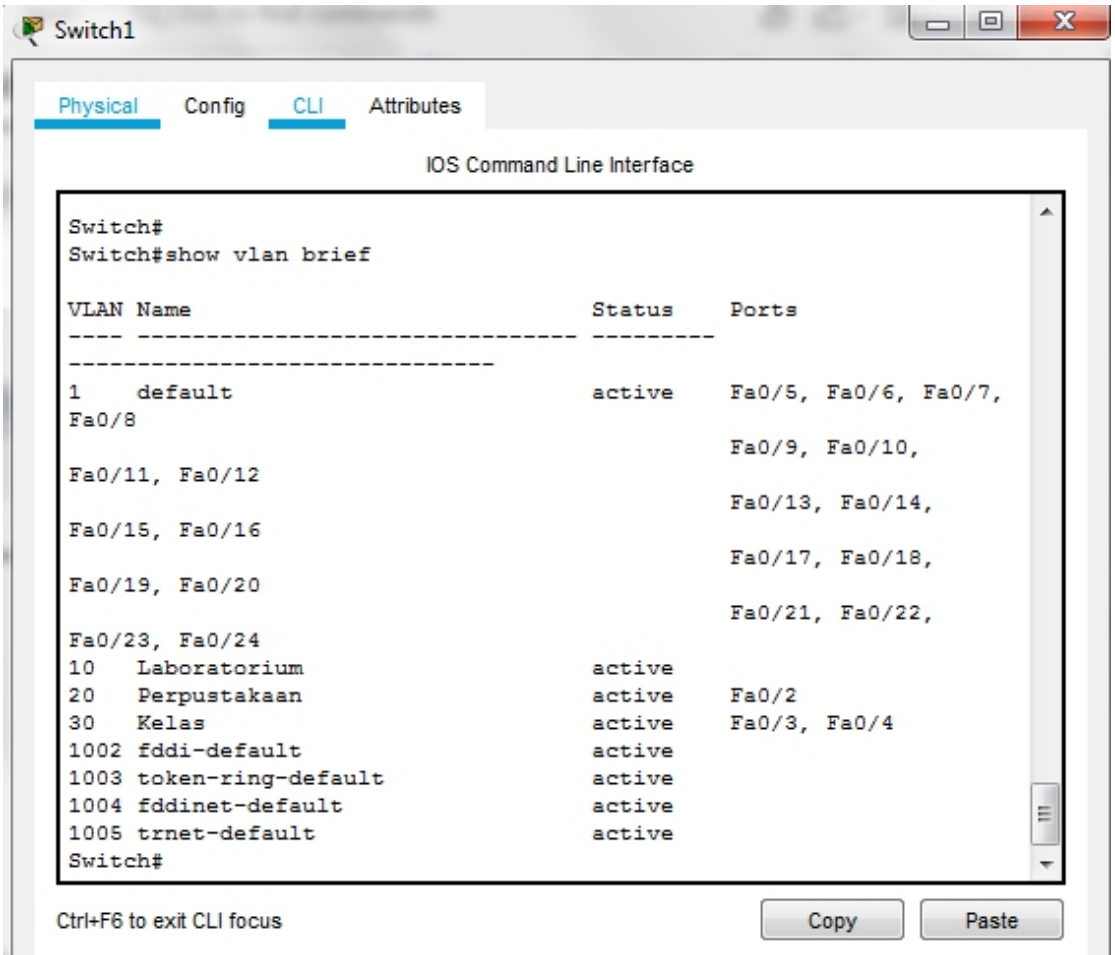
4. Lakukan konfigurasi tiap anggota degan Switch1 = vlan10 anggota PC1, vlan 20 anggota PC2 dan vlan30 anggota PC3 dan PC4, Switch2 = vlan 10 anggota PC8, vlan 20 anggota PC7 dan vlan 30 anggota PC5 dan PC6 dan melakukan trunking.

