



UNIVERSITAS SRIWIJAYA

FAKULTAS ILMU KOMPUTER

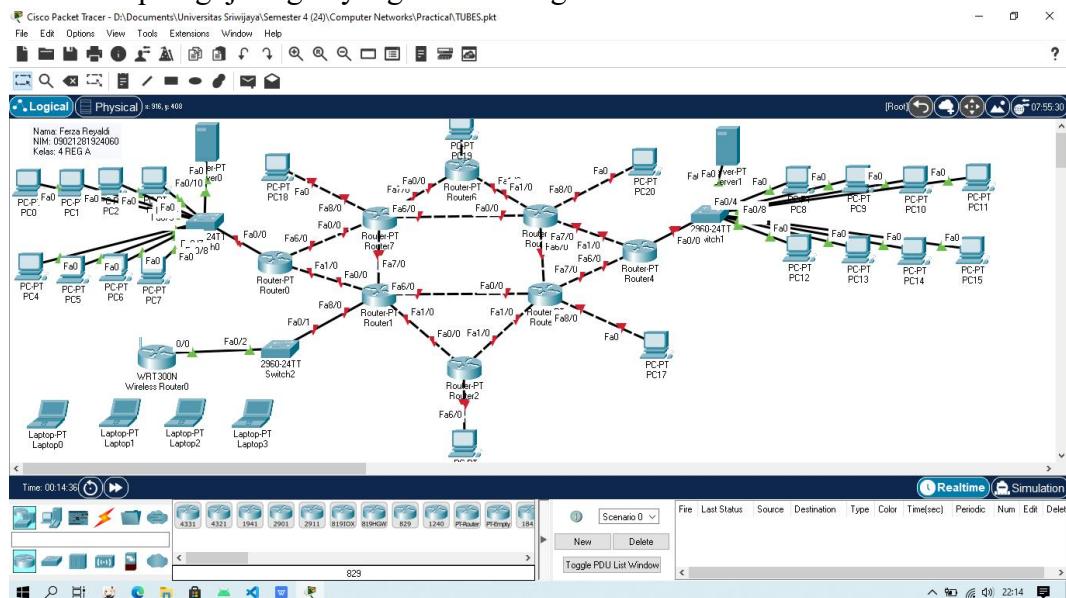
JURUSAN TEKNIK INFORMATIKA

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TUGAS BESAR

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Kelas : 4 REG A
Mata Kuliah : Praktikum Jaringan Komputer

Berikut topologi jaringan yang akan dibangun:



TAHAP PERSIAPAN

Requirement yang perlu disiapkan:

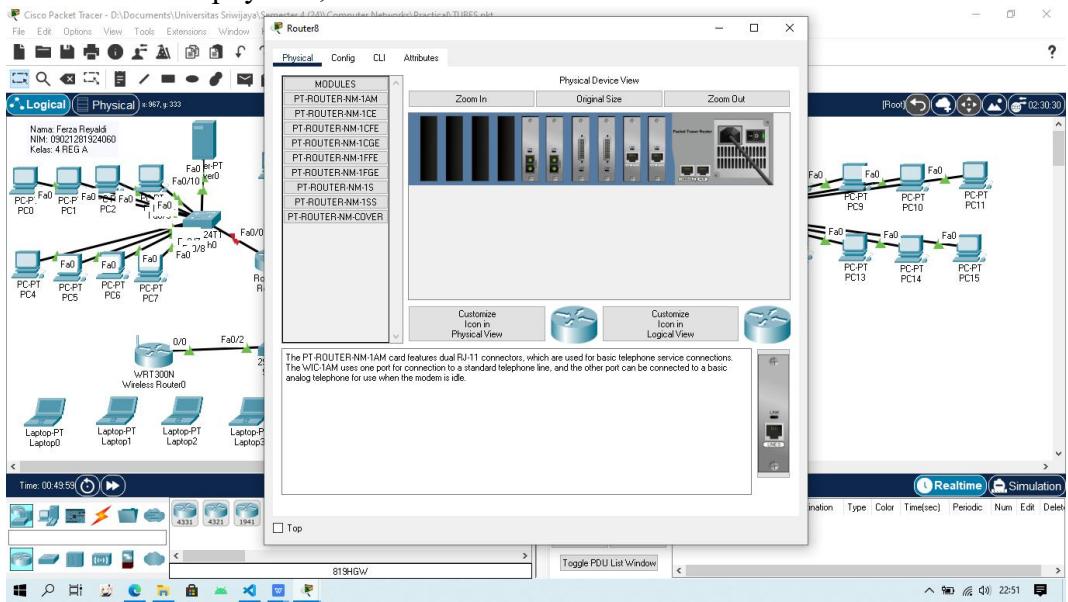
- 21 personal computer
- 4 laptop
- 8 router
- 2 server
- 1 wireless router
- 3 switch

Sebelum masuk dalam tahap kontruksi, router perlu dimodifikasi jumlah portnya menjadi 6. selain itu, juga diperlukan modifikasi laptop agar memiliki wifi adapter.

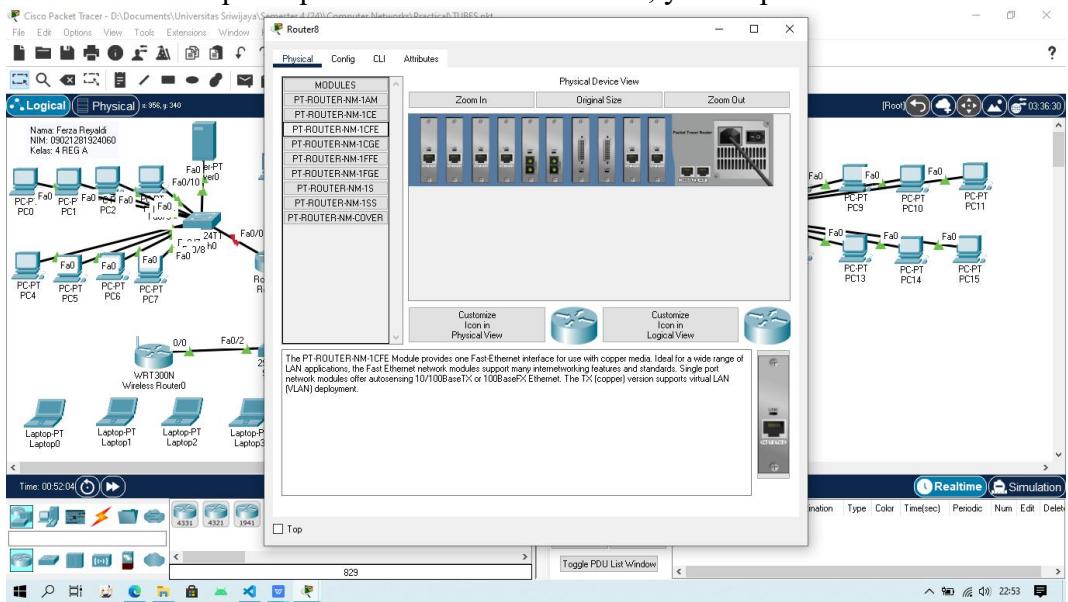
Modifikasi Router

1. Klik router yang perlu dimodifikasi.

2. Pada menu physical, matikan router.



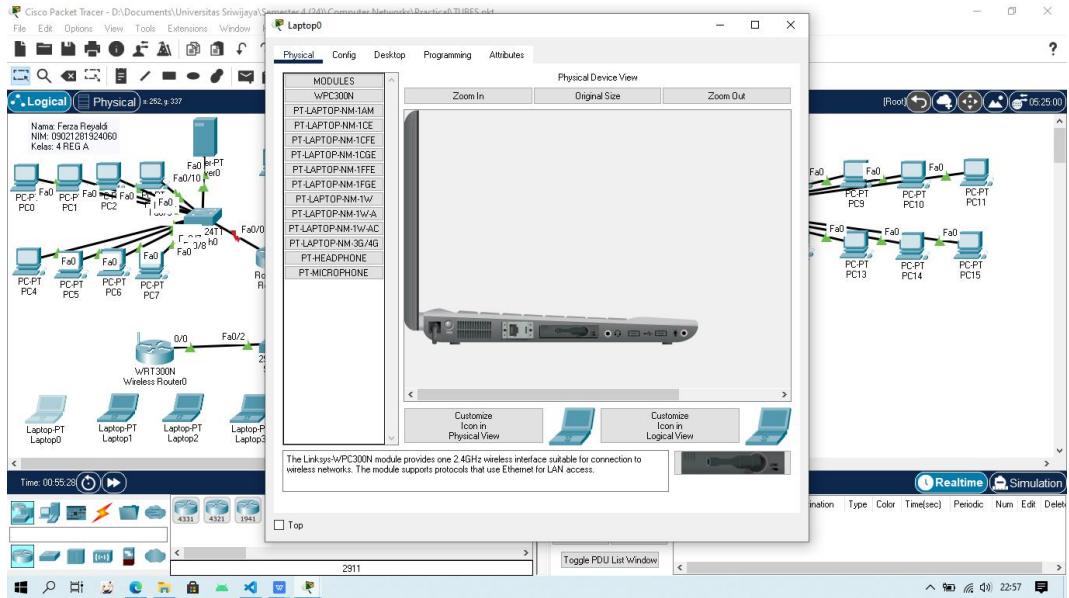
3. Tambahkan port tipe 1 CFE sesuai kebutuhan, yaitu 4 port.



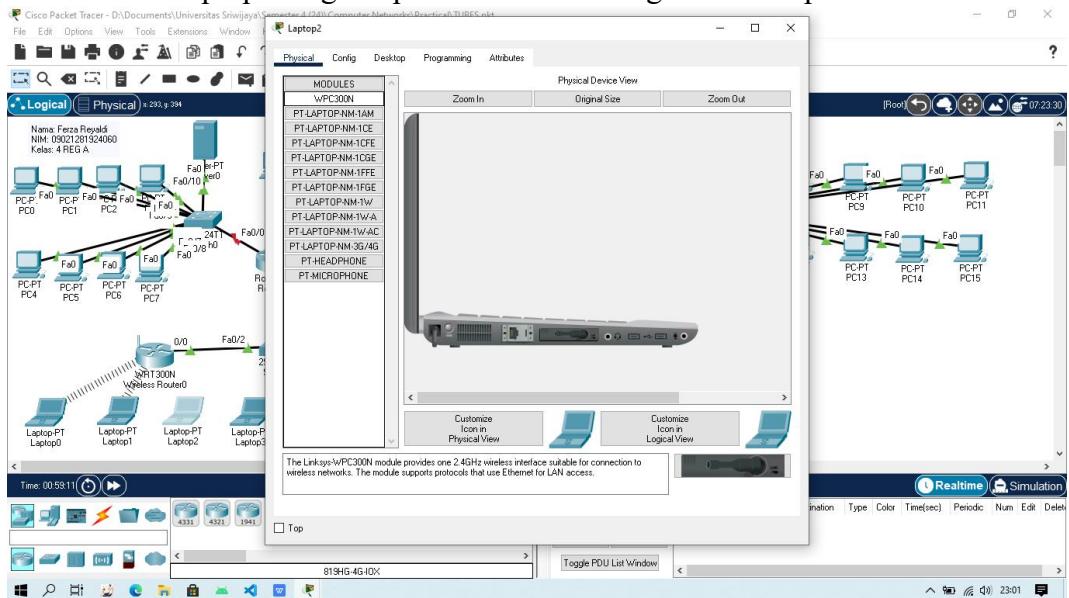
4. Hidupkan router.

