Nama : Arlin Widya Rahayu

Nim : L200170014

Kelas : A

Praktikum Jaringan Komputer

MODUL VIII

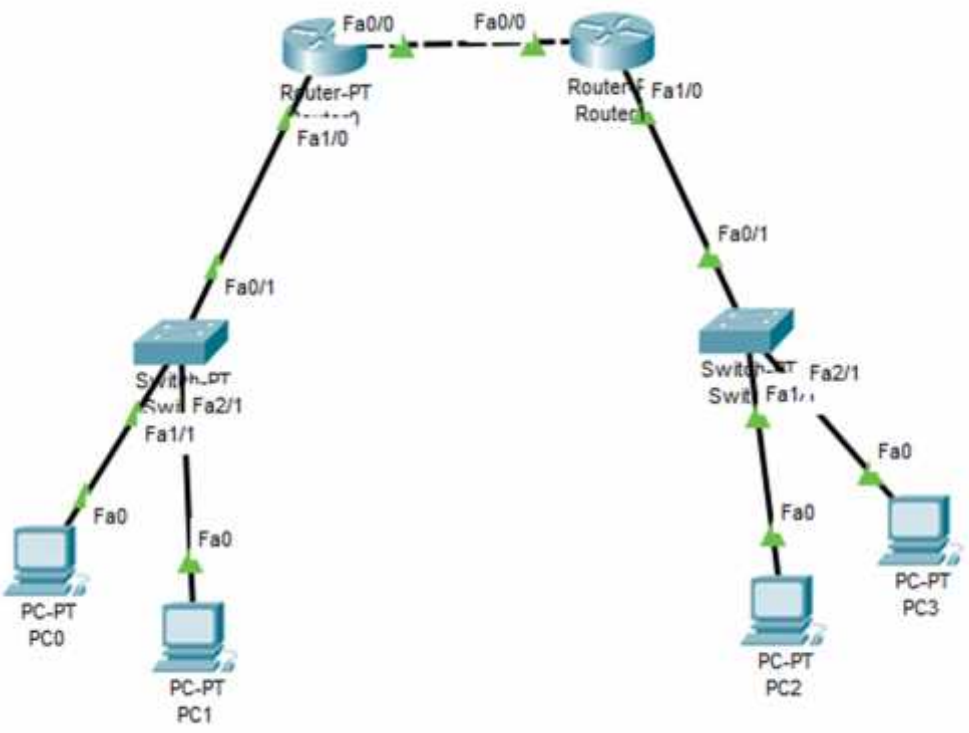
Packet Filtering dengan Access List

C. Kegiatan Praktikum

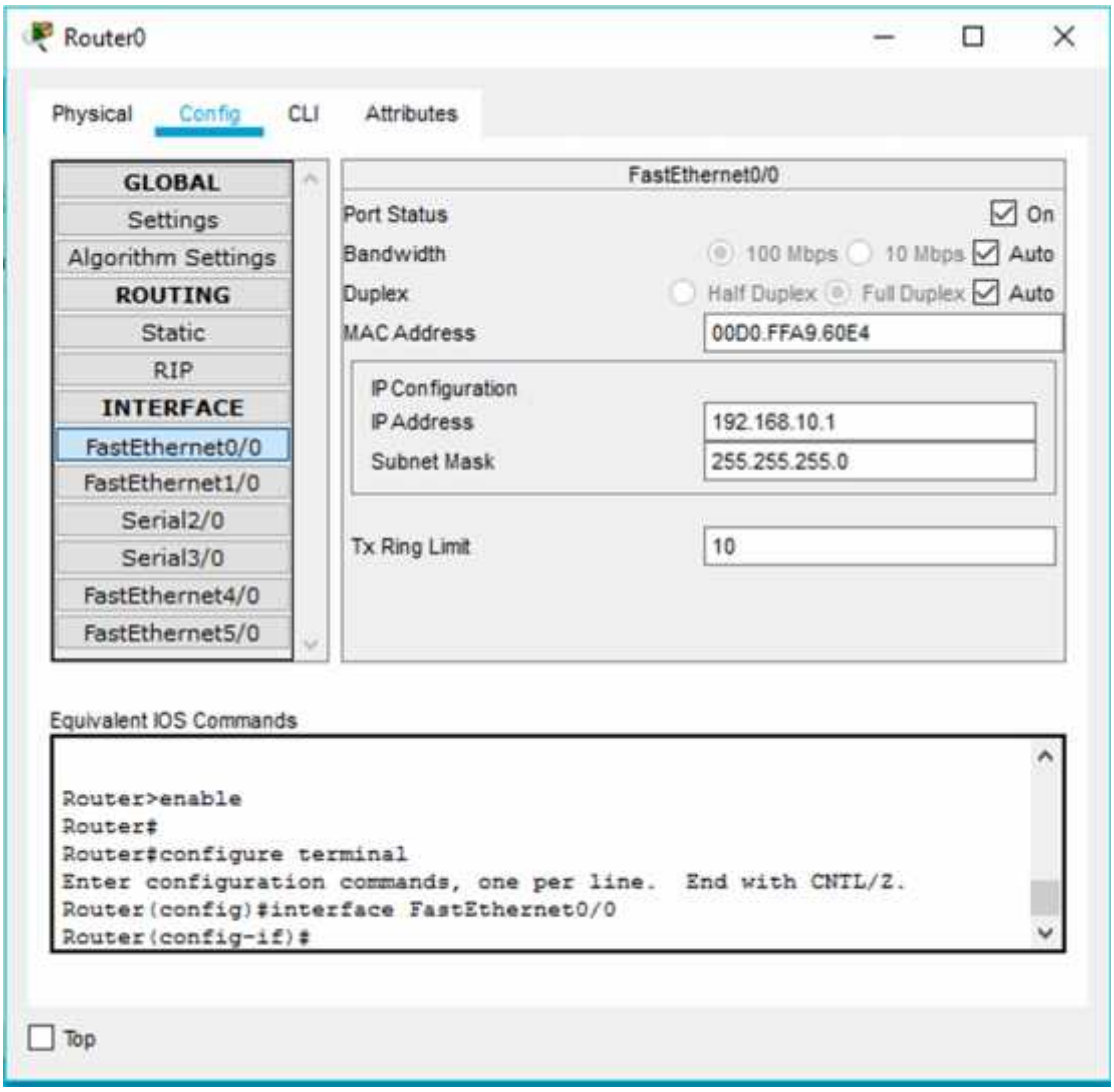