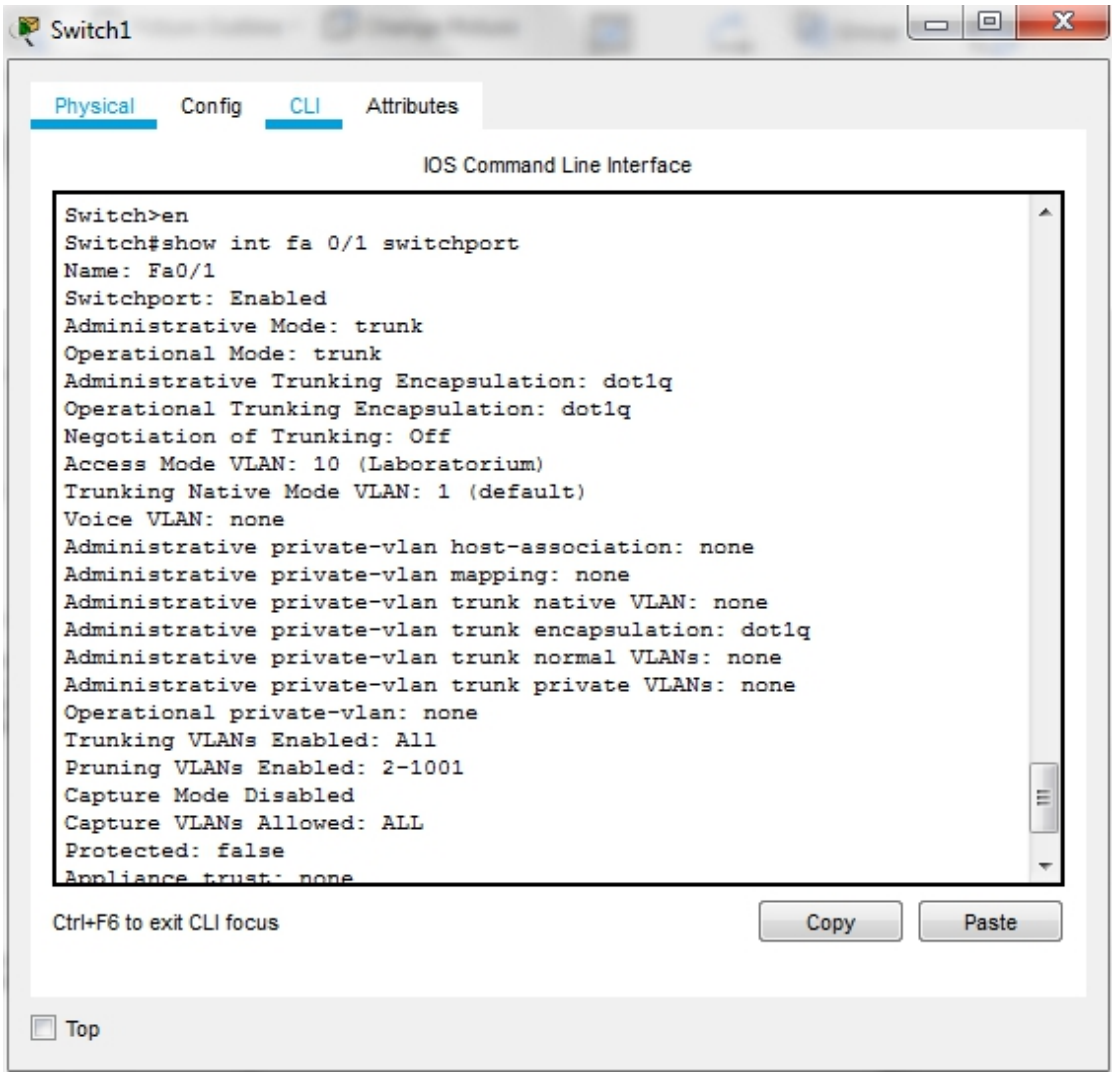


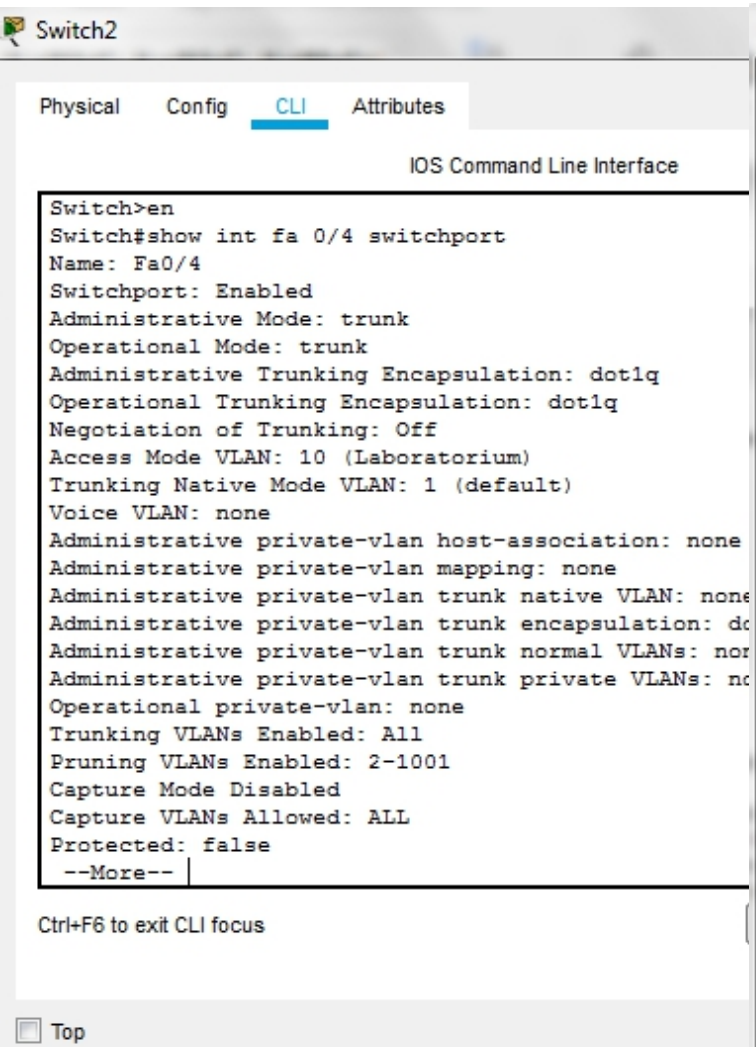


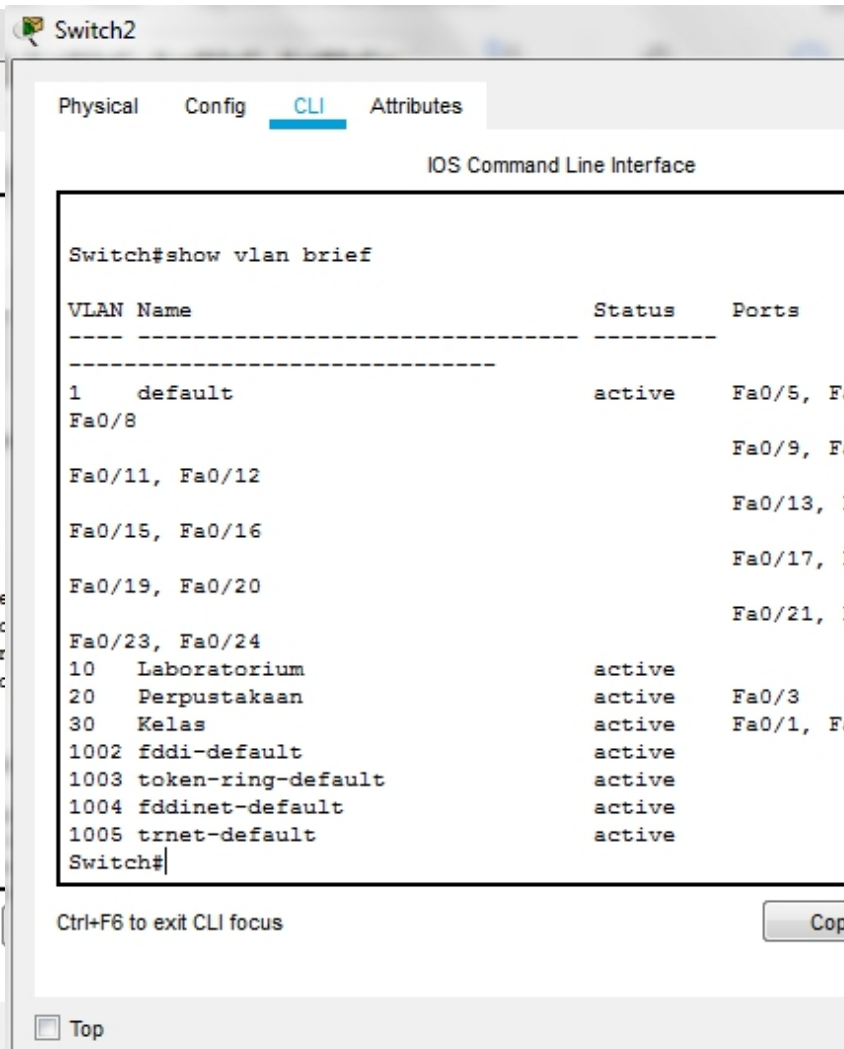


5. ketikan “show vlan brief” dan “ show int fa (port) switchport” untuk melihat konfigurasi vlan.

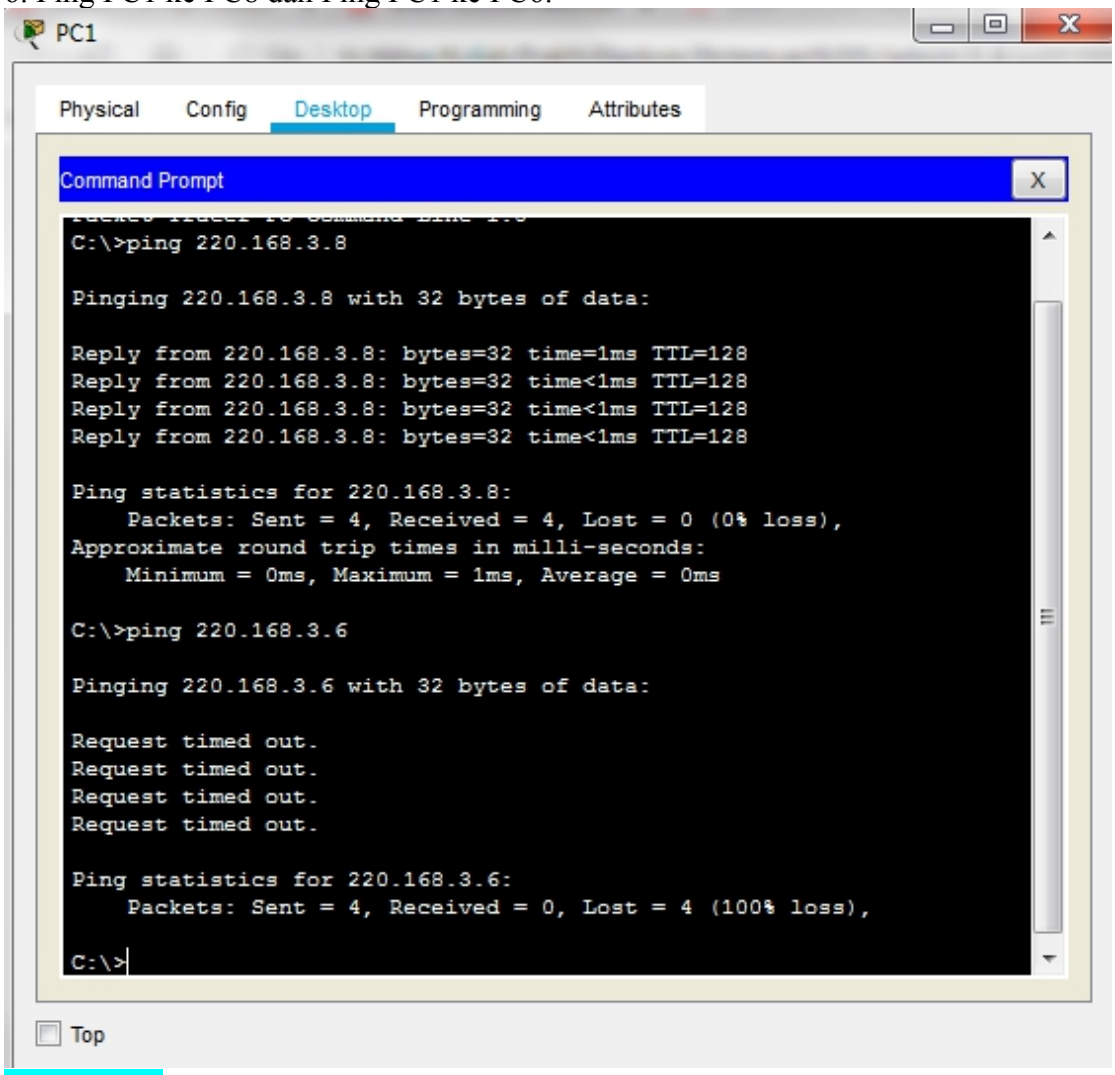



Switch1
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch>en
Switch#show int fa 0/1 switchport
Name: Fa0/1
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: Off
Access Mode VLAN: 10 (Laboratorium)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Trunking VLANs Enabled: All
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
Appliance trust: none
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Switch2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch>en
Switch#show int fa 0/4 switchport
Name: Fa0/4
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: Off
Access Mode VLAN: 10 (Laboratorium)
Trunking Native Mode VLAN: 1 (default)
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dc
Administrative private-vlan trunk normal VLANs: nor
Administrative private-vlan trunk private VLANs: nc
Operational private-vlan: none
Trunking VLANs Enabled: All
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL
Protected: false
--More--
Ctrl+F6 to exit CLI focus
Top


Switch2
Physical
Config
CLI
Attributes
IOS Command Line Interface
Switch#show vlan brief
VLAN Name Status Ports
---- -------------------------------- --------- -------------------------------
1 default active Fa0/5, F
Fa0/8
Fa0/9, F
Fa0/11, Fa0/12
Fa0/13,
Fa0/15, Fa0/16
Fa0/17,
Fa0/19, Fa0/20
Fa0/21,
Fa0/23, Fa0/24
10 Laboratorium active
20 Perpustakaan active Fa0/3
30 Kelas active Fa0/1, F
1002 fddi-default active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default active
Switch#
Ctrl+F6 to exit CLI focus
Top