Menambah Wifi Adapter pada Laptop

1. Klik laptop yang perlu dimodifikasi.
2. Matikan laptop dan tambahkan wifi adapter.



3. Matikan laptop dan ganti port untuk CFE dengan wifi adapter.

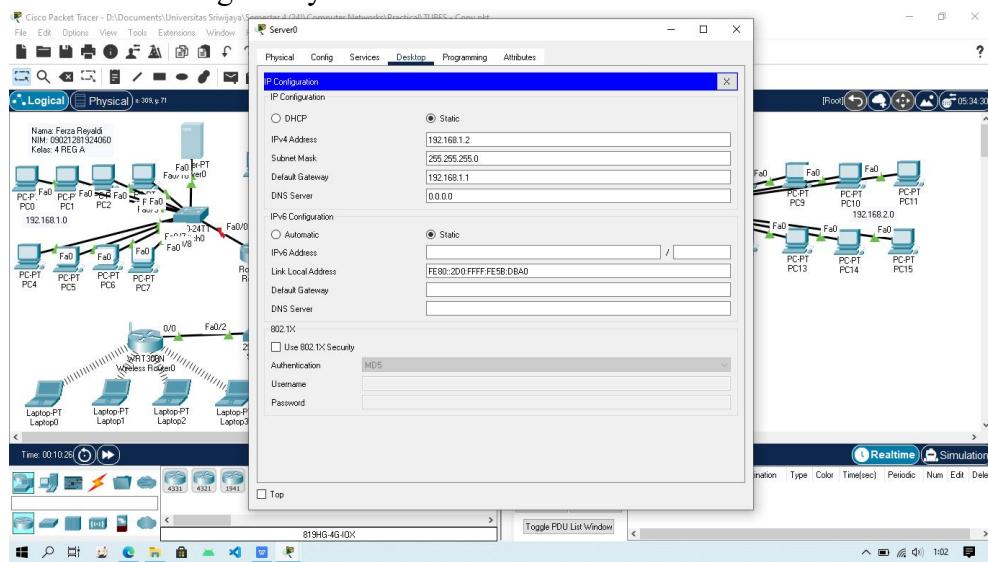


4. Hidupkan kembali laptop.

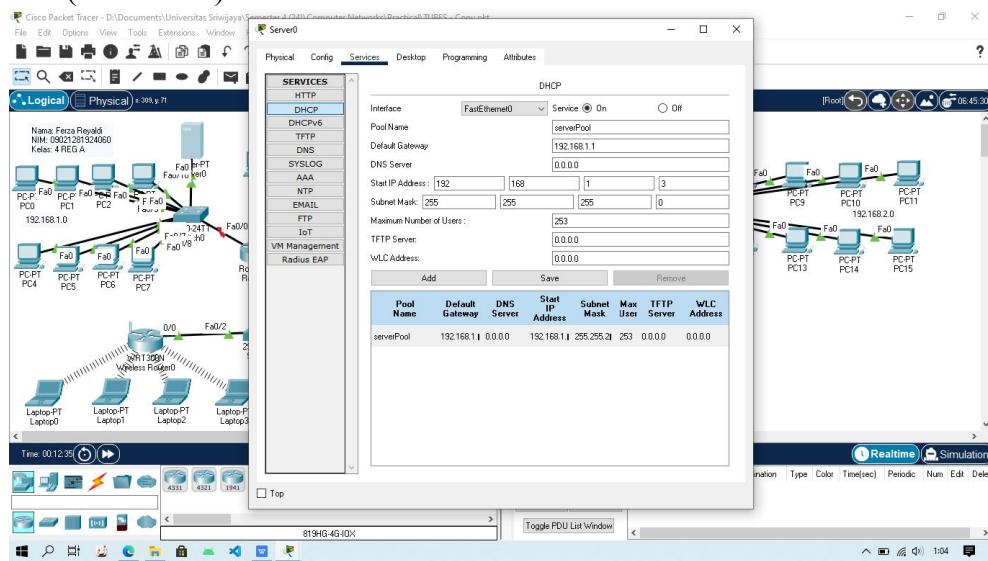
TAHAP KONFIGURASI

1. Mengatur IP PC0 - PC7 menggunakan DHCP dari Server0

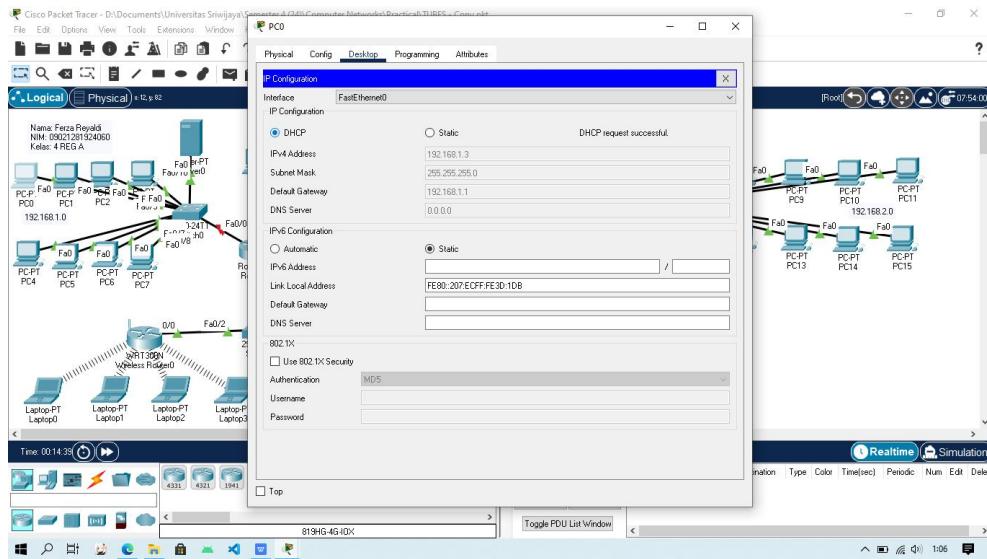
1. Klik Server0.
2. Pada menu Desktop, pilih IP configuration. Atur IP address, subnet mask, dan default gateway server.



3. Pada menu Services, pilih DHCP. Atur default gateway, start IP address, dan maximum numbers of user, setelah itu simpan dan aktifkan service (switch ON).

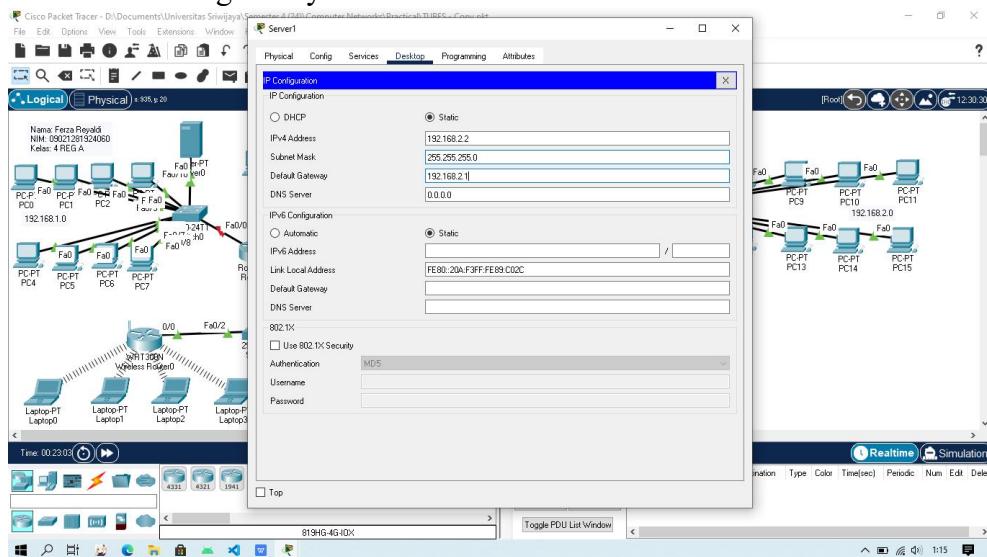


4. Klik PC0-PC7. pada menu desktop, pilih IP configuration. Setelah itu pilih IP configuration secara DHCP sehingga IP address, subnet mask, default gateway terisi otomatis sesuai konfigurasi pada service Server0.