Kegiatan 1. Konfigurasi Access List

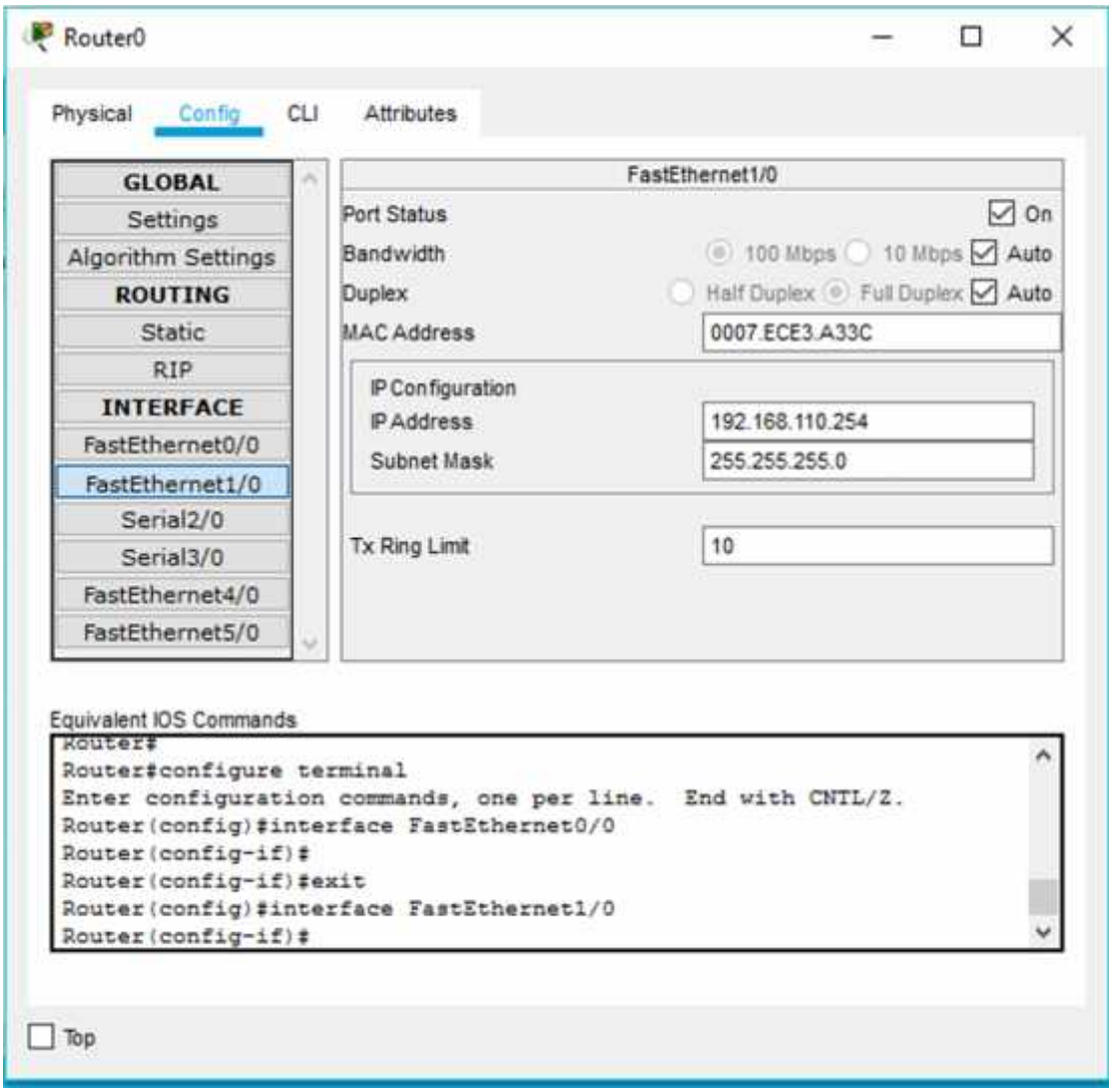
Langkah – langkah konfigurasi pada Access List :

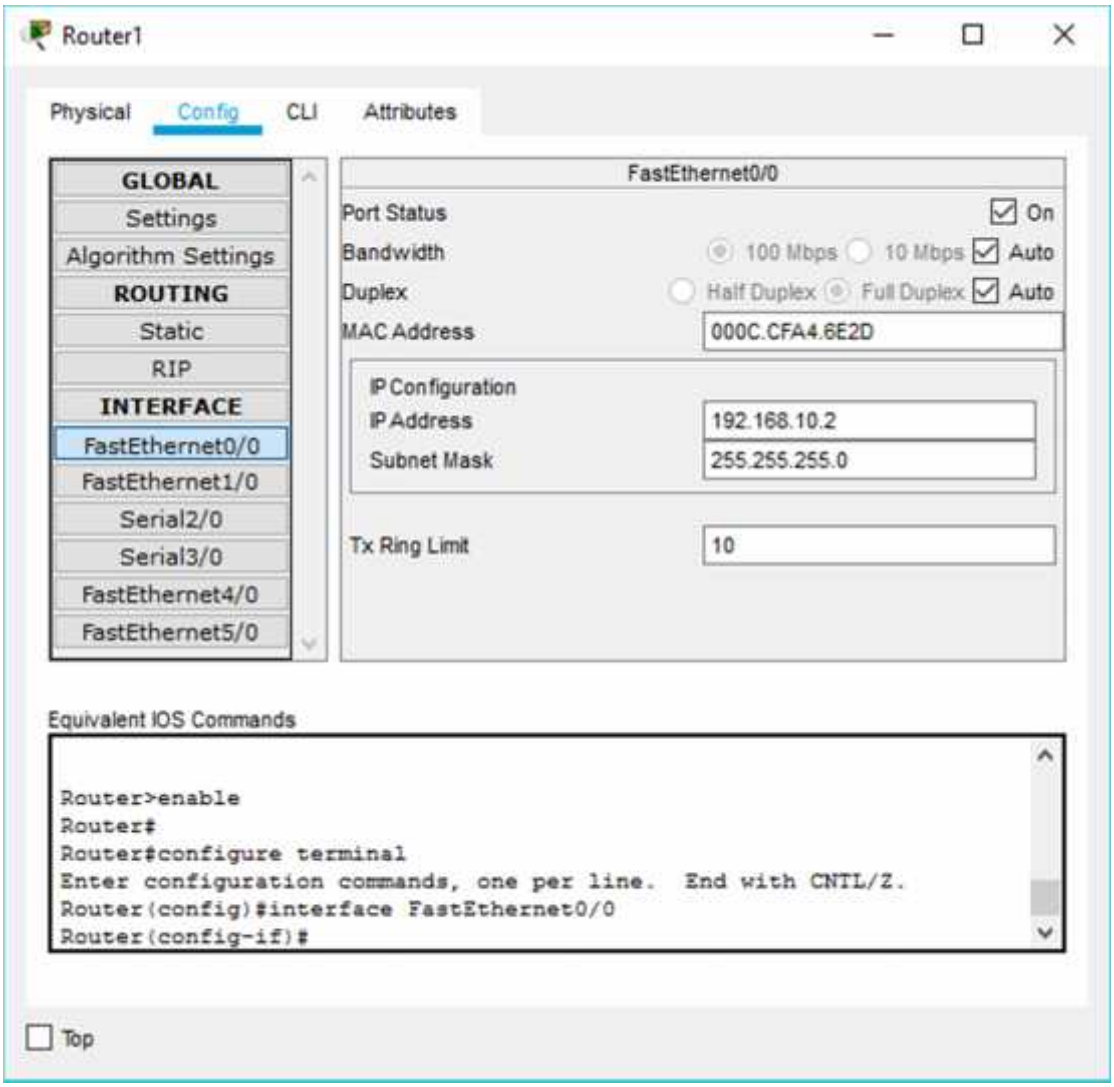
1. Mendesain jaringan seperti pada gambar dibawah ini.