6. Ping PC1 ke PC8 dan Ping PC1 ke PC6.



Penjelasan:

1. Ping PC1 ke PC8

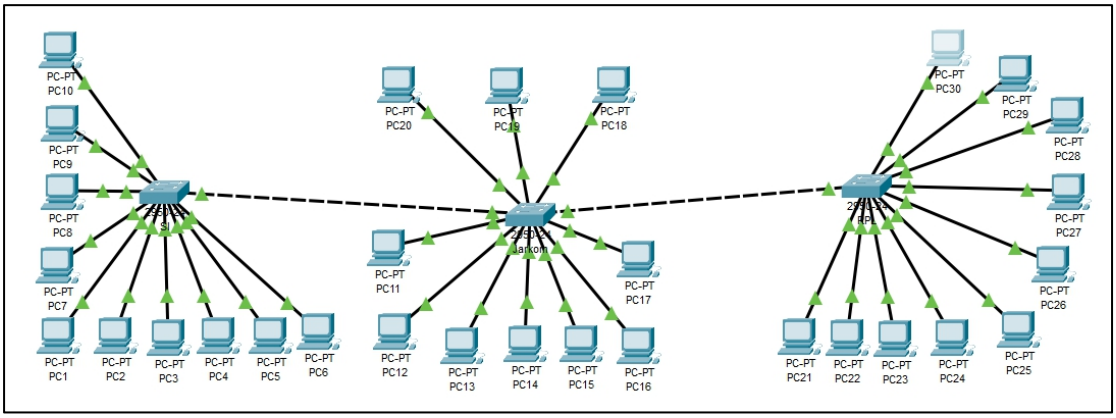
Mendapatkan “Reply from….” karena PC1 dan PC8 berada pada vlan yang sama, yaitu Laboratorium.

2. Ping PC1 ke PC6

Mendapatkan “Request time out.” karena PC1 dan PC6 berada pada vlan yang berbeda PC1 adalah Laboratorium dan PC6 adalah Kelas.

Nomor 2

a. Sebuah laboratorium akan memasang sebuah jaringan computer menggunakan network id 192.168.51.0/24. Laboratorium tsb terbagu menjadi 3 bagian(SI, Jarkom, RPL) dan masing-masing bagian berisi hingga 10 komputer.



NETWORK ID
192.168.51.0/24
11111111 . 11111111 . 11111111 . 00000000
Blok 1 Blok 2 Blok 3 Blok 4

Merubah setiap biner blok menjadi desimal
Subnet mask default = 255.255.255.0

- **Jumlah subnet**

$2^x = 2^0 = 1$ subnet (x adalah jumlah bit 1 pada blok ke 4)

- **Jumlah host**

$2^y-2 = 2^8-2 = 256-2 = 254$ host (y adalah jumlah bit 0 pada blok ke 4)

- **Block subnet**

256-0 = 256

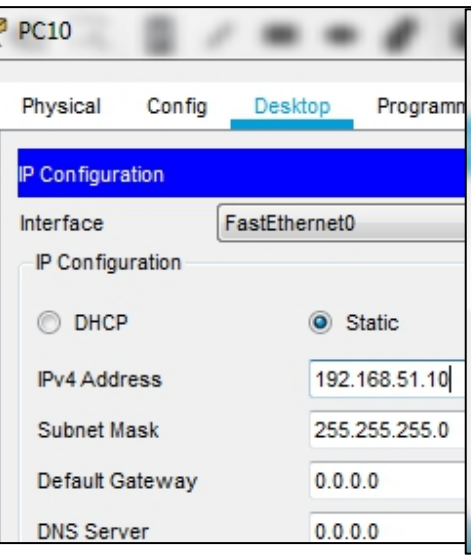
- **Tabel subnet**

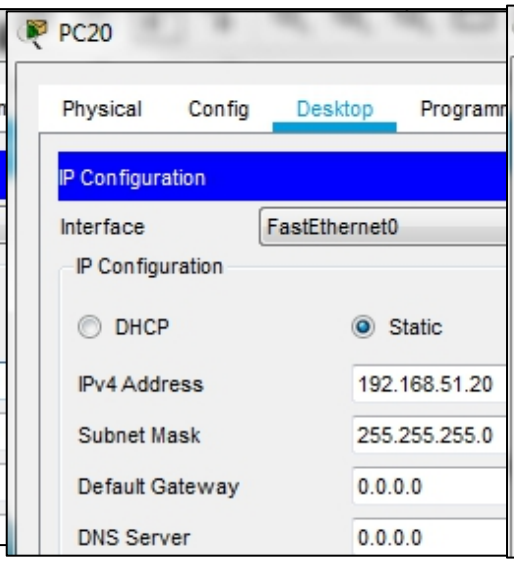
Network	Host Pertama	Host Terakhir	Broadcast
192.168.51.0	192.168.51.1	192.168.51.254	192.168.51.255