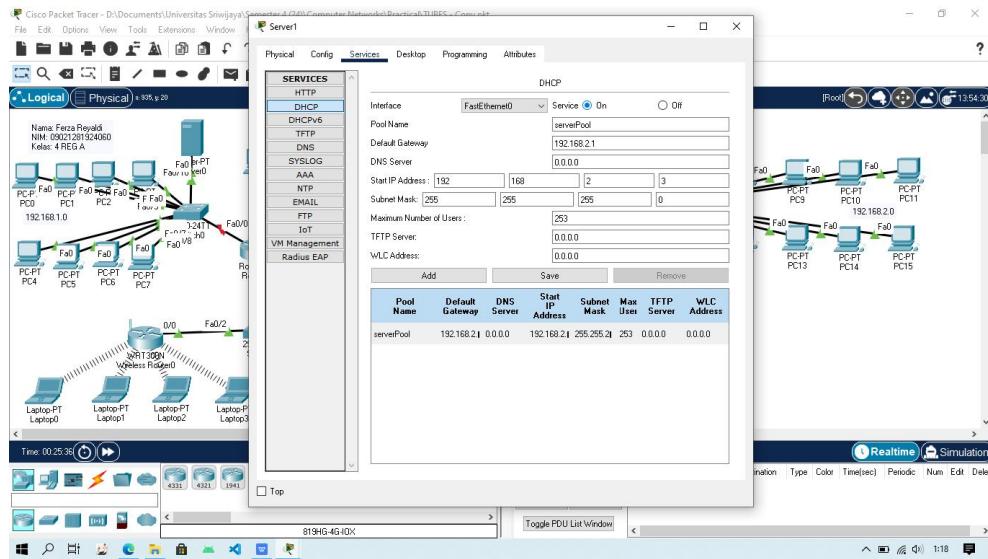


2. Mengatur IP PC8 - PC15 menggunakan DHCP dari Server1

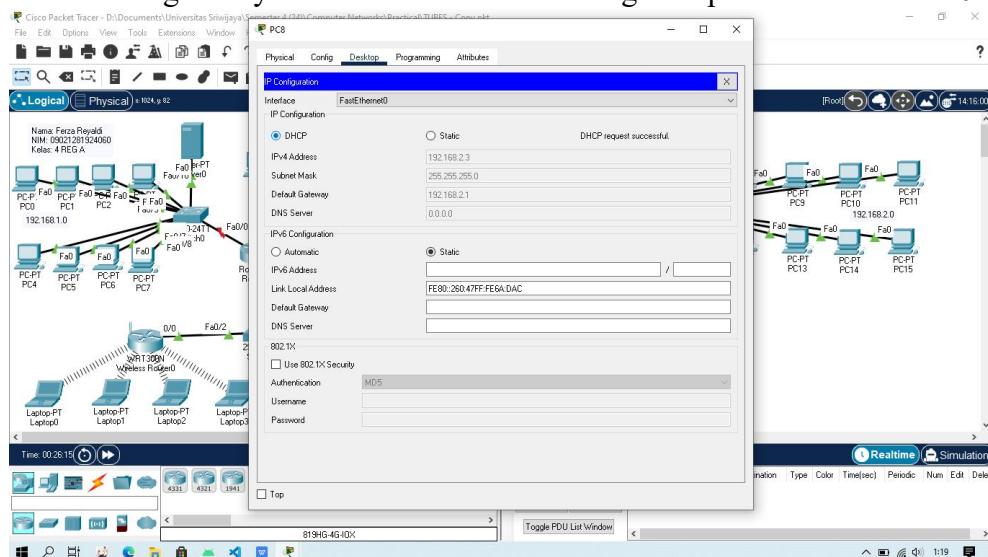
1. Klik Server1.
2. Pada menu Desktop, pilih IP configuration. Atur IP address, subnet mask, dan default gateway server.



3. Pada menu Services, pilih DHCP. Atur default gateway, start IP address, dan maximum numbers of user, setelah itu simpan dan aktifkan service (switch ON).



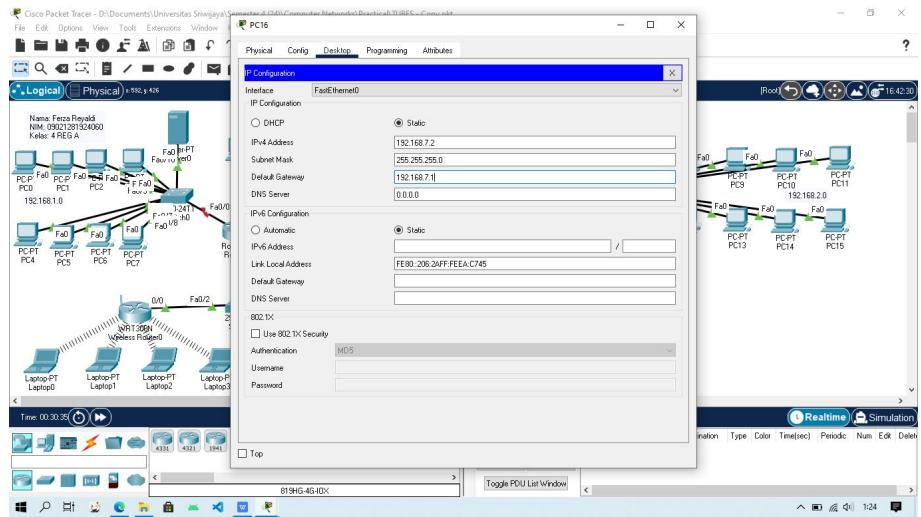
4. Klik PC8-PC15. pada menu desktop, pilih IP configuration. Setelah itu pilih IP configuration secara DHCP sehingga IP address, subnet mask, default gateway terisi otomatis sesuai konfigurasi pada service Server0.



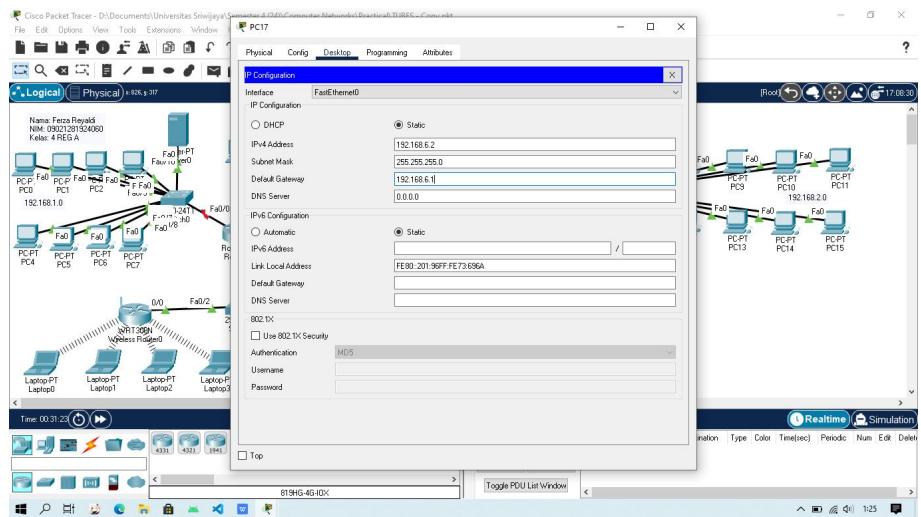
3. Mengatur IP PC16 - PC20 secara static

Klik PC. pada menu desktop, pilih IP configuration. Setelah itu atur IP address, subnet mask, default gateway.