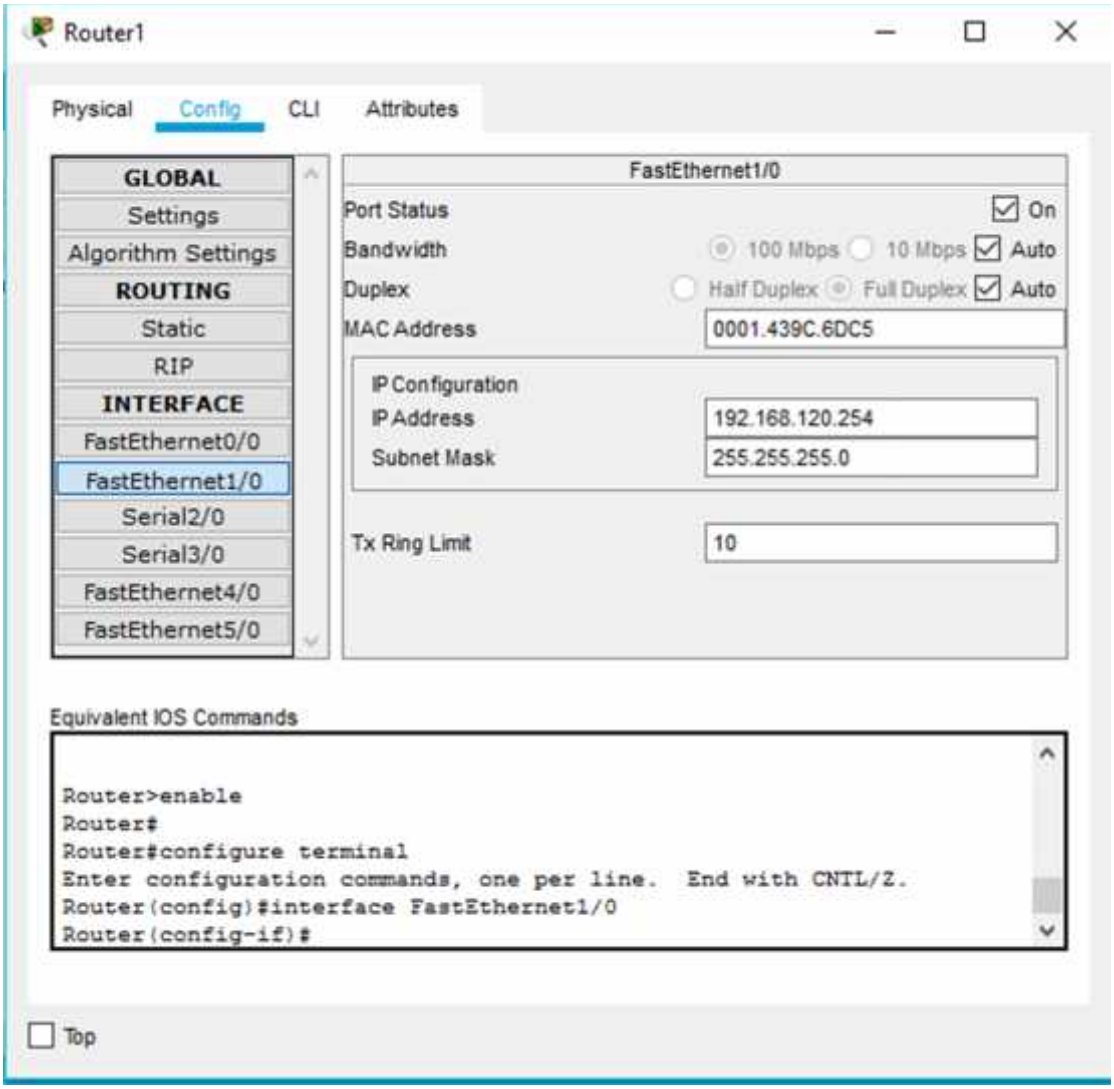


2. Memberi identitas pada semua sumber daya yang di desain.

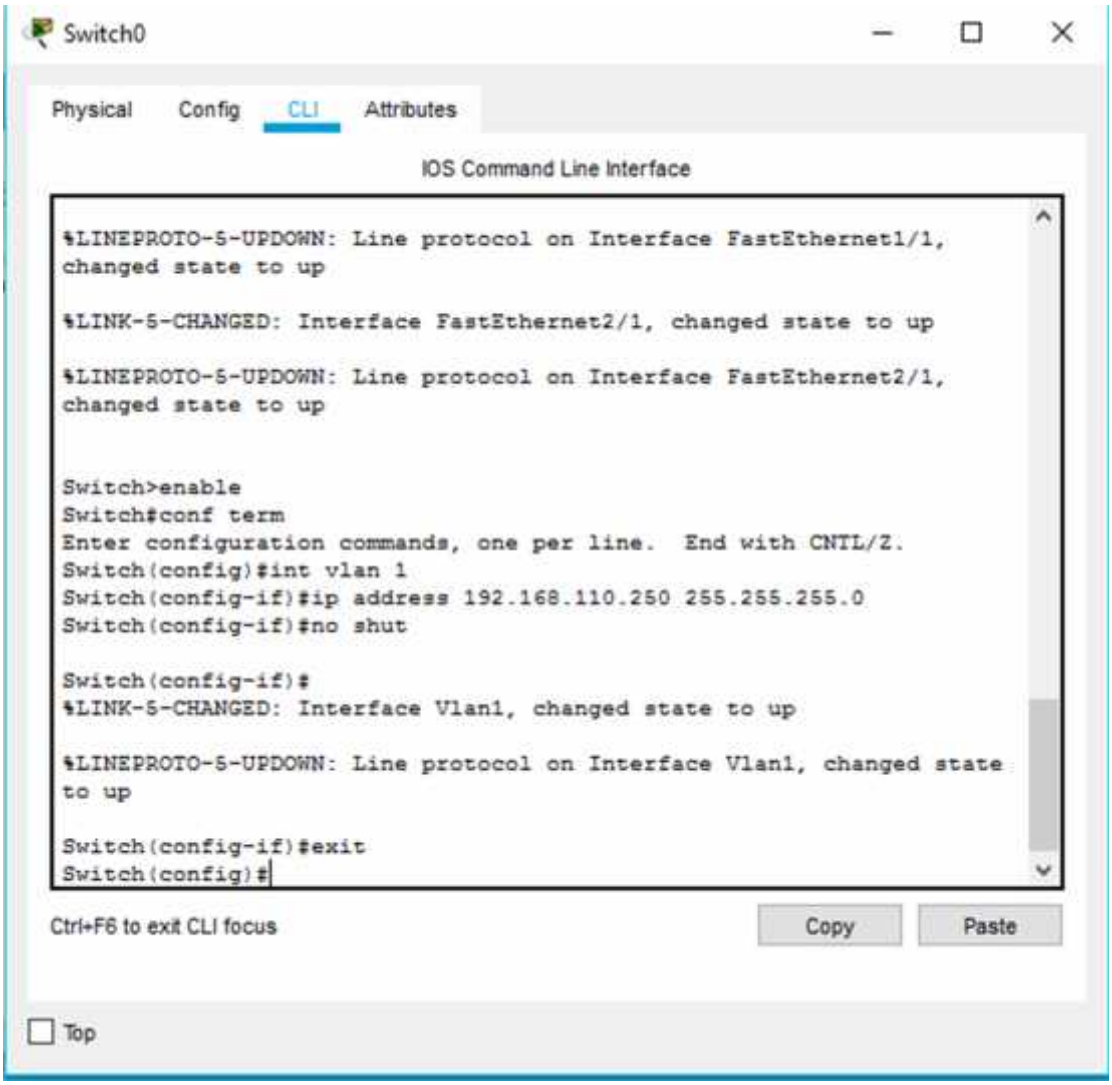

Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet0/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00D0.FFA9.60E4
IP Configuration
IP Address
192.168.10.1
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Top