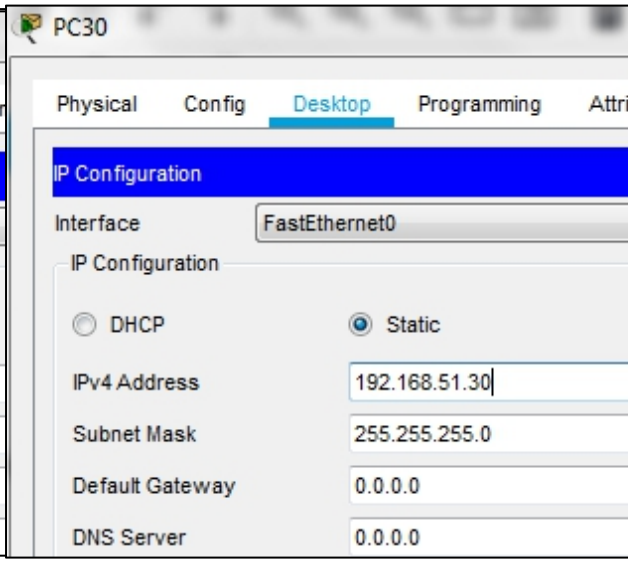
- **Alamat IP**

IP dari PC1 192.168.51.1 s/d PC30 192.168.51.30

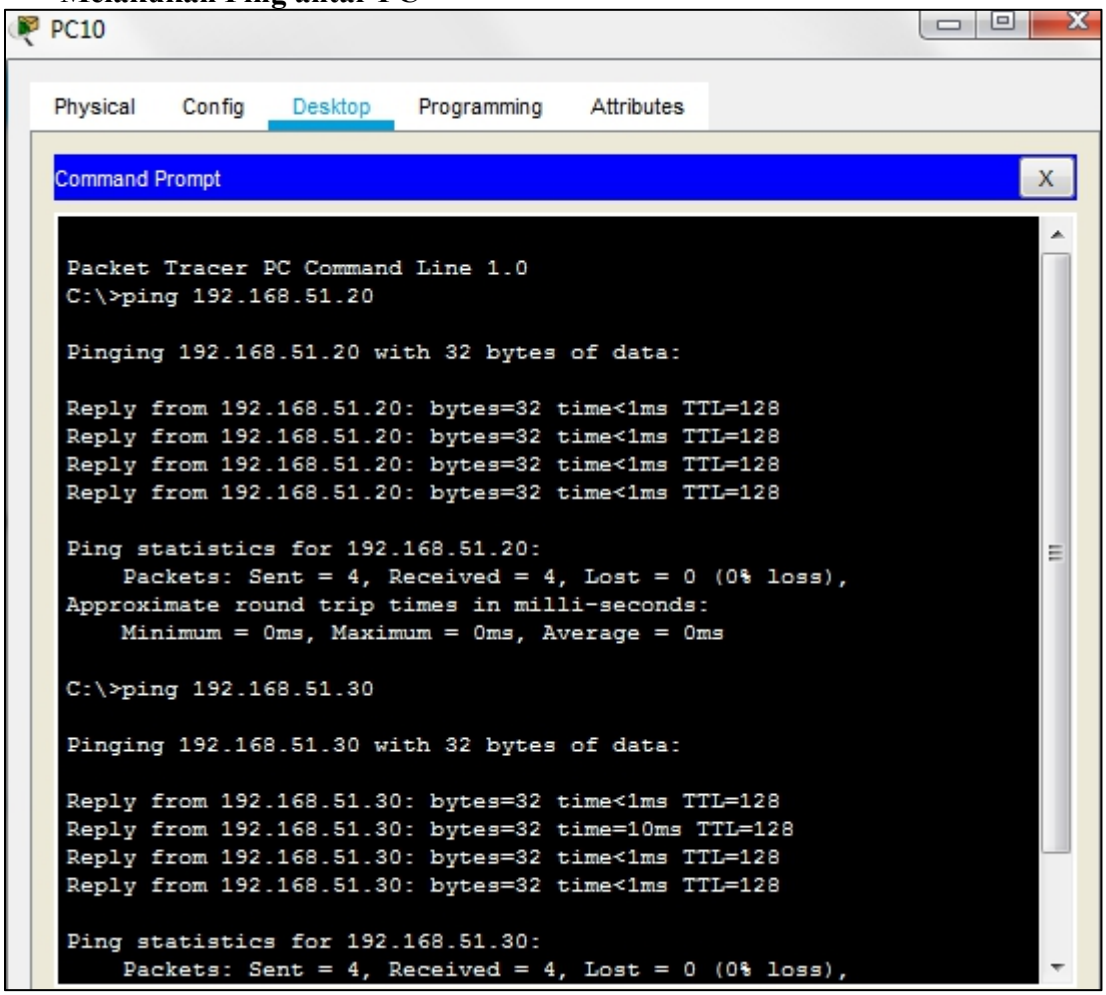
- **Konfigurasi IP**



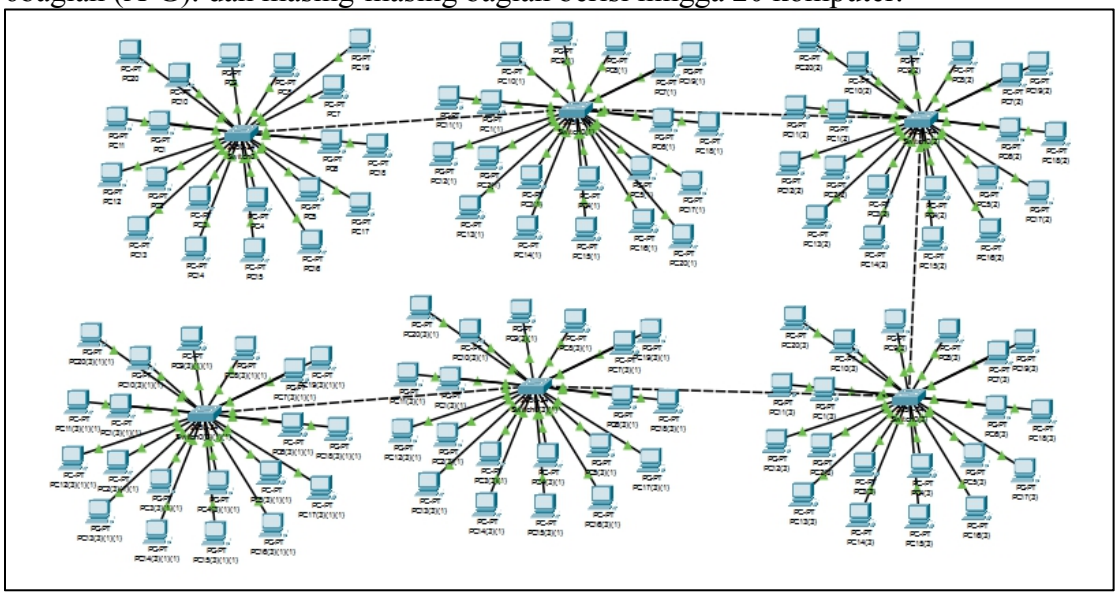




- **Melakukan Ping antar PC**



b. Diketahui sebuah laboratorium akan memasang sebuah jaringan komputer menggunakan network ID 192.168.50.0/25 Laboratorium tersebut terbagi menjadi 6bagian (A-G). dan masing-masing bagian berisi hingga 20 komputer.



NETWORK ID
192.168.50.1/25
11111111 . 11111111 . 11111111 . 10000000
Blok 1 Blok 2 Block 3 Block 4

Merubah setiap biner blok menjadi desimal
Subnet mas default = 255.255.255.128

- **Jumlah subnet**

$2^x = 2^1 = 2$ subnet (x adalah jumlah bit 1 pada blok ke 4)

- **Jumlah host**

$2^y-2 = 2^7-2 = 128-2 = 126$ host (y adalah jumlah bit 0 pada blok ke 4)

- **Block subnet**

256 - 128 = 128

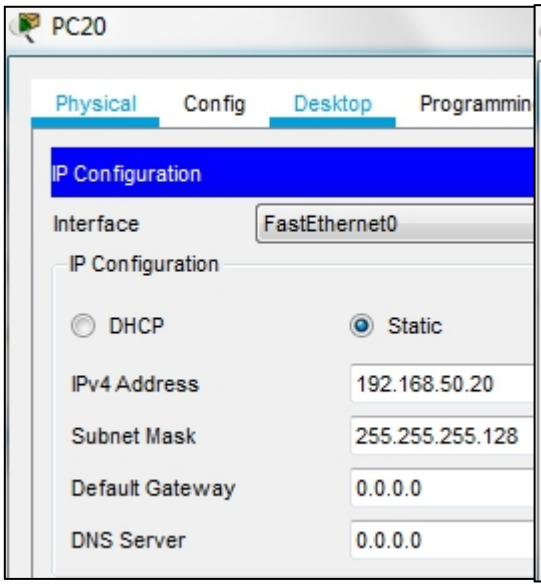
- **Tabel subnet**

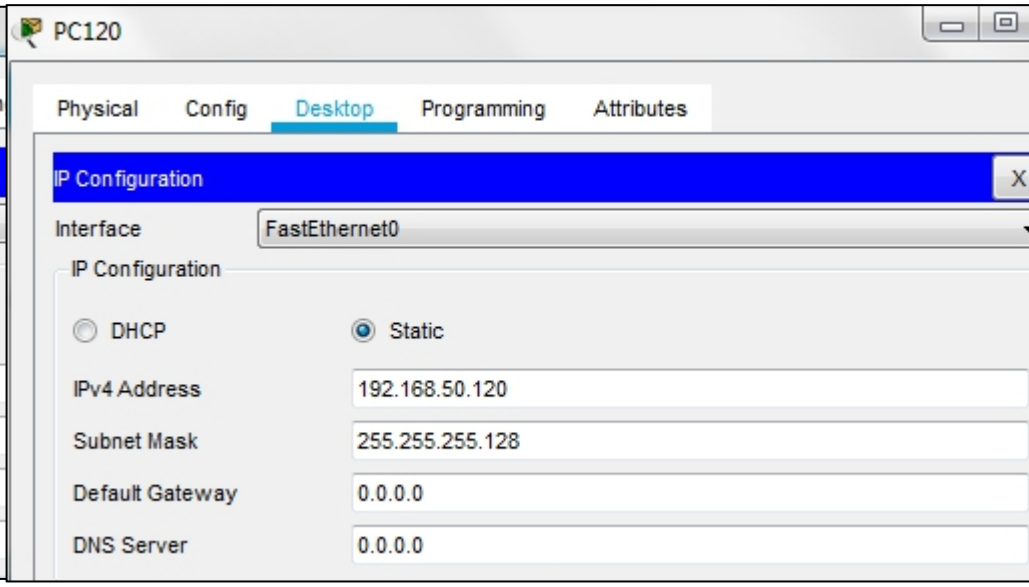
Network	Host Pertama	Host Terakhir	Broadcast
192.168.50.0	192.168.50.1	192.168.50.126	192.168.51.127
192.168.50.128	192.168.50.129	192.168.50.254	192.168.51.255

- **Alamat IP**

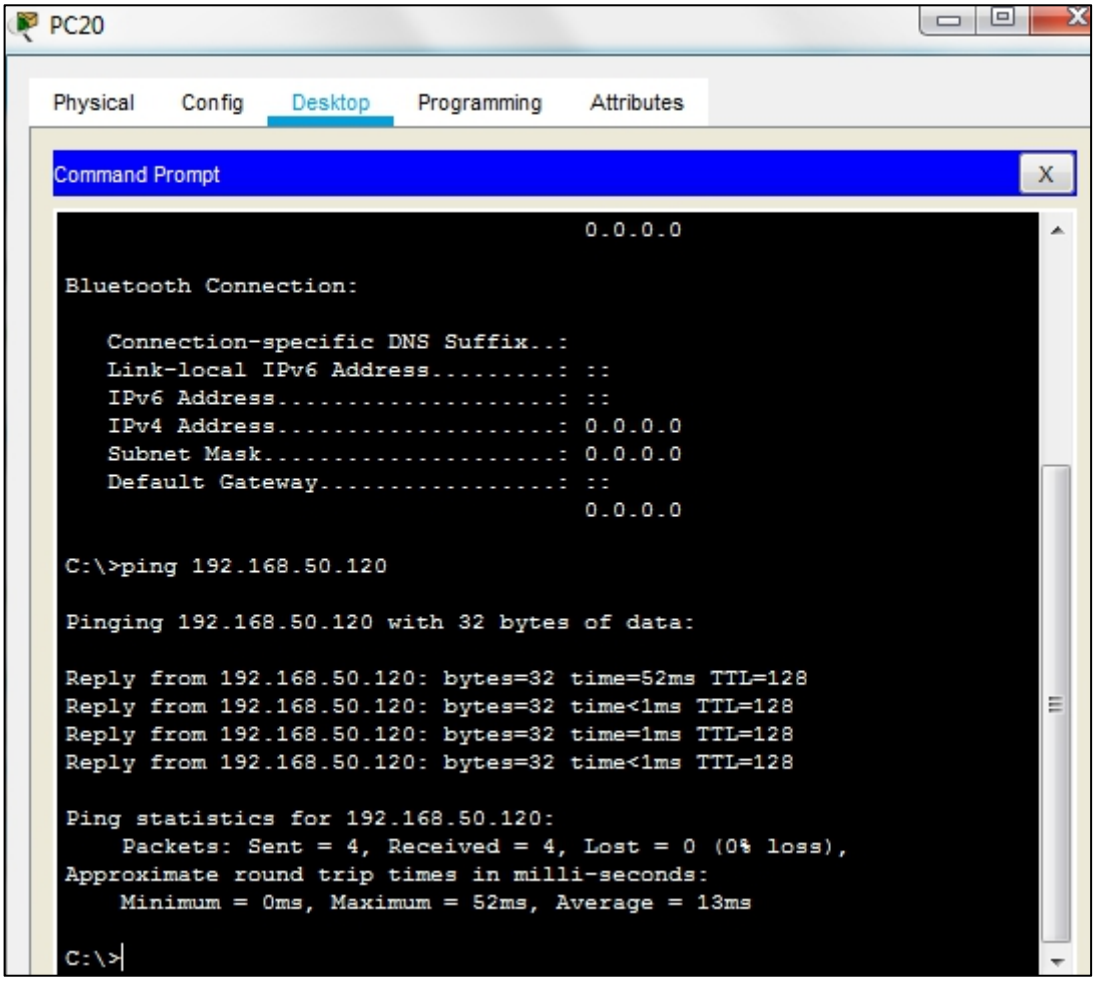
IP dari PC1 192.168.50.1 s/d PC120 192.168.50.120