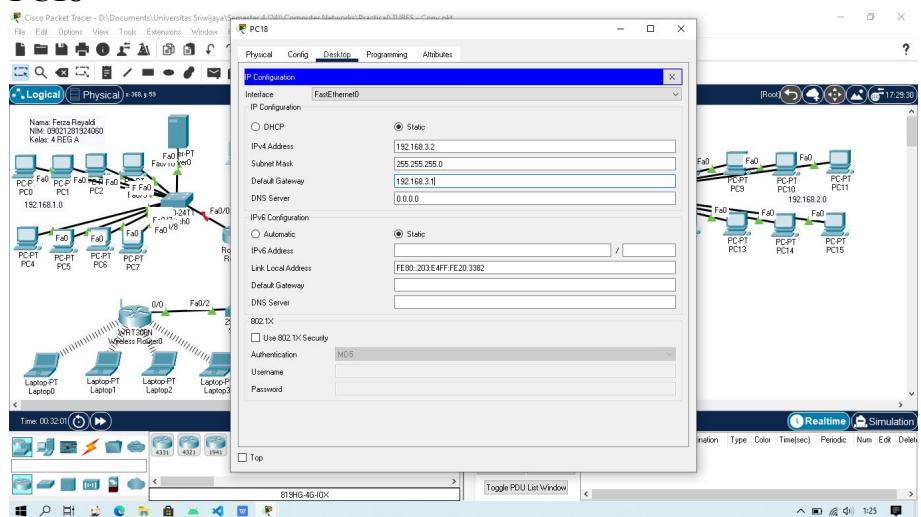
PC16



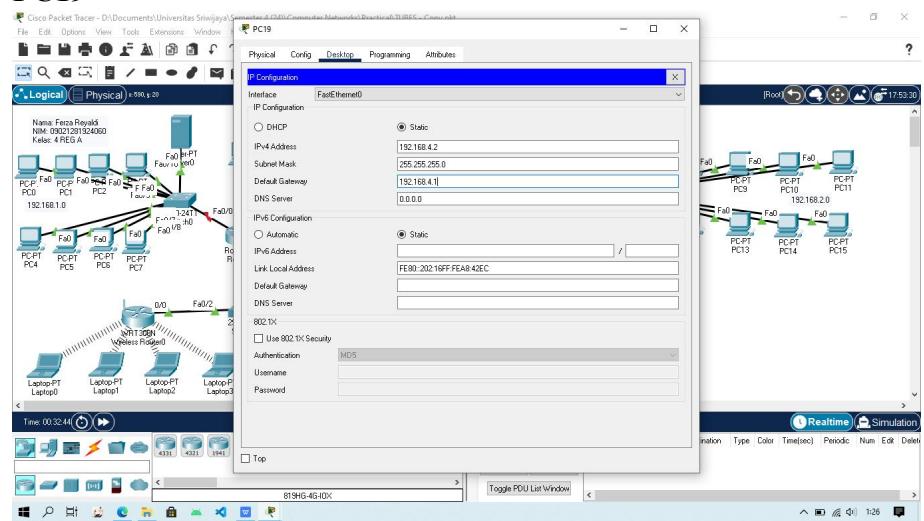
PC17



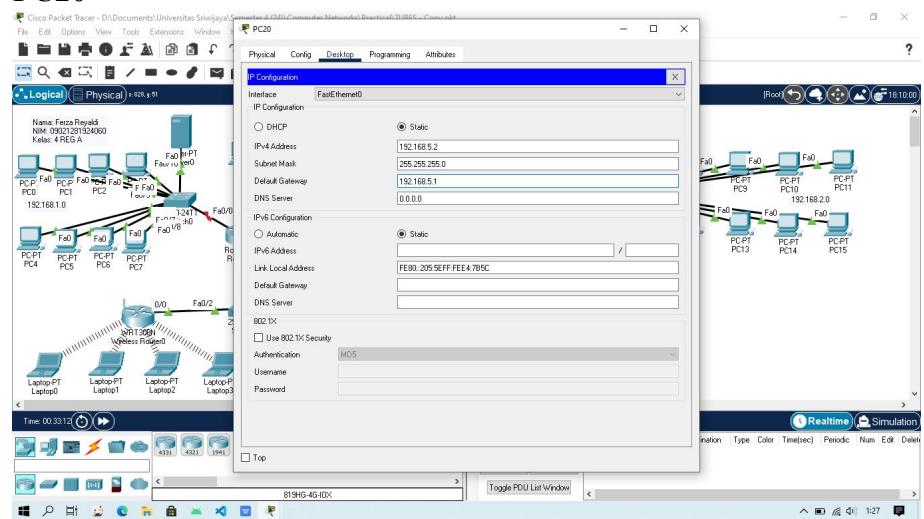
PC18



PC19

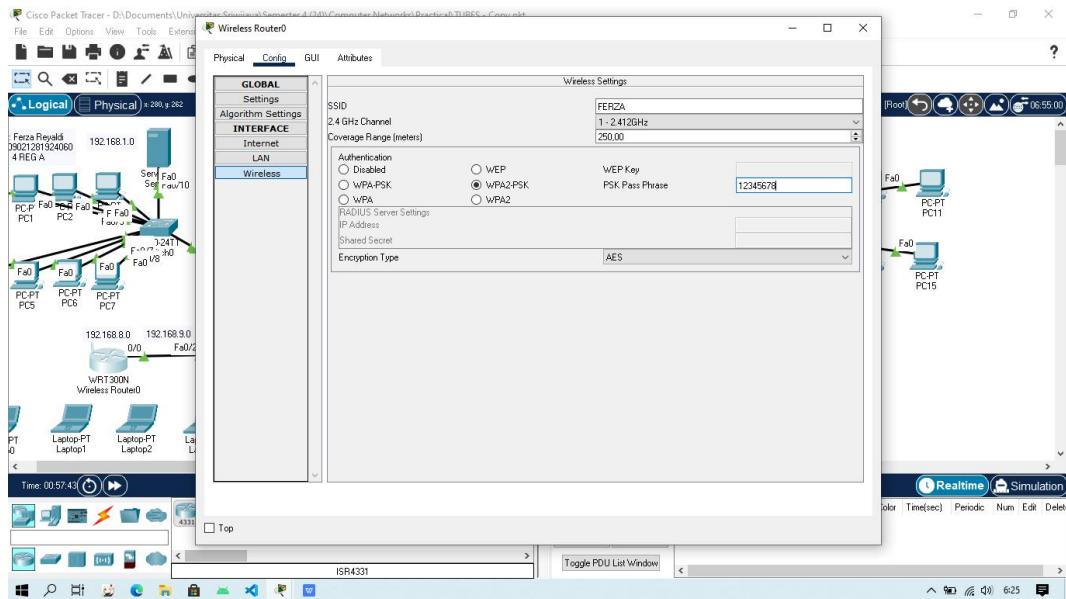


PC20

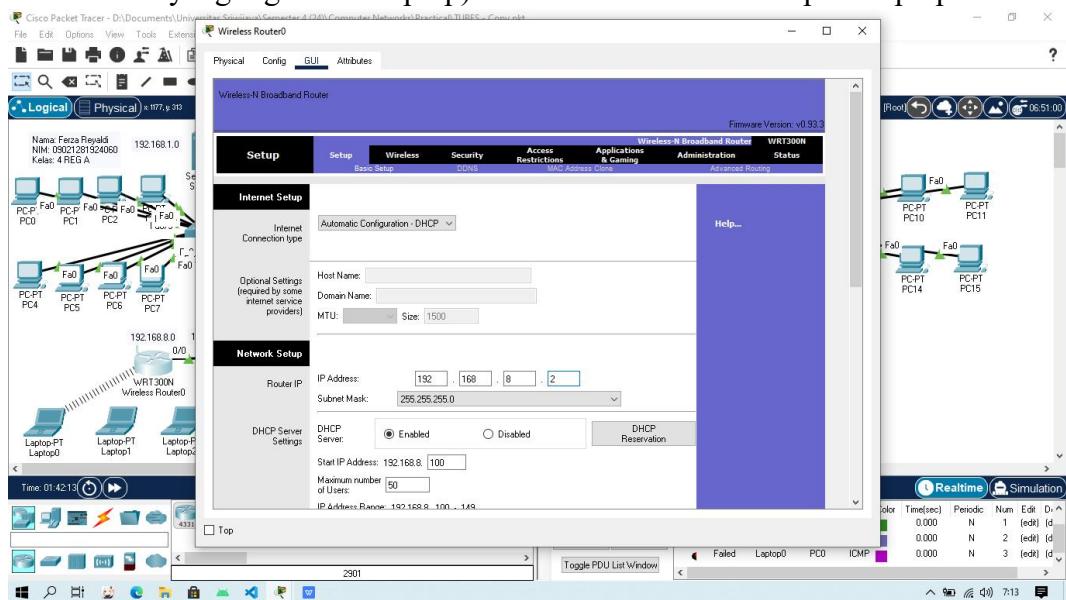


4. Mengatur Konfigurasi pada Wireless Router

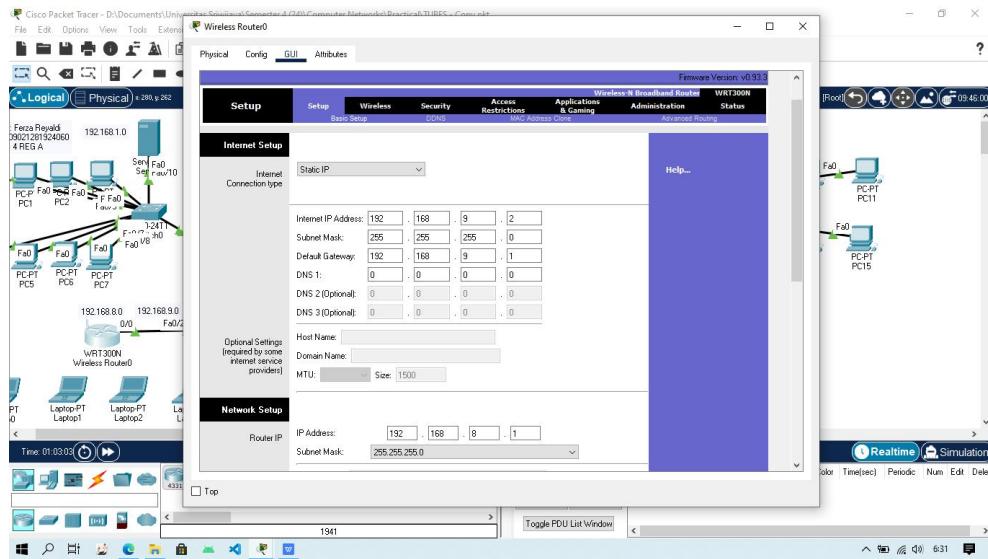
1. Klik wireless router.
2. Pada menu config, pilih wireless. Atur nama jaringan (SSID) dan tipe autentikasi.



3. Pada menu GUI, pilih setup. Atur IP address, subnet mask, dan tipe interkoneksi (disini digunakan DHCP: bertujuan mengatur secara otomatis IP address yang digunakan laptop) untuk koneksi internet kepada laptop.

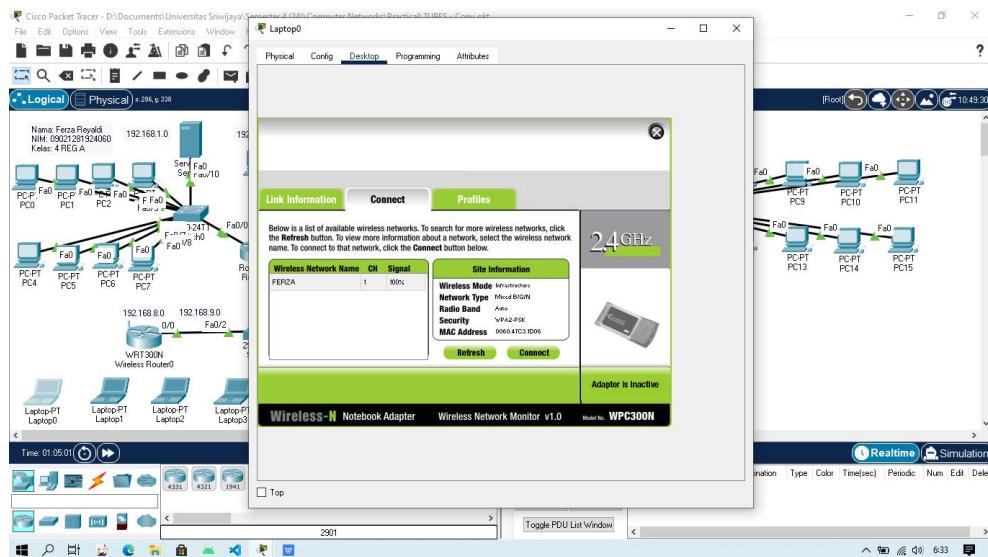


4. Atur IP address, subnet mask, default gateway, dan tipe interkoneksi (disini digunakan static) untuk koneksi jaringan kepada router1. kemudian save setting.

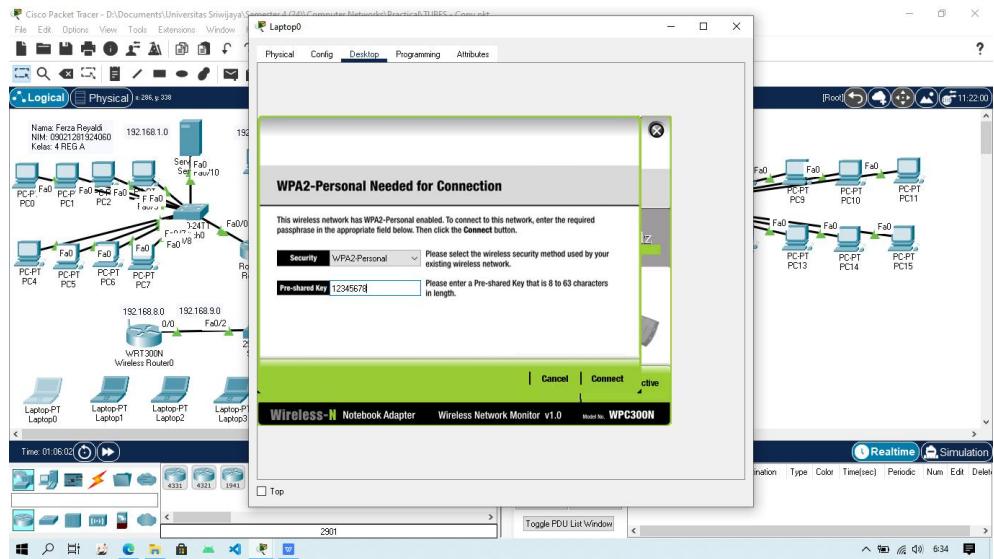


5. Mengkoneksi internet ke laptop

1. Klik laptop0-laptop3.
2. Pada menu desktop, pilih pc wireless.
3. Pilih menu connect.



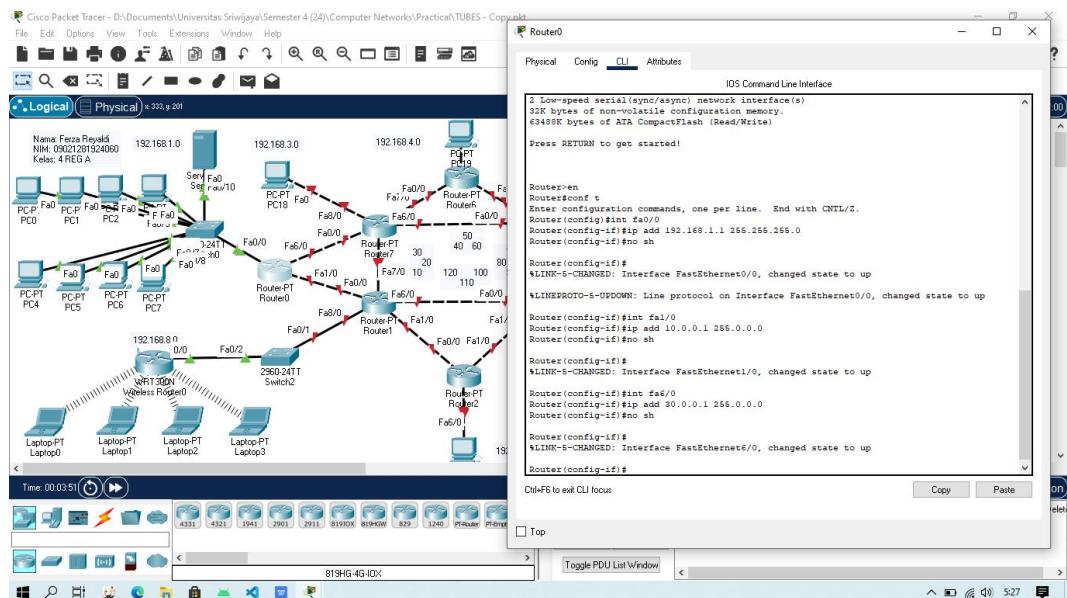
4. Sambungkan laptop ke jaringan FERZA dengan mengklik tombol Connect. Kemudian masukkan password sesuai konfigurasi awal. Setelah itu klik connect.