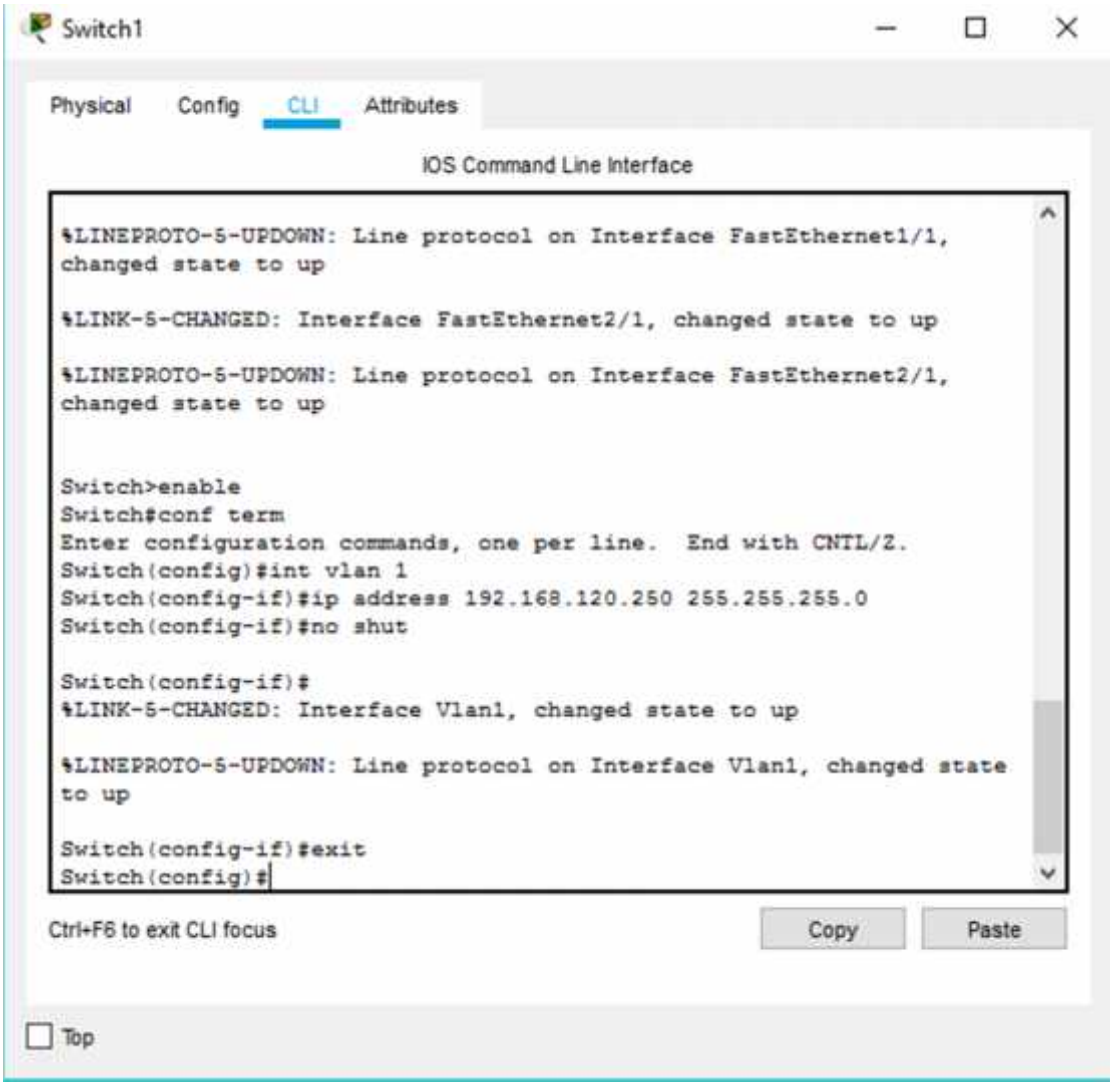

Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet1/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
0007.ECE3.A33C
IP Configuration
IP Address
192.168.110.254
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
Top


Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
INTERFACE
FastEthernet0/0
FastEthernet1/0
Serial2/0
Serial3/0
FastEthernet4/0
FastEthernet5/0
FastEthernet0/0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
000C.CFA4.6E2D
IP Configuration
IP Address
192.168.10.2
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Top

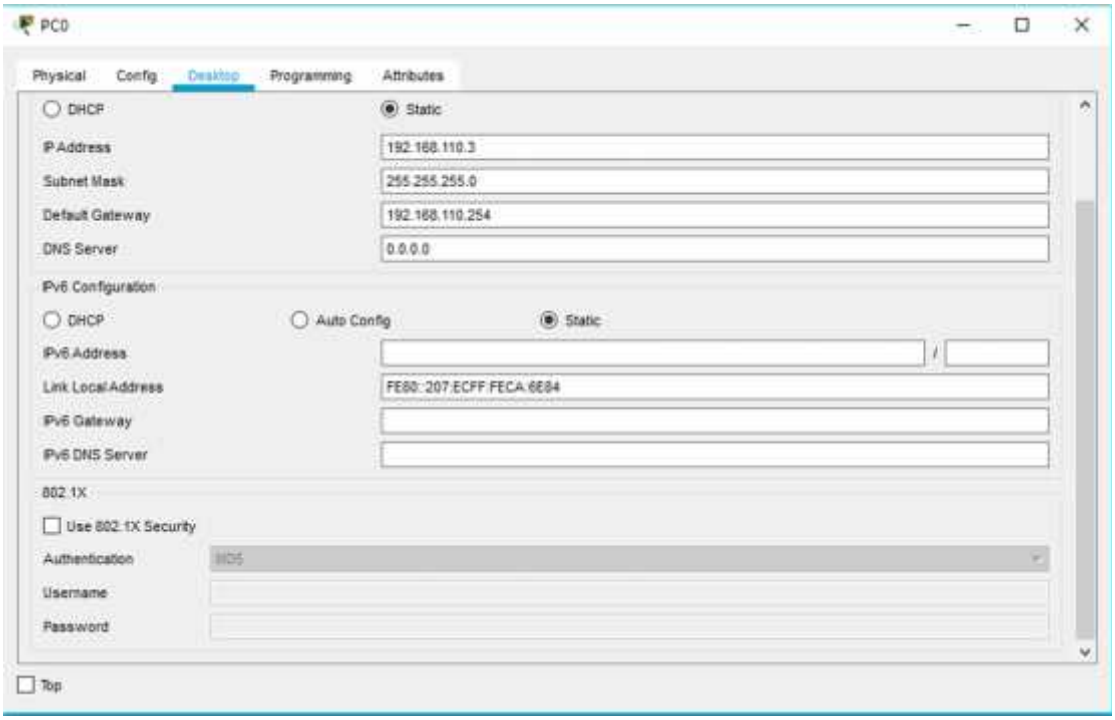


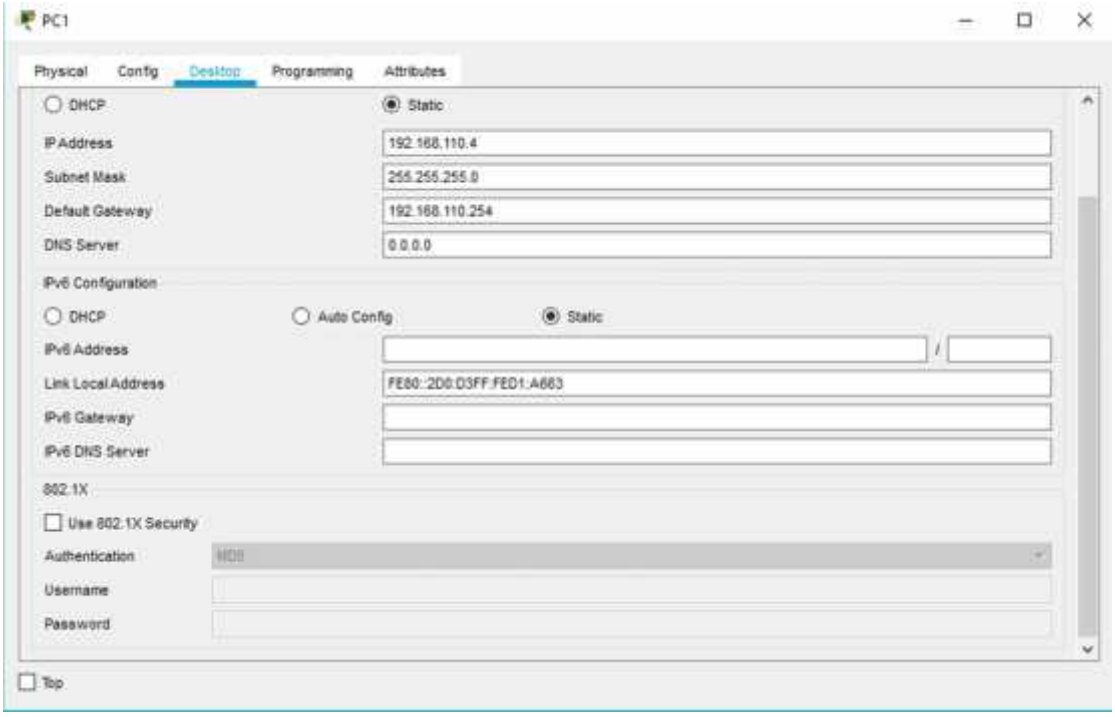
3. Memberikan alamat IP untuk digunakan sebagai default gateway bagi semua komputer pada Switch0 dan Switch1.