- **Konfigurasi IP**



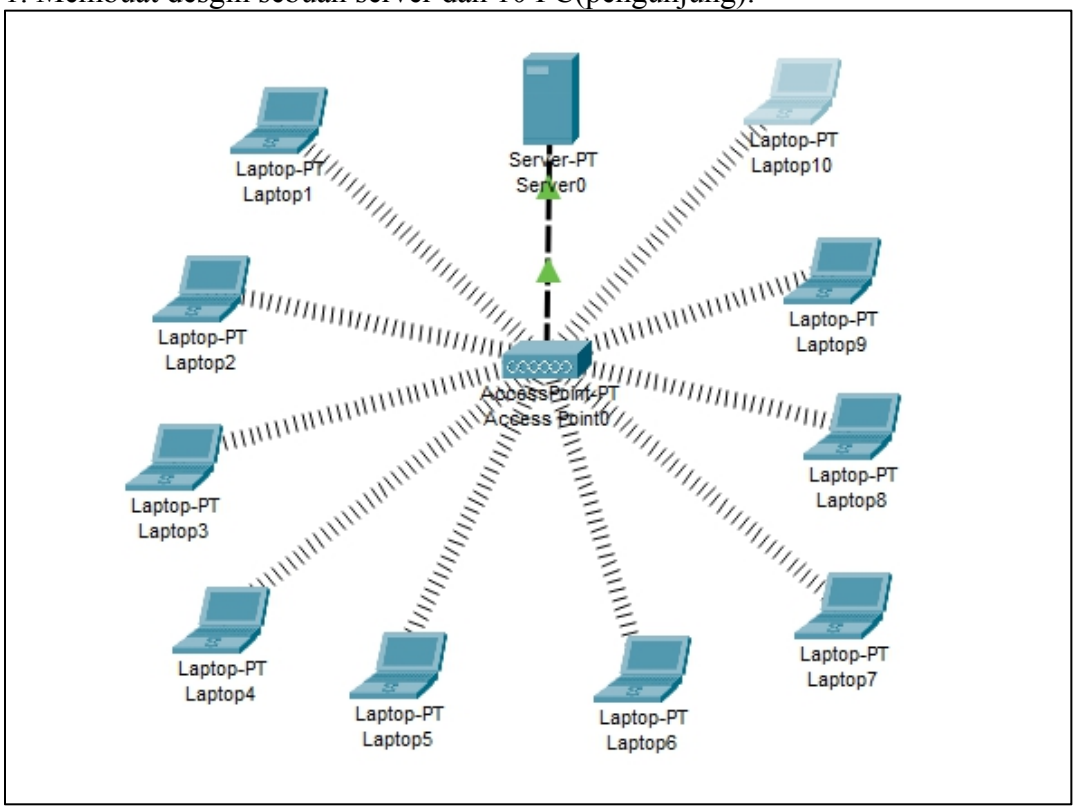


- **Melakukan Ping antar PC**

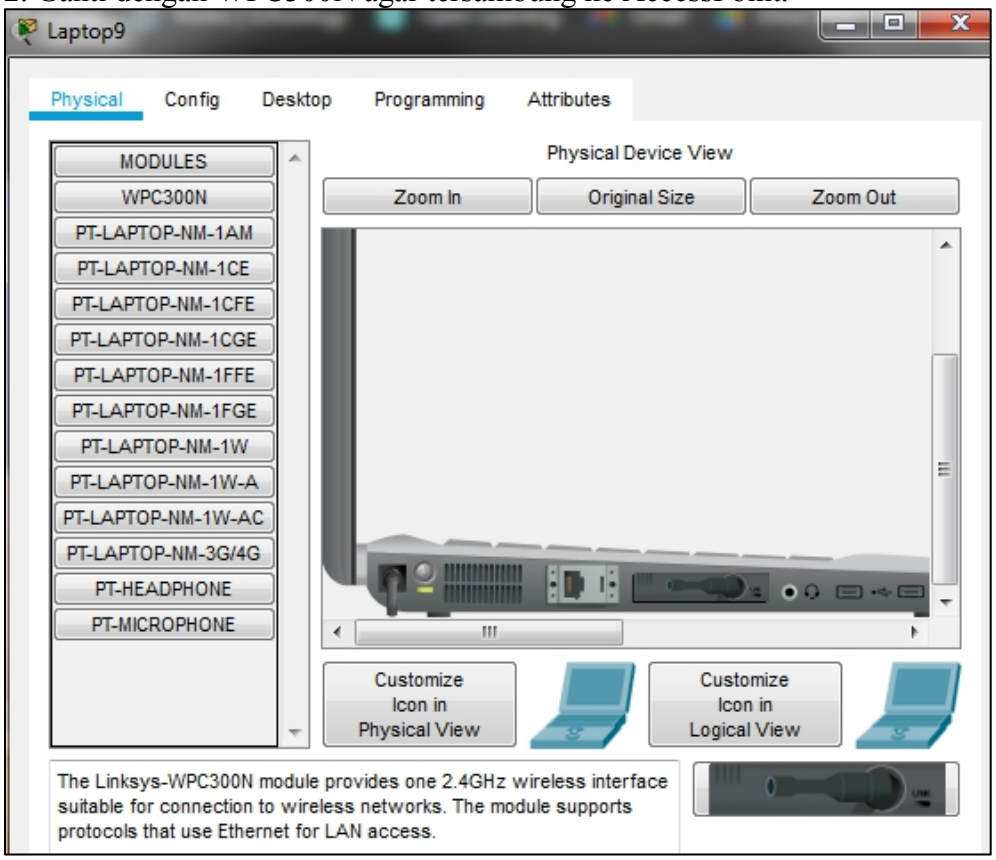


Nomor 3

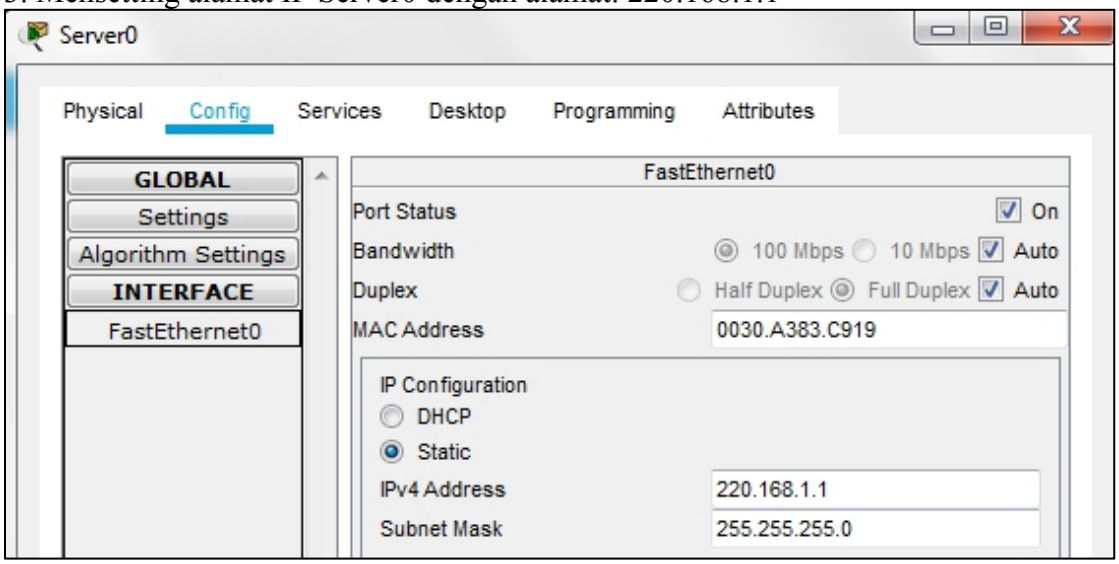
1. Membuat desgin sebuah server dan 10 PC(pengunjung).