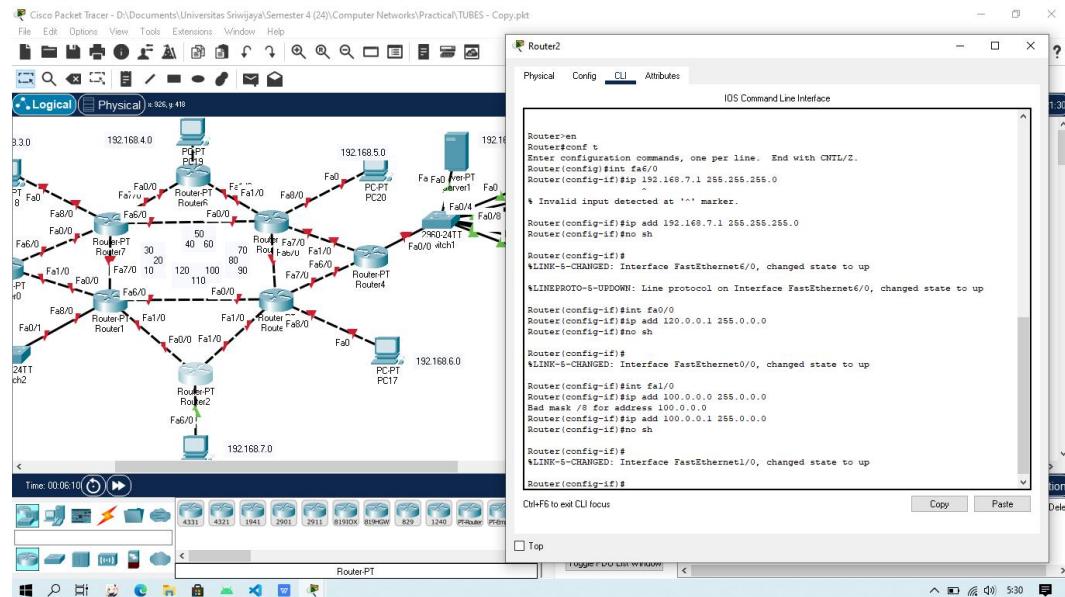
6. Mengatur Interface masing-masing Router

Atur IP address pada masing masing interface sesuai dengan jaringan yang ditentukan melalui CLI menggunakan perintah: `int <interface>`, `ip add <IPAddress> <SubnetMask>`, dan `no sh`.