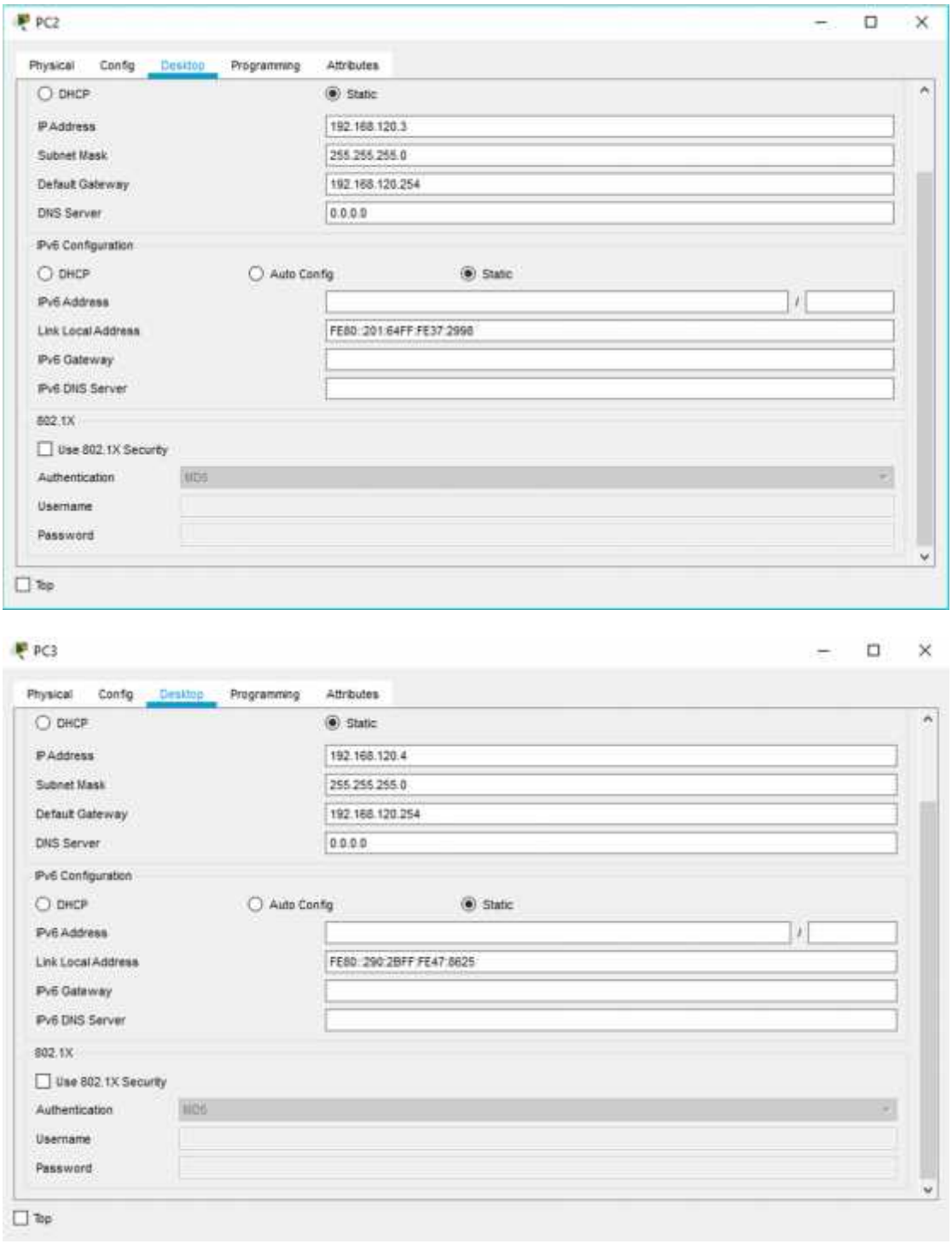

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/1, changed state to up
%LINK-5-CHANGED: Interface FastEthernet2/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet2/1, changed state to up
Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#int vlan 1
Switch(config-if)#ip address 192.168.110.250 255.255.255.0
Switch(config-if)#no shut
Switch(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to up
Switch(config-if)#exit
Switch(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top



4. Memberikan alamat IP, subnet mask, dan default gateway pada masing-masing komputer.

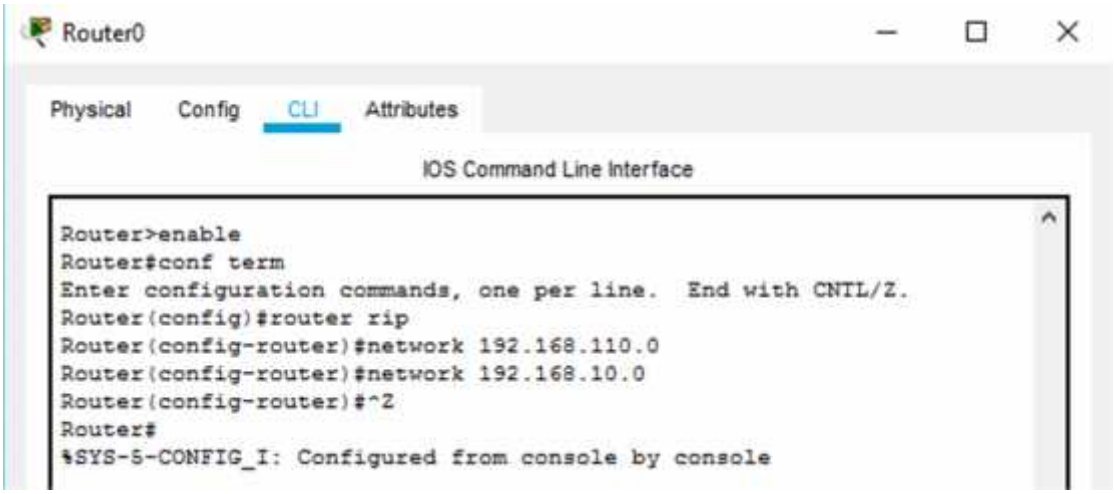

PC0
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
192.168.110.3
Subnet Mask
255.255.255.0
Default Gateway
192.168.110.254
DNS Server
0.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::207:ECFF:FECA:6E84
IPv6 Gateway
IPv6 DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top

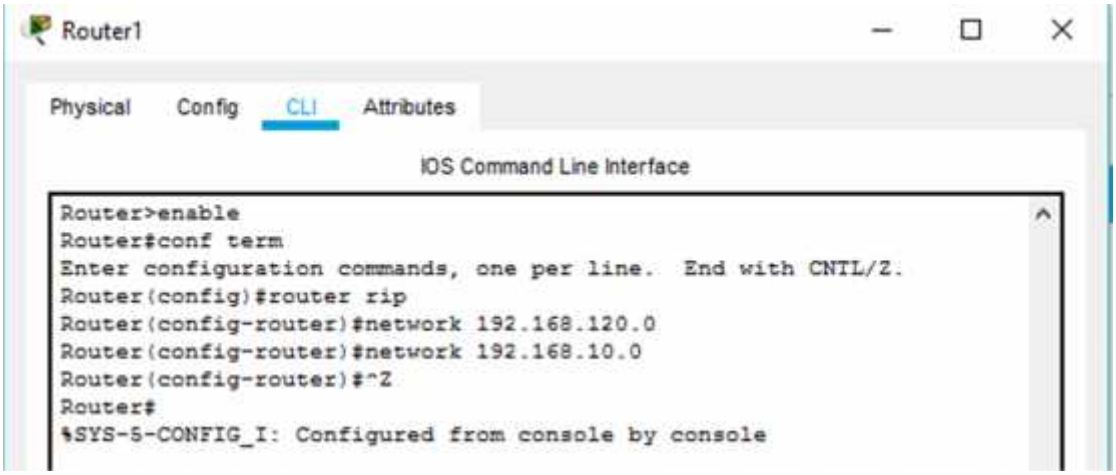

PC1
Physical
Config
Desktop
Programming
Attributes
DHCP
Static
IP Address
192.168.110.4
Subnet Mask
255.255.255.0
Default Gateway
192.168.110.254
DNS Server
0.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2D0:D3FF:FED1:A663
IPv6 Gateway
IPv6 DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top