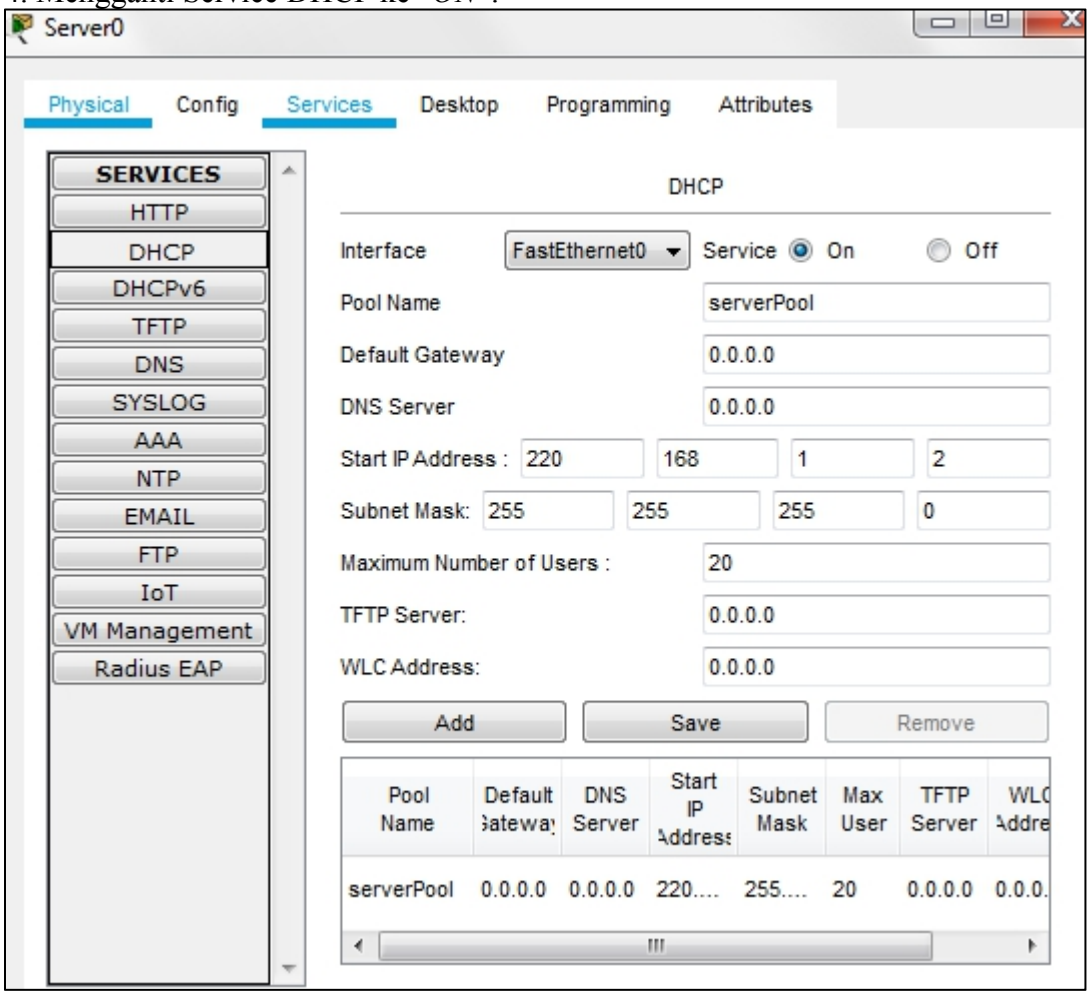
2. Ganti dengan WPC300N agar tersambung ke AccessPoint.



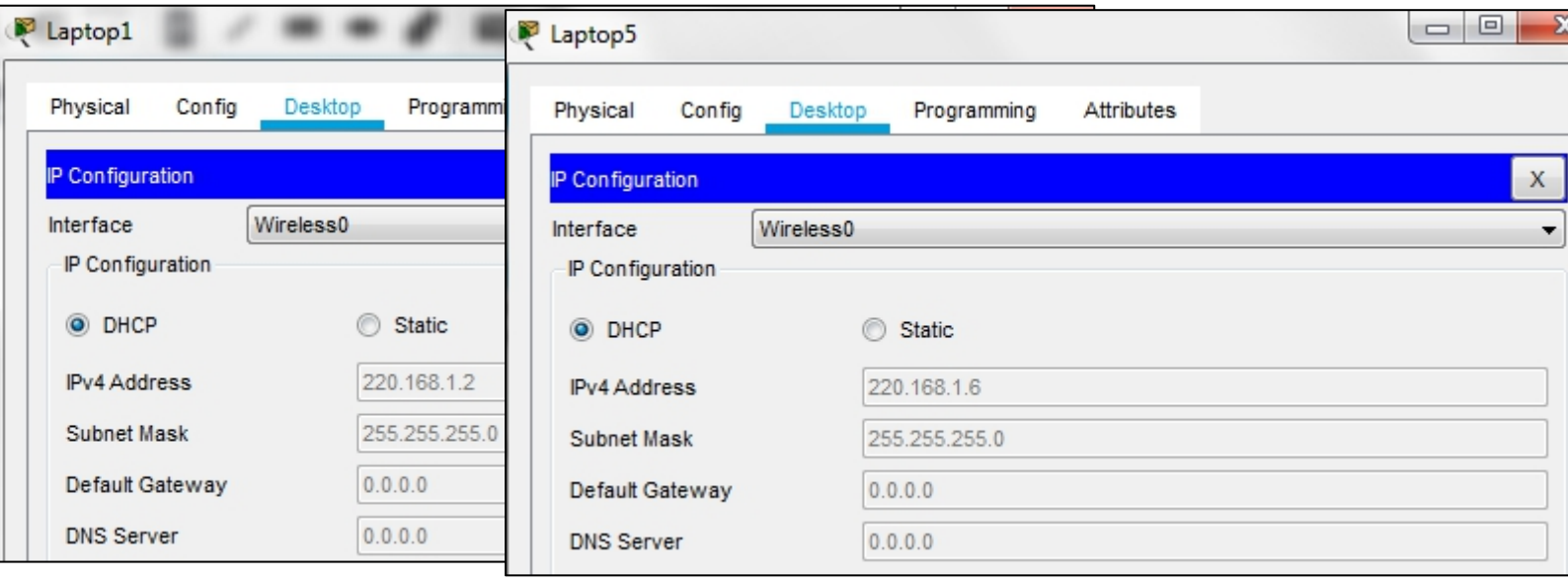
3. Mensetting alamat IP Server0 dengan alamat: 220.168.1.1



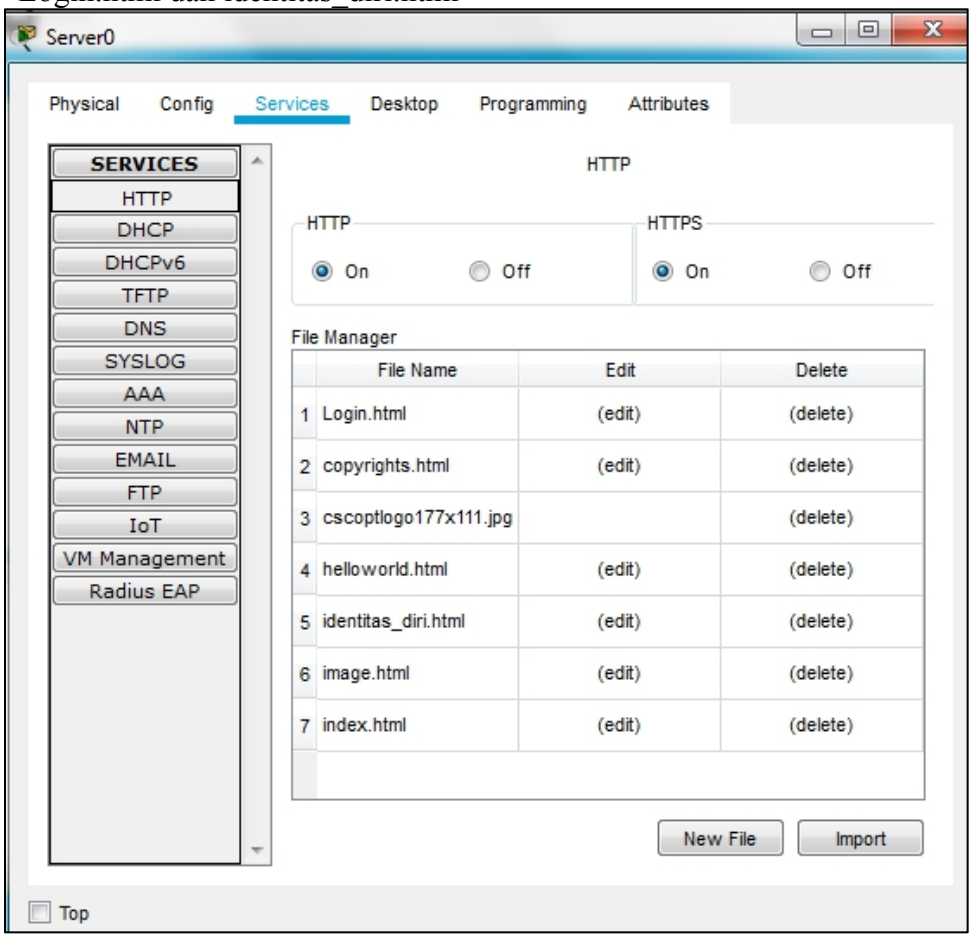
4. Mengganti Service DHCP ke "*ON*".