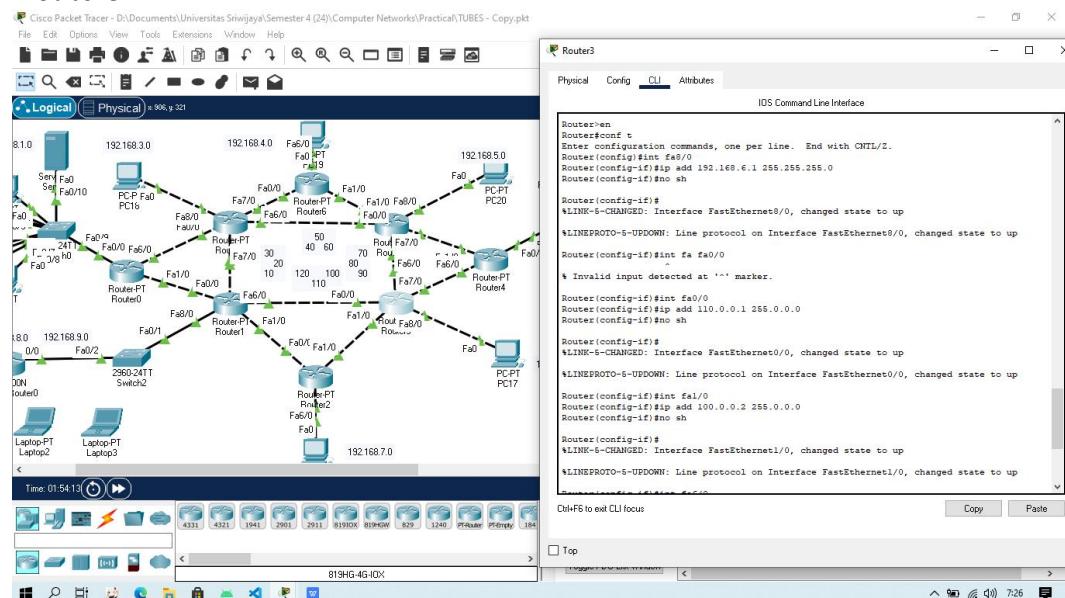
Router0

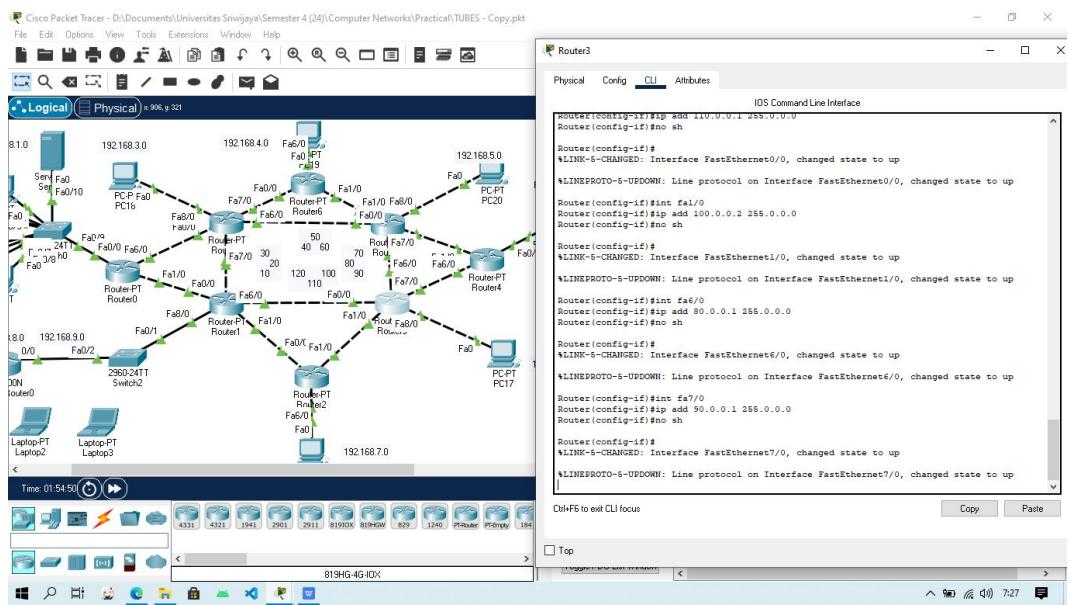


Router2

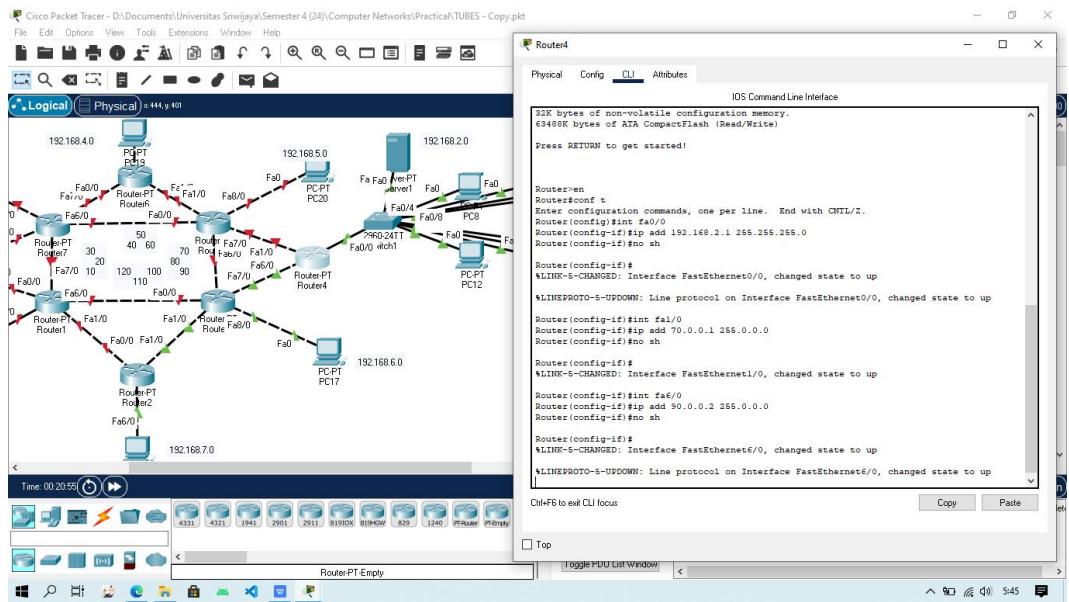


Router3

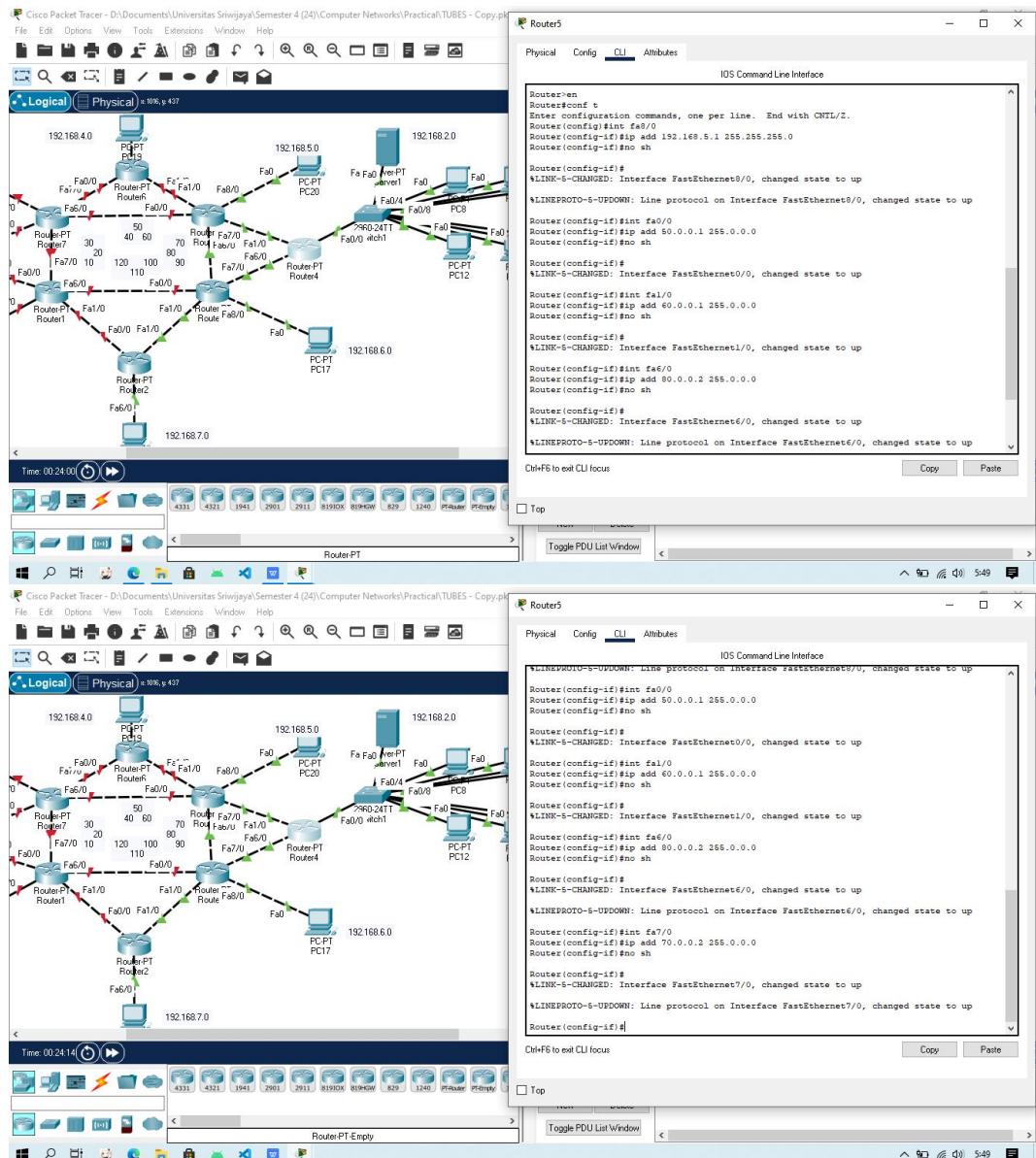




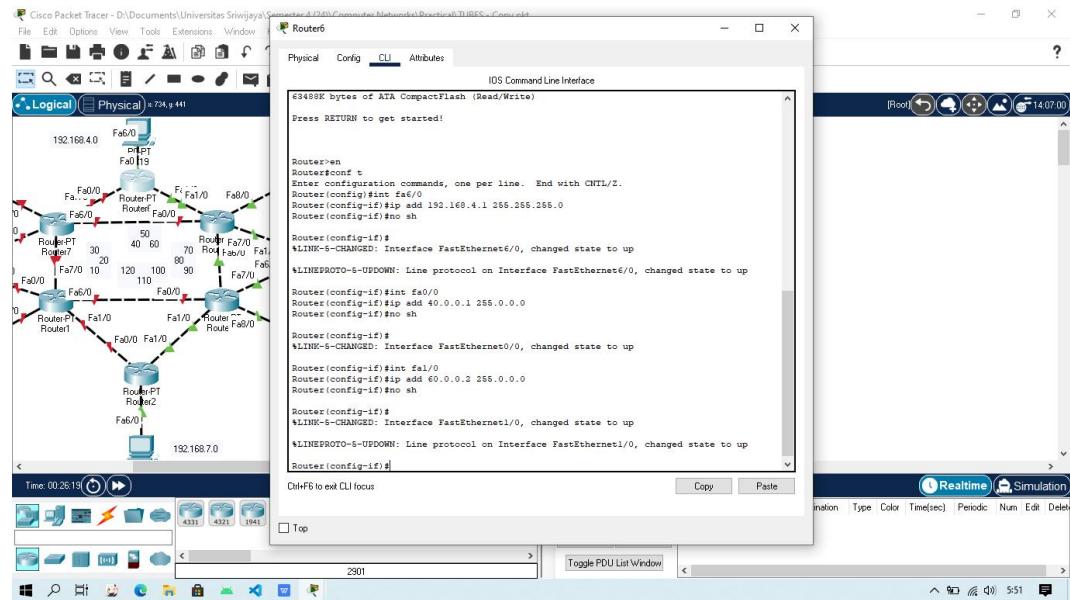
Router4



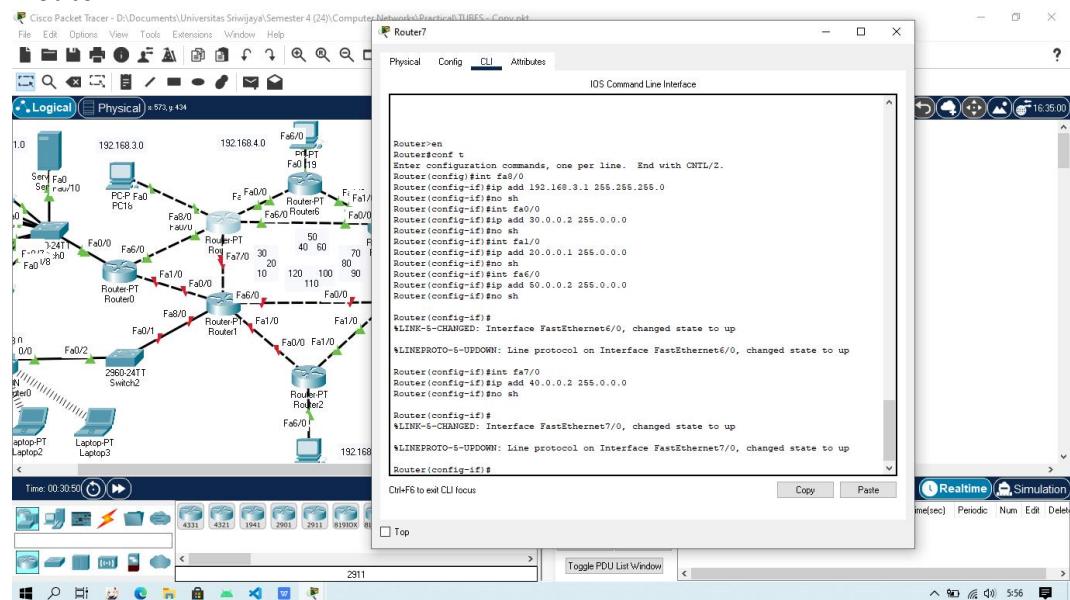
Router5



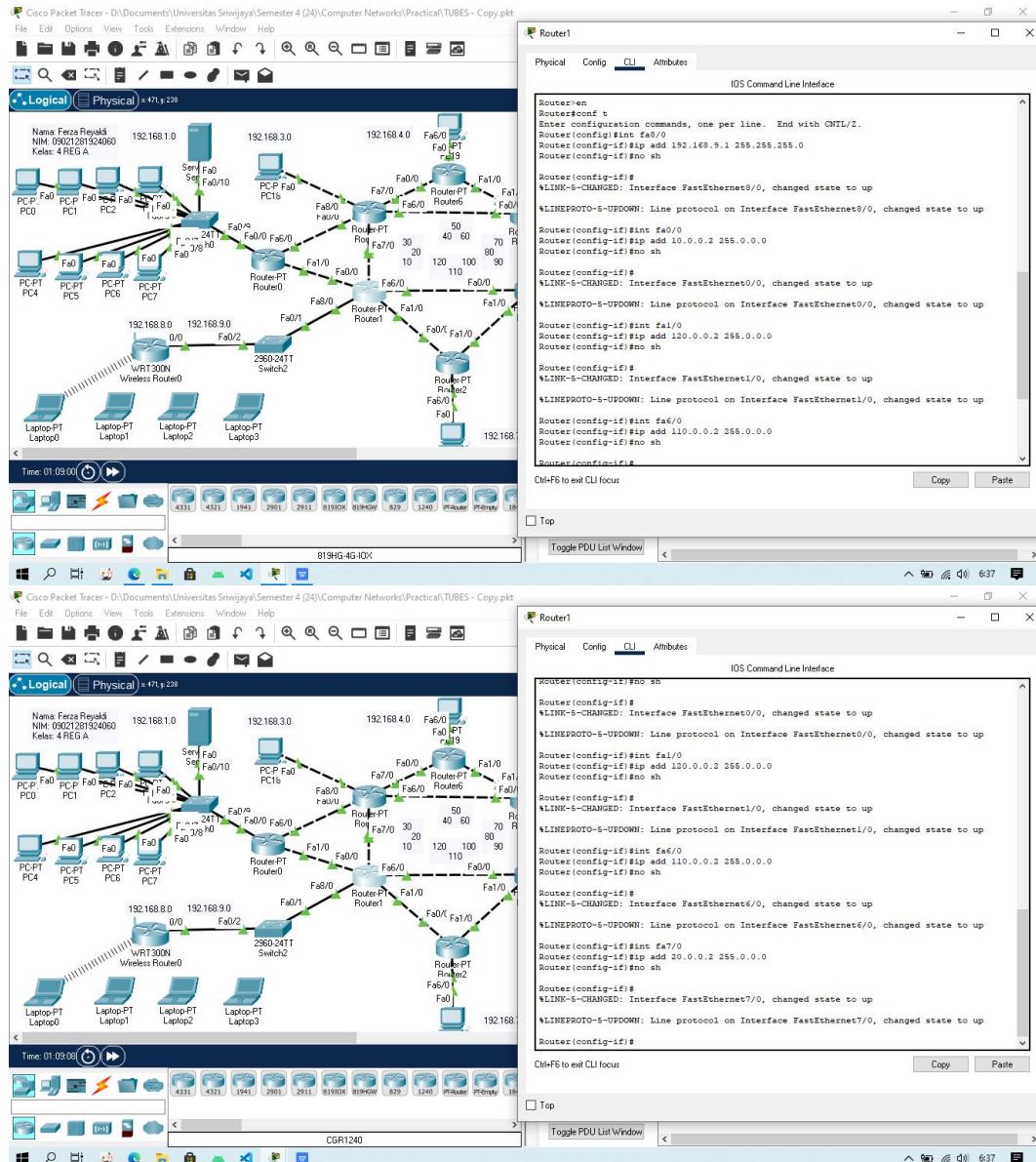