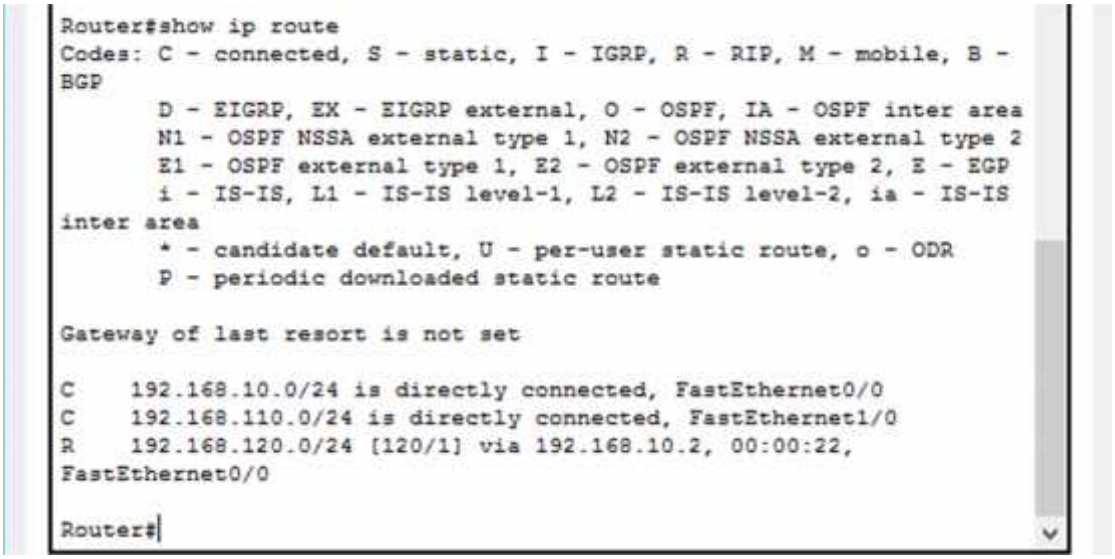
5. Melakukan routing dengan protokol RIP pada kedua jaringan tersebut.

6. Memberikan network ID 192.168.110.0 dan 192.168.10.0 pada Router0 dan Router2 diberi network ID 192.168.120.0 dan 192.168.10.0 untuk digunakan sebagai jalur routing.





7. Melakukan pengecekan tabel routing pada kedua router tersebut.

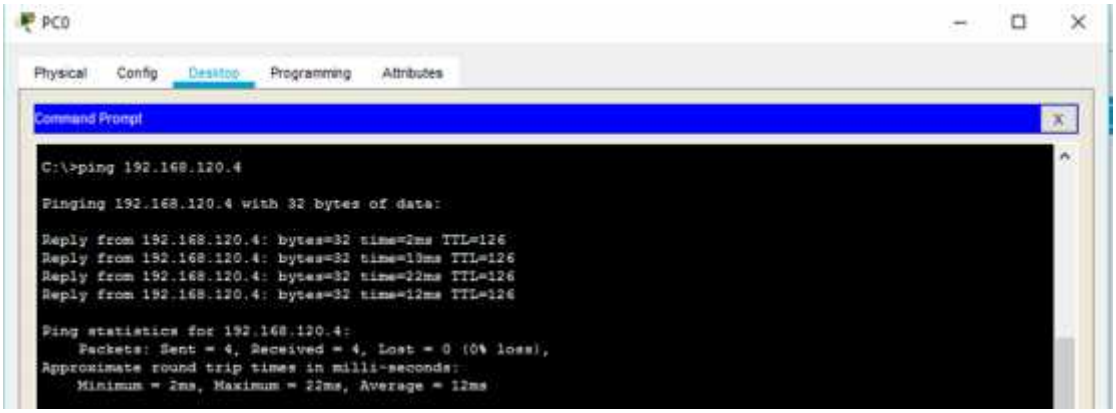


```
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -
BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, FastEthernet0/0
R    192.168.110.0/24 [120/1] via 192.168.10.1, 00:00:23,
FastEthernet0/0
C    192.168.120.0/24 is directly connected, FastEthernet1/0
```

8. Melakukan tes koneksi dari PC0 ke PC3 menggunakan perintah ping.



9. Menentukan Access List yang akan diterapkan pada jaringan. Misal, Router0 akan mengijinkan semua host dari jaringan 192.168.120.0 dapat mengakses jaringan 192.168.100.0

```
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#access-list 10 permit 192.168.120.0 0.0.255.255
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

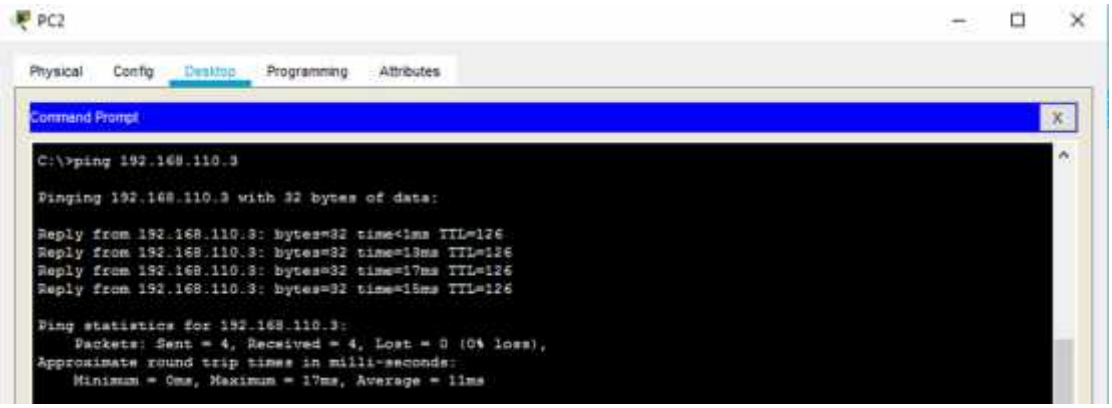
10. Menerapkan Access List tersebut ke interface [Router0] dalam hal ini interface [fa 1/0] yang mengarah ke dalam jaringan 192.168.110.0

```
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa 1/0
Router(config-if)#ip access-group  10 out
Router(config-if)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

11. Melihat konfigurasi Access List pada Router0

```
Router#show access-lists
Standard IP access list 10
    10 permit 192.168.0.0 0.0.255.255
Standard IP access list 20
    10 permit host 192.168.120.4
```

12. Melakukan tes koneksi antara PC2 dengan PC1 menggunakan perintah ping. Apakah masih terjadi koneksi?



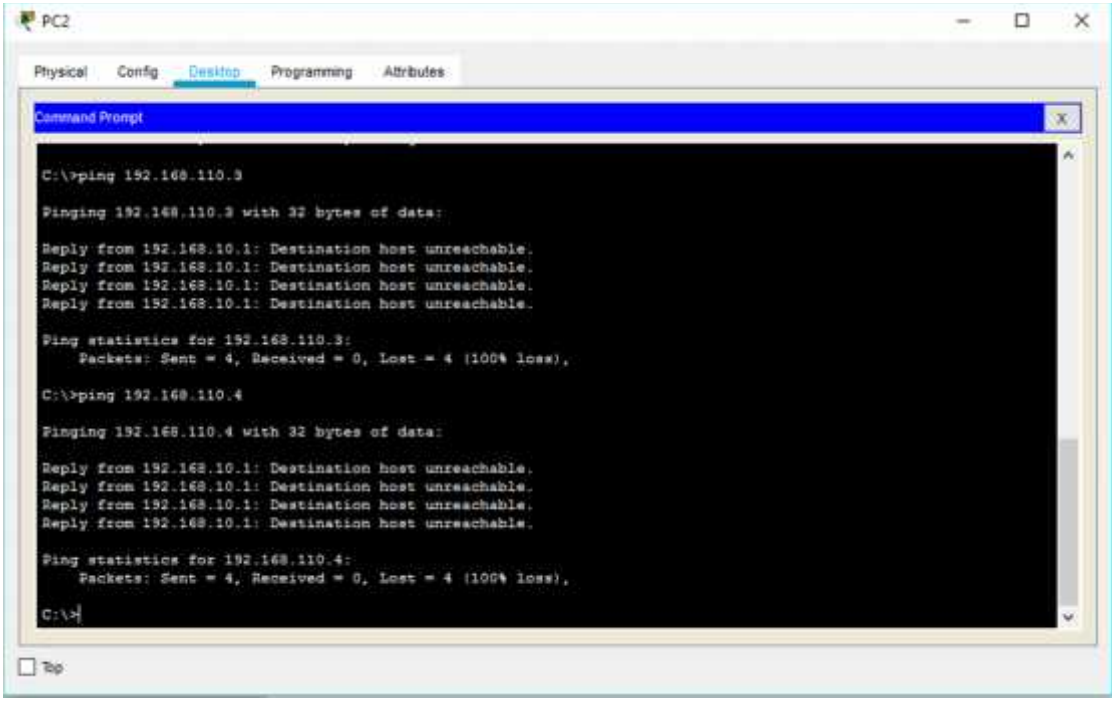
Jawab: Masih terjadi koneksi di karenakan dari [Router 0] mengijinkan semua host dari jaringan 192.168.120.0 dapat mengkases jaringan 192.1668.100.0