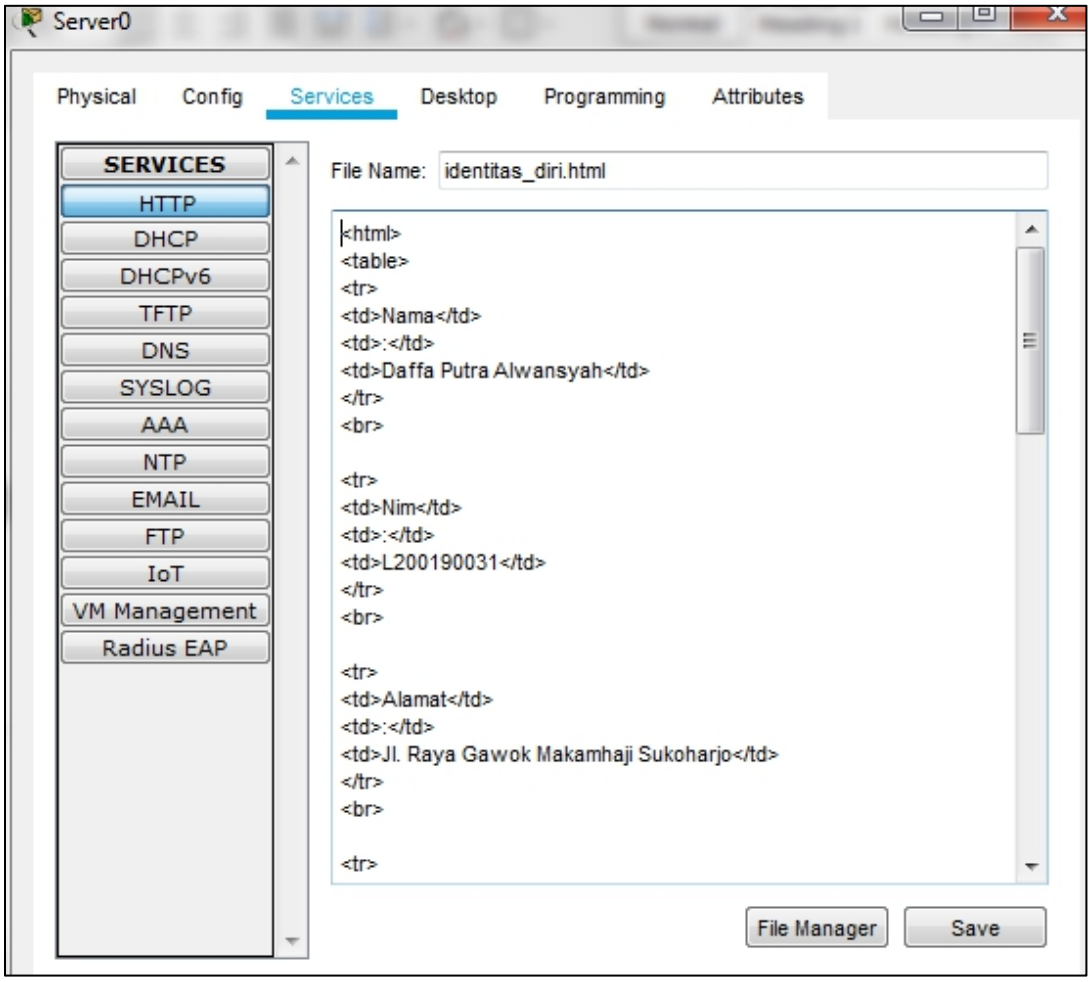
5. Konfigurasi alamat IP.



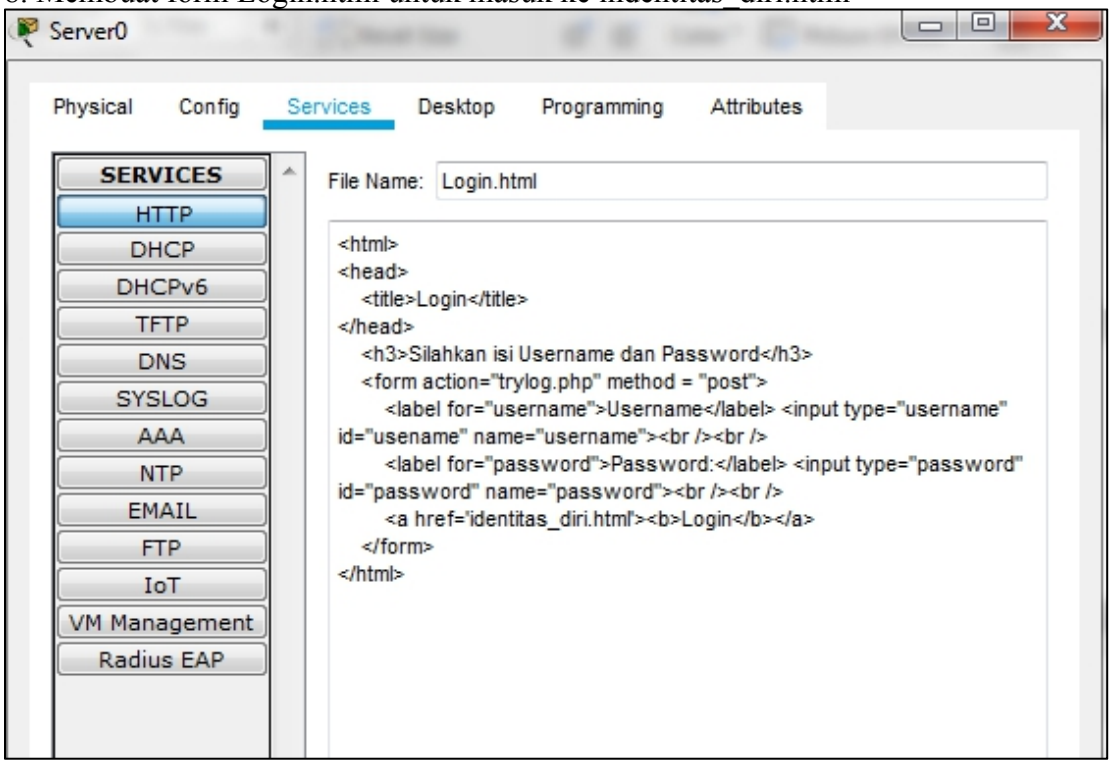
6.Masuk ke HTTP lalu buat file baru, disini saya membuat file dengan nama "Login.html dan identitas_diri.html"



7.Membuat 10 identitas diri.



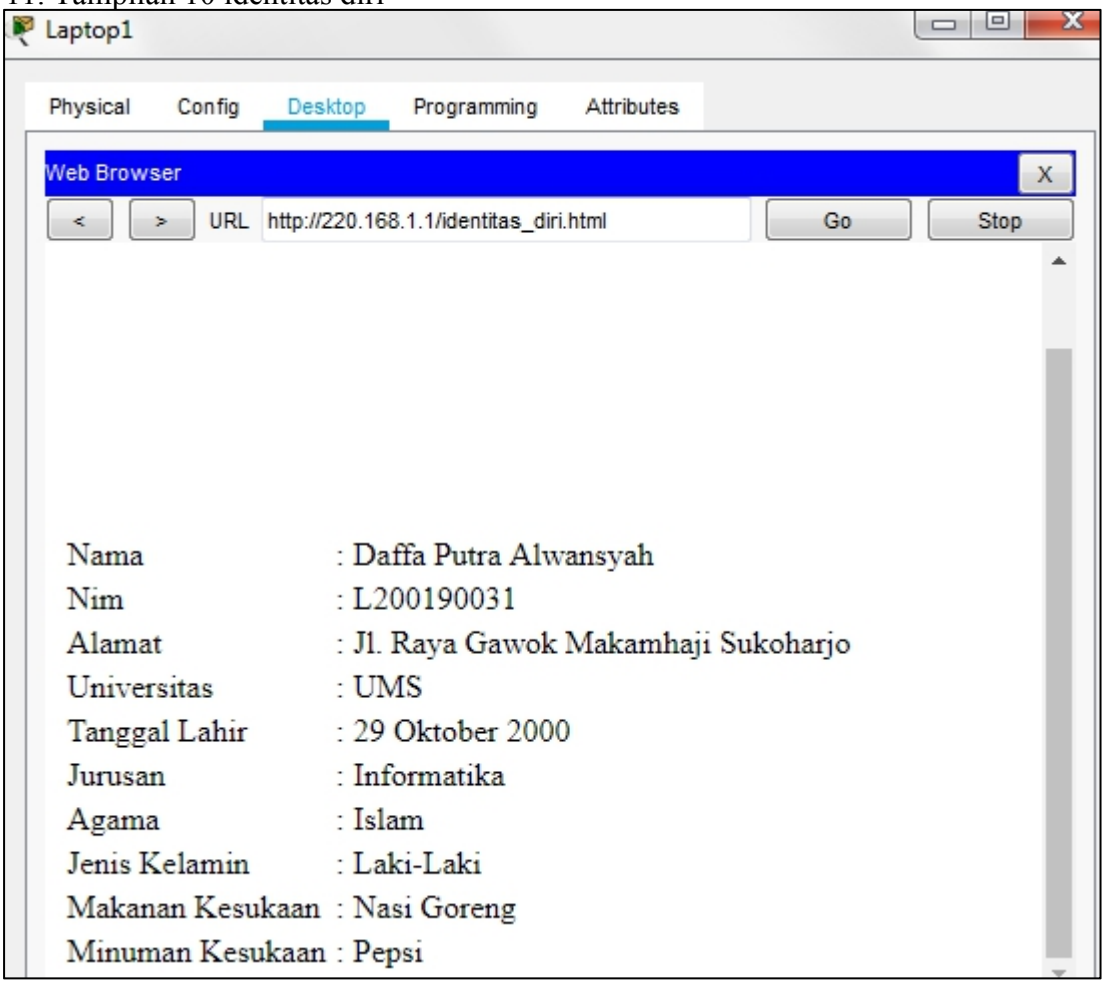
8. Membuat form Login.html untuk masuk ke indentitas_diri.html