Router



Router7



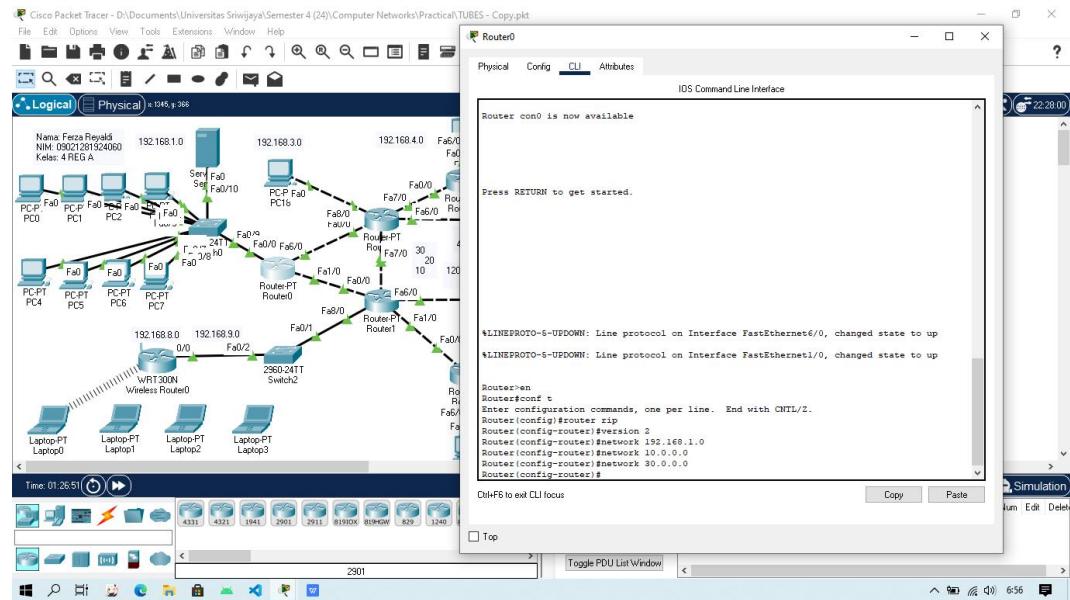
Router1



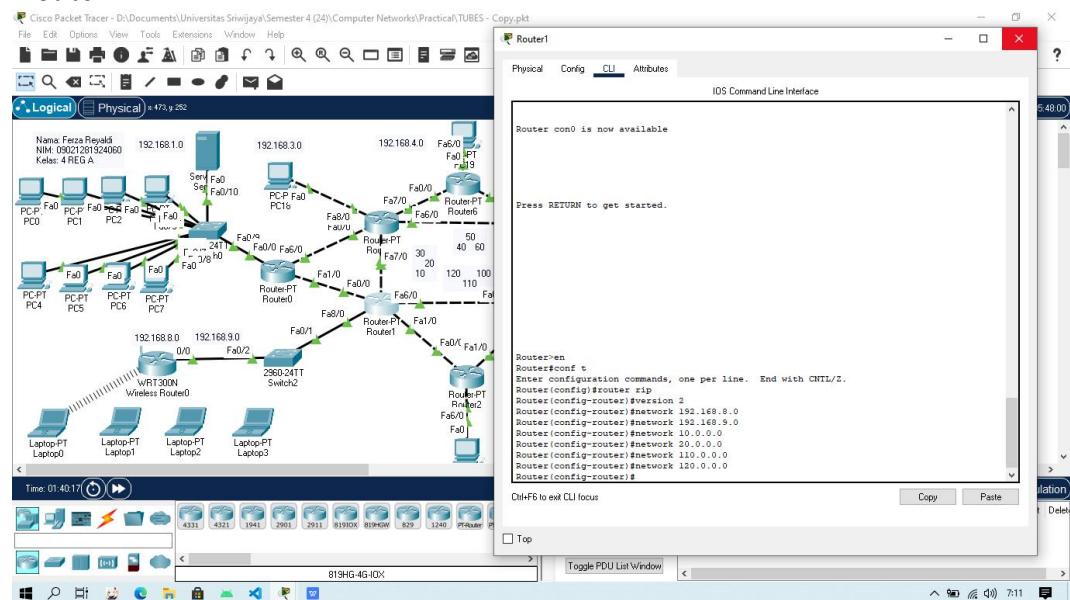
7. Dynamic Routing menggunakan RIP Version 2

Atur routing untuk masing-masing interface/jalur pada router menggunakan RIP Version 2 melalui CLI menggunakan perintah: **router rip, version 2, network <networkSetiapInterfaceRouter>**.