13. Memberikan akses hanya pada 1 host (PC 3) dengan alamat IP 192.168.120.4 agar dapat mengakses ke jaringan 192.168.110.0

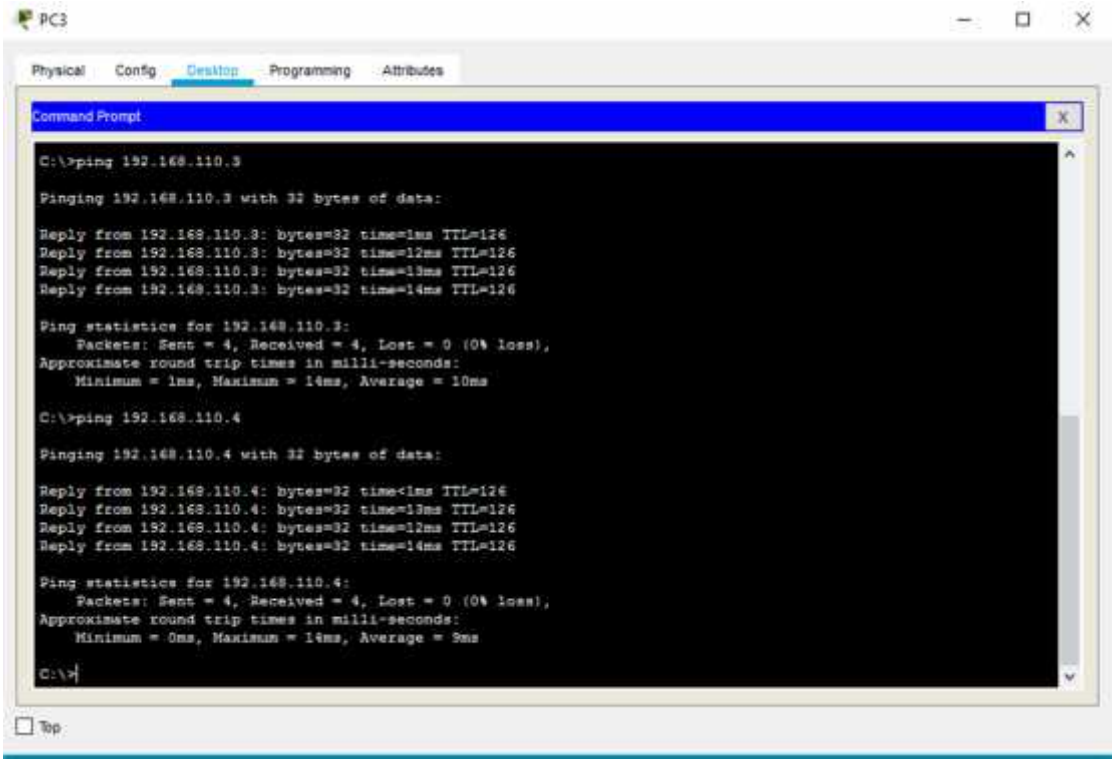
```
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#access-list 20 permit 192.168.120.4 0.0.0.0
Router(config)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa 1/0
Router(config-if)#ip access-group 20 out
Router(config-if)#^Z
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

14. Melakukan tes koneksi dari PC2 yang berada di jaringan 192.168.120.0 ke PC0 dan PC1 yang ada dijaringan 192.168.110.0



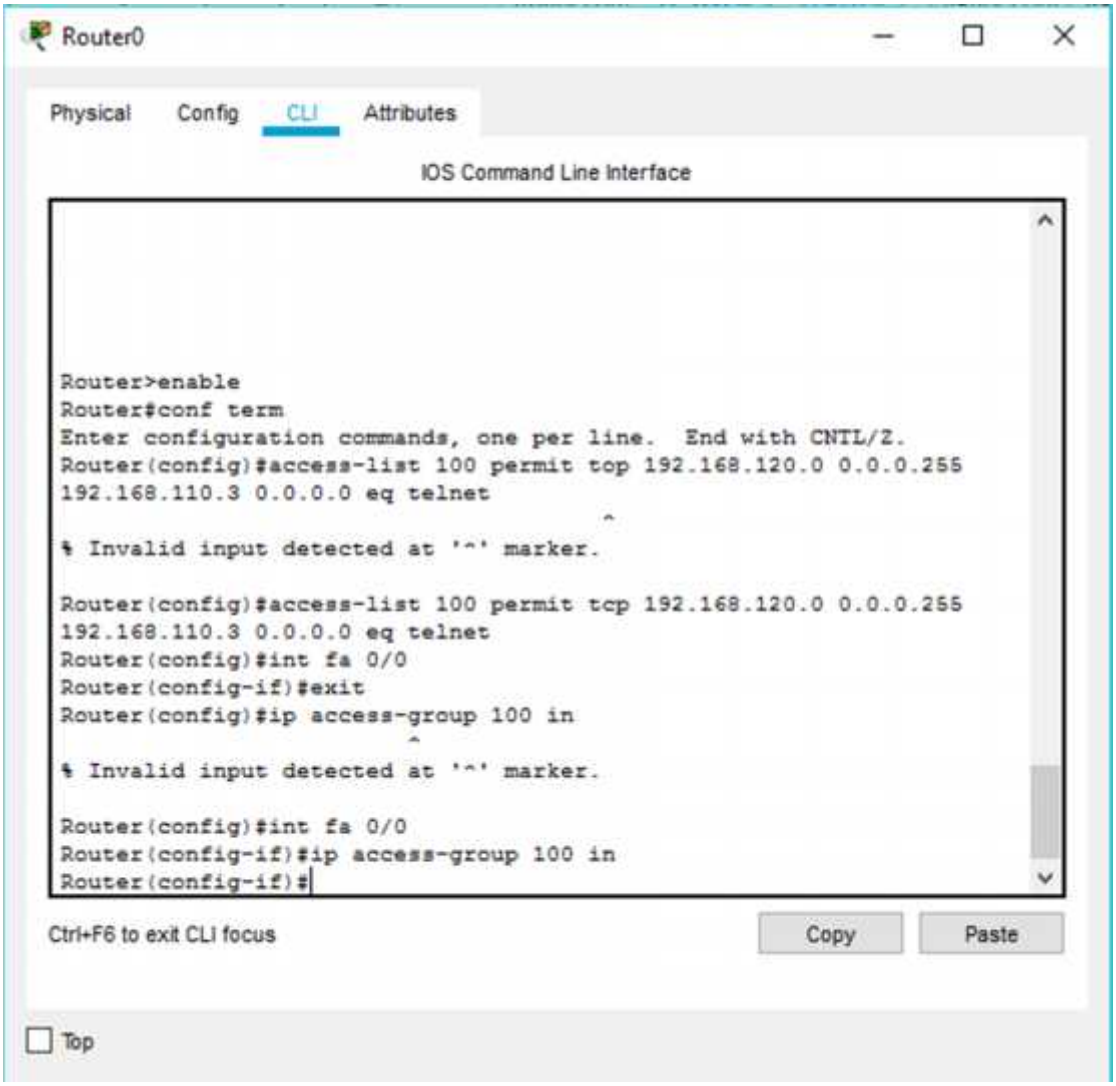
15. Melakukan tes koneksi dari PC 3 yang berada pada jaringan 192.168.120.0 ke PC 0 dan PC 1 yang berada pada jaringan 192.168.110.0, apakah tes koneksi tersebut berhasil? Membuat kesimpulan



Jawab: koneksi antara PC3 ke PC0 dan PC1 berhasil.

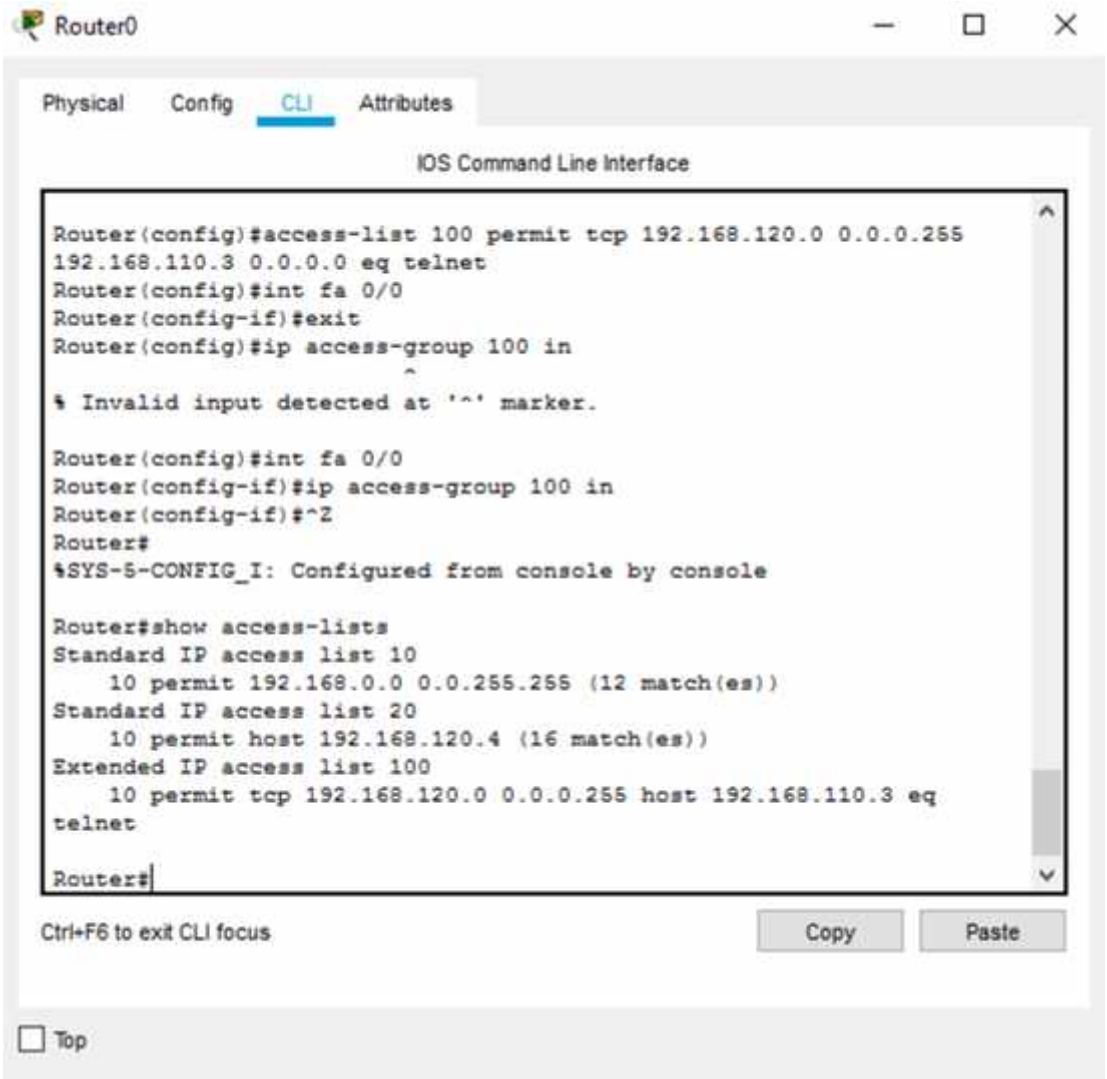