9. Masuk ke Laptop1>Web Browser>ketikan alamat ip server

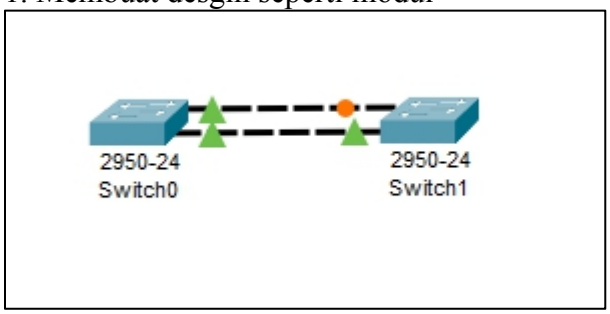
10. Masukan Username dan Password

11. Tampilan 10 identitas diri

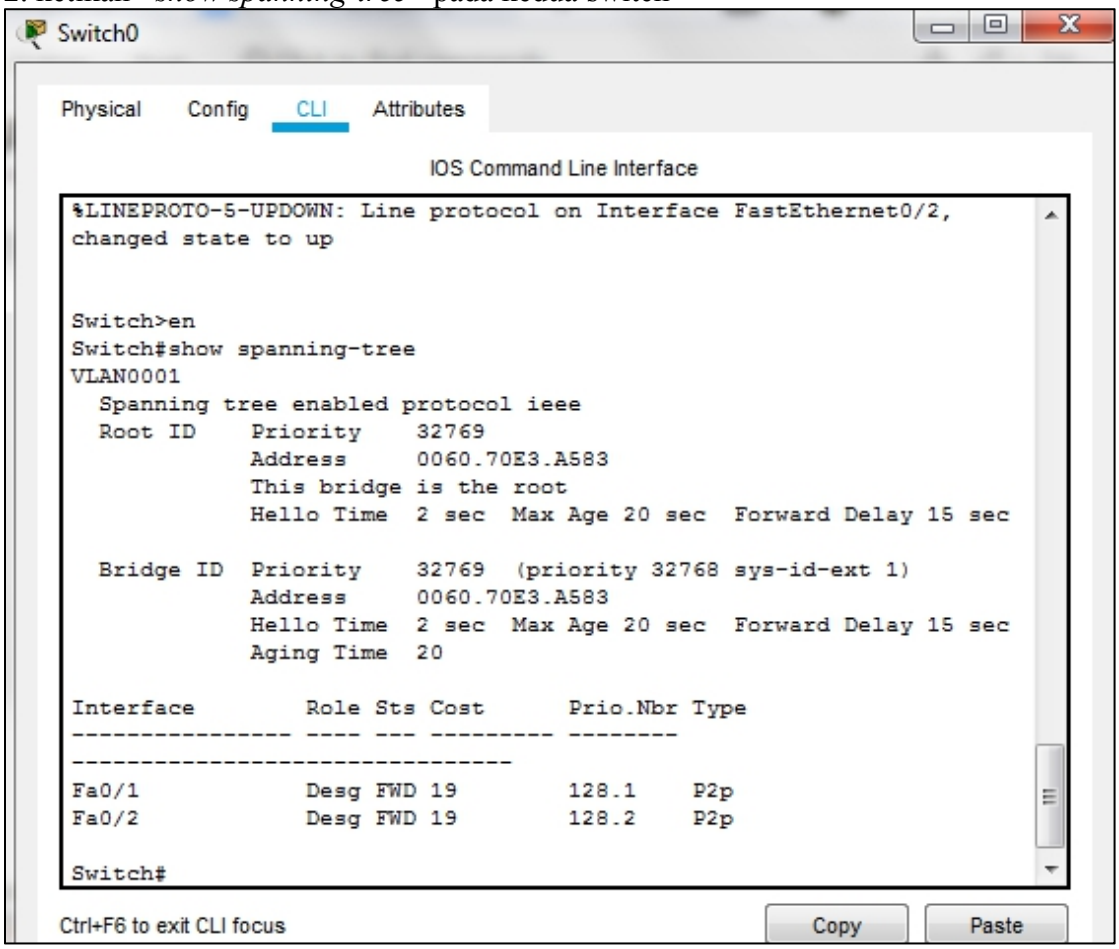


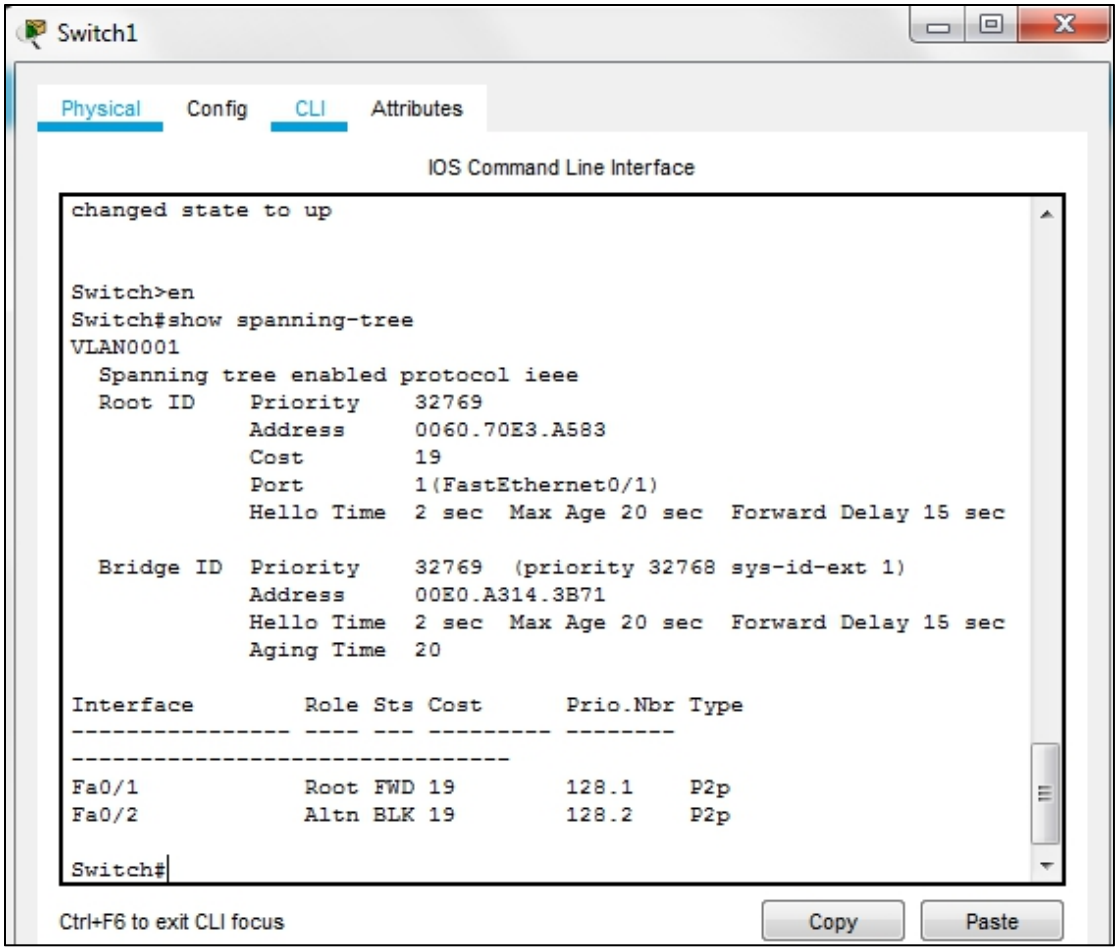
Nomor 4

1. Membuat desgin seperti modul



2. ketikan *"show spanning-tree"* pada kedua switch





Membuat Keterangan:

A. **Root Bridge(RB)** : Switch0 (dapat dilihat "*this bridge is the root*").
B. **Root Port(RP)** : Switch1 (Fa0/1)
C. **Designated Bride(DB)** : Switch0 (dapat dilihat dari role "*Desg,Desg*").
D. **Designated Port** : Switch0(Fa0/1,Fa0/2)