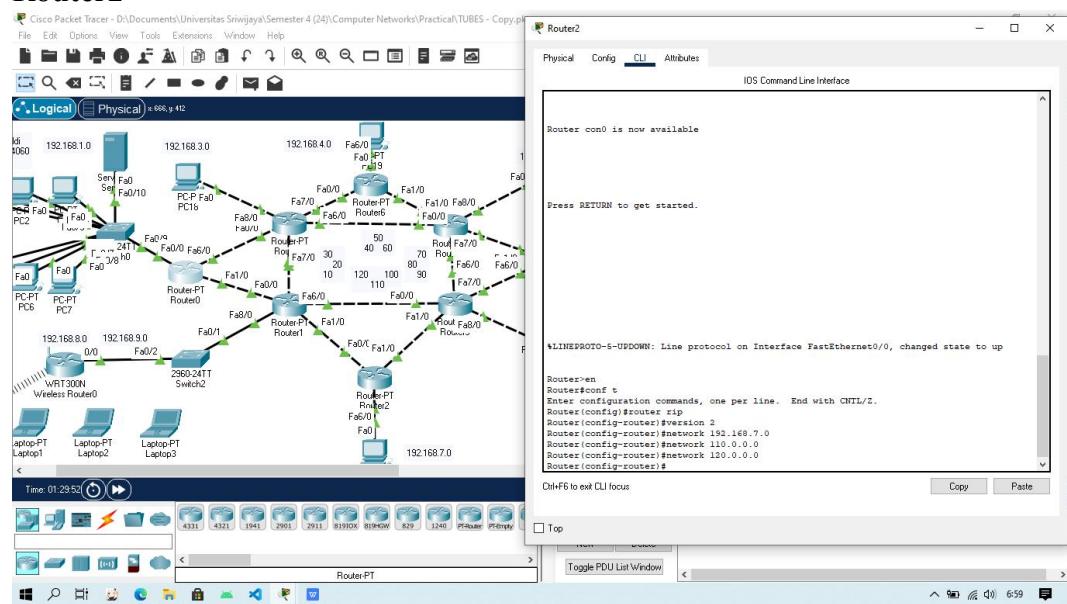
Router



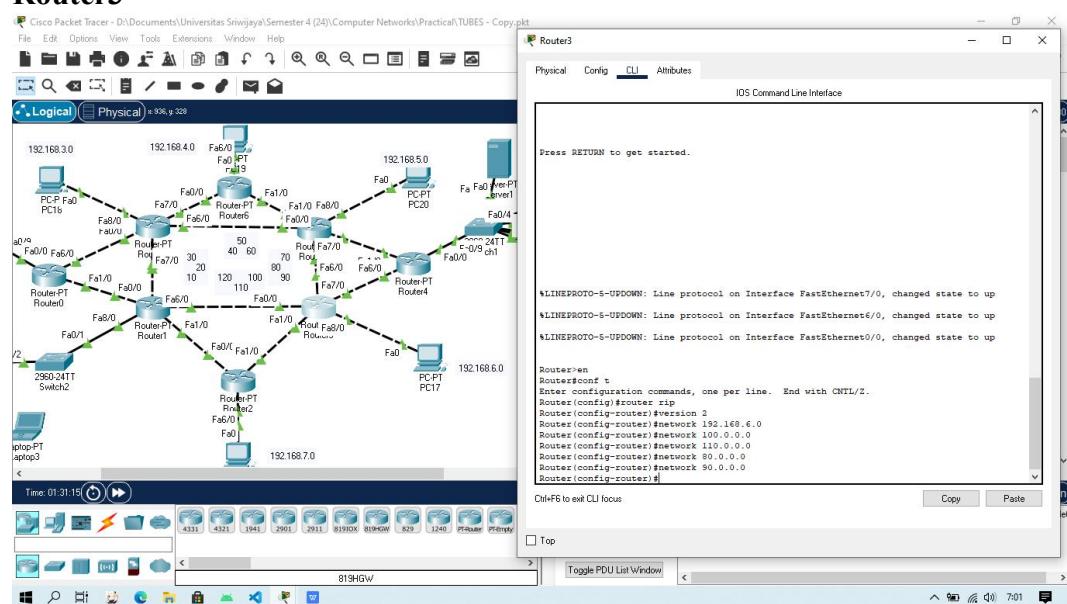
Router1



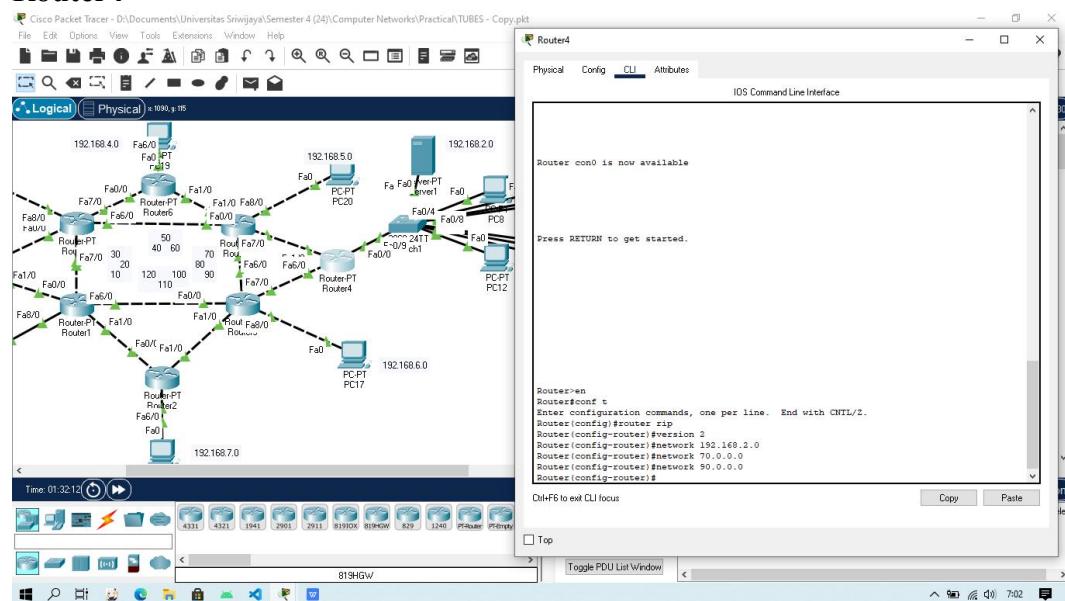
Router2



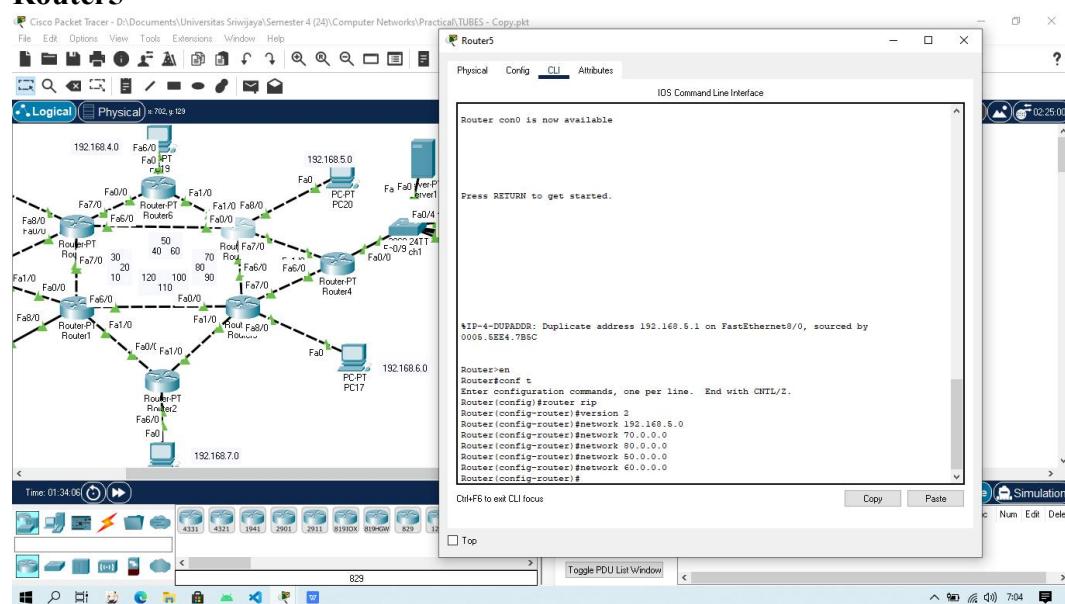
Router3



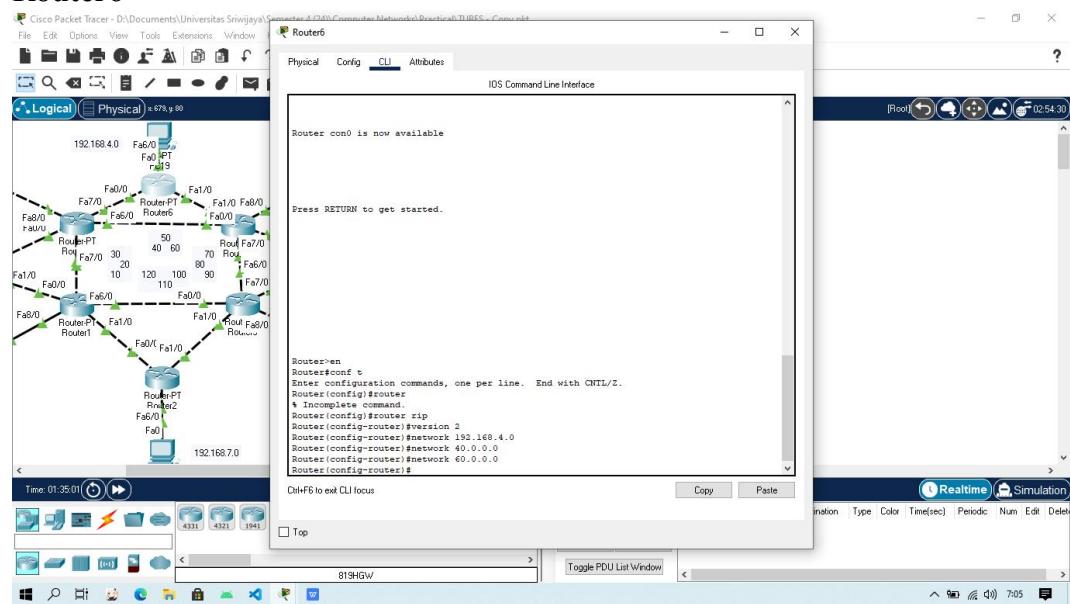
Router4



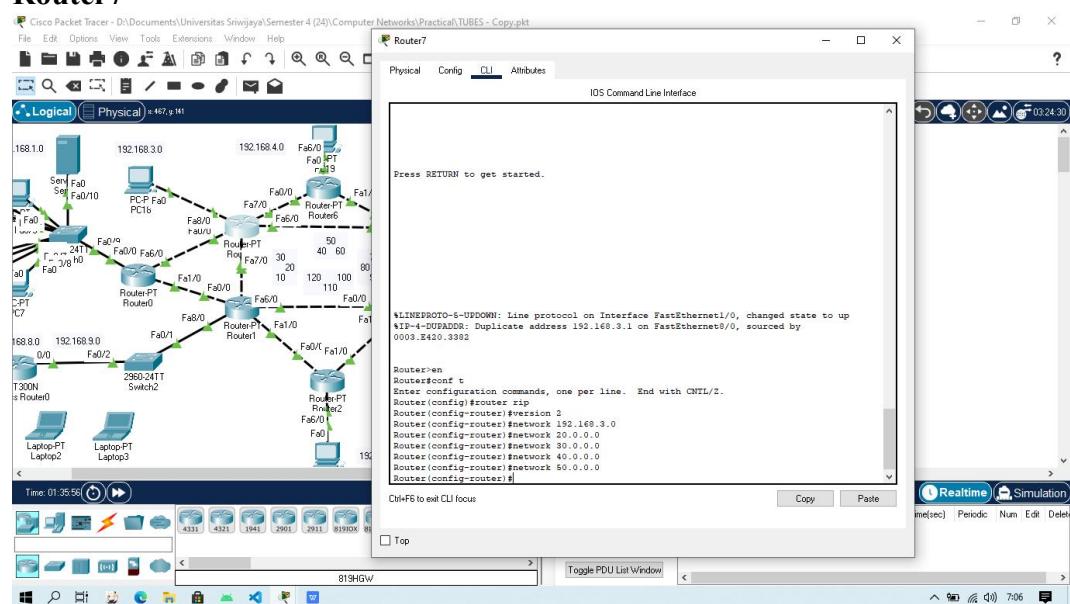
Router5



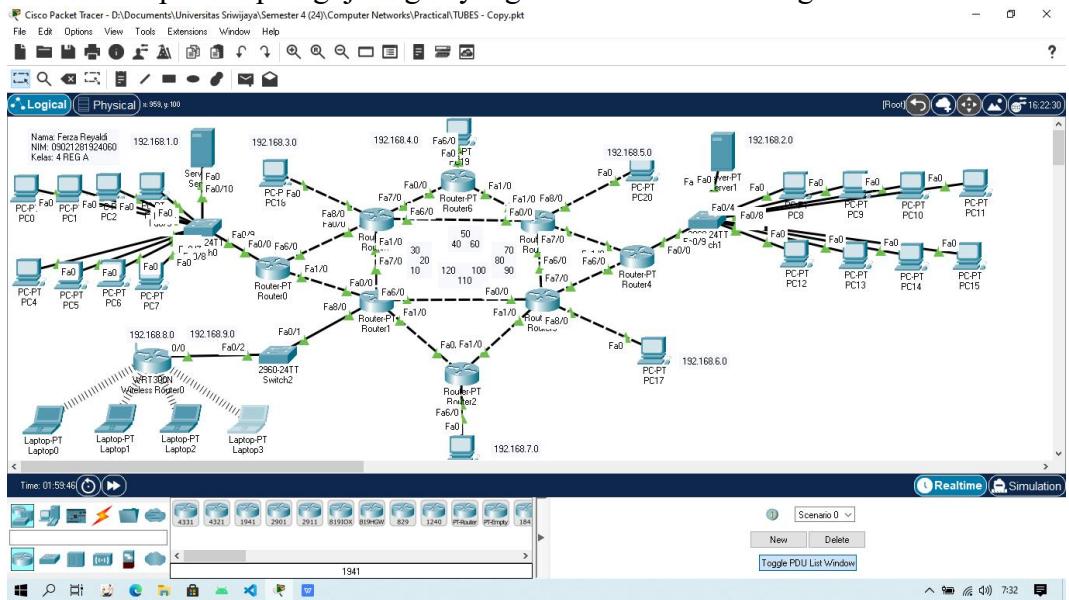
Router6



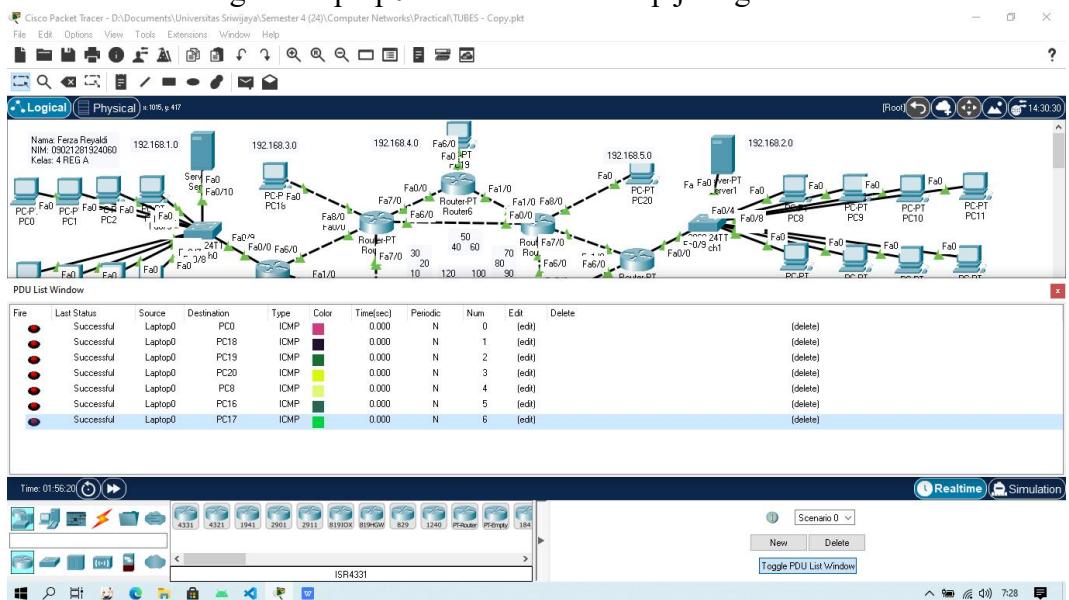
Router7



Berikut tampilan topologi jaringan yang sudah selesai dikonfigurasi:



Berikut Hasil Ping dari laptop0 ke satu PC di setiap jaringan:



Berdasarkan hasil tangkapan layar diatas, jaringan berhasil dikonfigurasi dengan benar.