Kesimpulannya adalah pada [Router 0] kita memberikan hak akses pada PC 3 dengan alamat IP 192.168.120.4 agar dapat mengakses ke jaringan 192.168.110.0 sehingga pada saat dilakukan ping antara PC 3 ke PC 1 dan PC 0 berhasil

Kegiatan 2. Konfigurasi Extended Access List



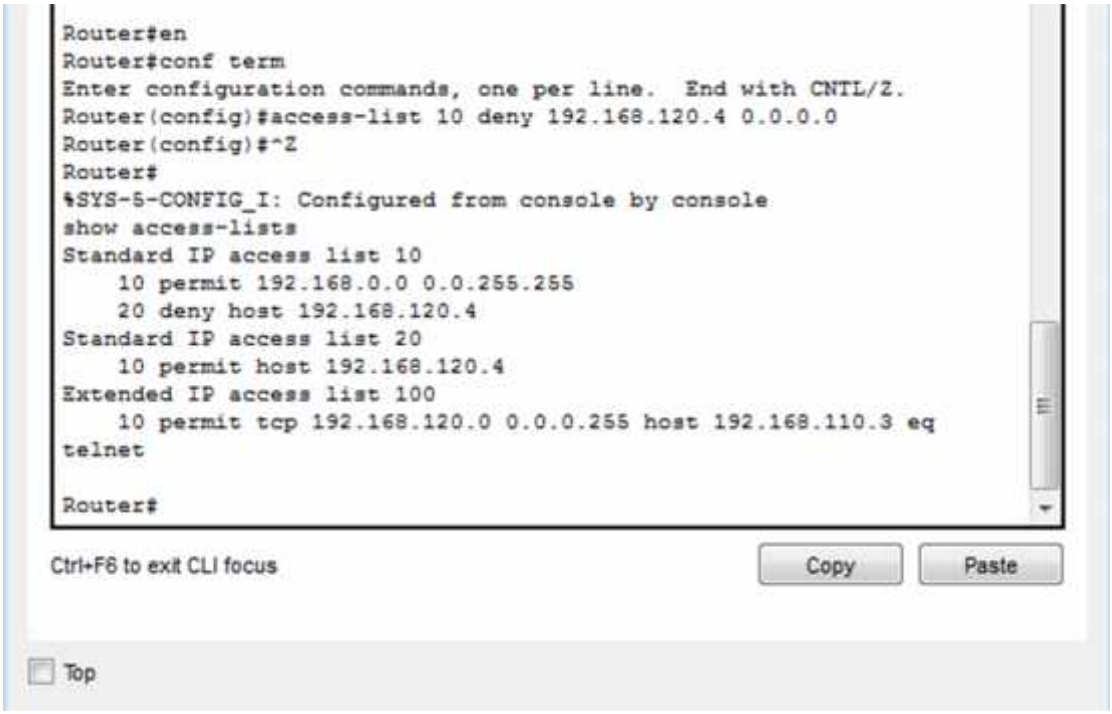
Pada contoh perintah diatas, kita mengijinkan (permit) paket telnet dari semua host yang ada di jaringan 192.168.120.0 ke host 192.168.110.3.

Angka [100] setelah perintah [access-list] merupakan pengenal bagi Extended Access List. Cara menerapkan Access List tersebut ke interface router juga tidak berbeda dengan penerapan Standart Access List.



Percobaan Tambahan

Tidak memberikan hak akses (deny) pada 1 PC yaitu host (PC 3) dengan alamat IP 192.168.120.4 sehingga tidak dapat mengakses ke jaringan 192.168.110.0



Sehingga pada saat di lakukan ping antara PC 3 dengan PC 0 maka akan terjadi time out