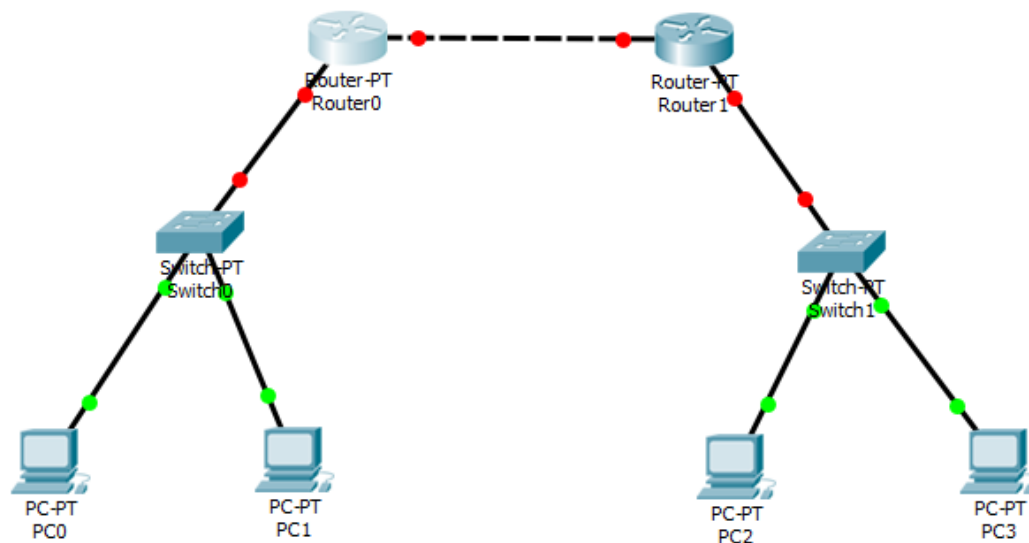


Nama : Yussynta Dewi Aprilya Putri
NIM : L200170084
Kelas : B

MODUL08

Kegiatan1.

1. Desain jaringan tersebut menggunakan Cisco Packet Tracer. Semua router menggunakan seri generik sedangkan semua switch menggunakan seri generik. Tambahkan 4 buah PC yang terbagi ke dalam 2 switch tersebut



2. Berikan identitas untuk semua sumber daya (router, switch, dan komputer) yang telah di desain

Router0

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

INTERFACE

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IP Address

Subnet Mask

Tx Ring Limit

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)#
Router(config-if)#
```

Router0

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

INTERFACE

FastEthernet0/0

FastEthernet1/0

FastEthernet2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

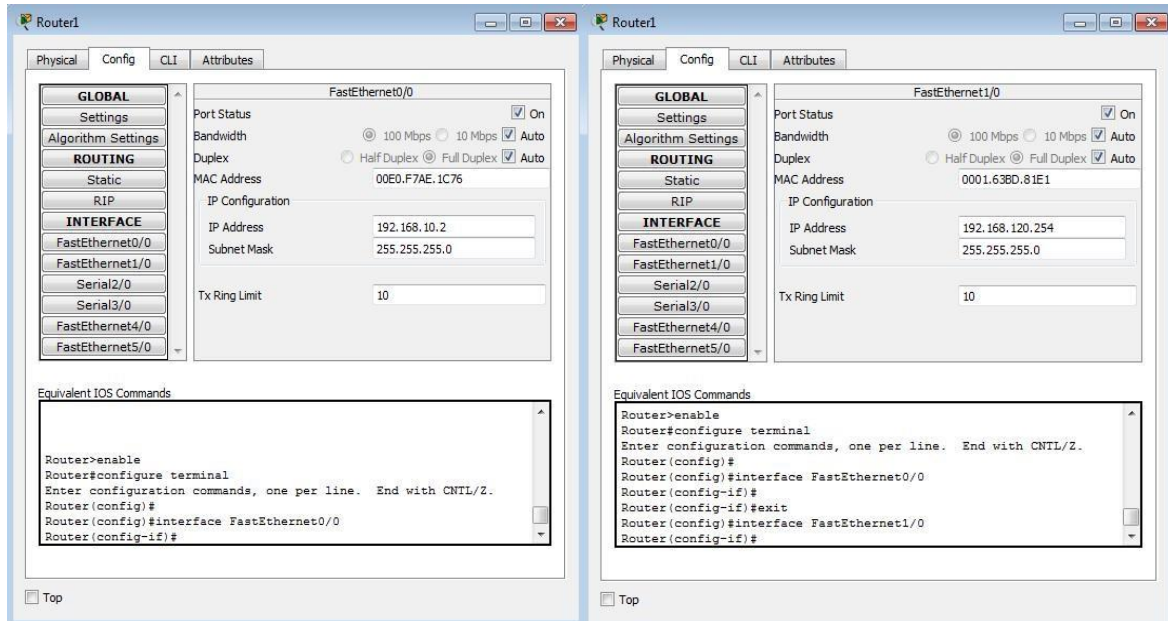
IP Address

Subnet Mask

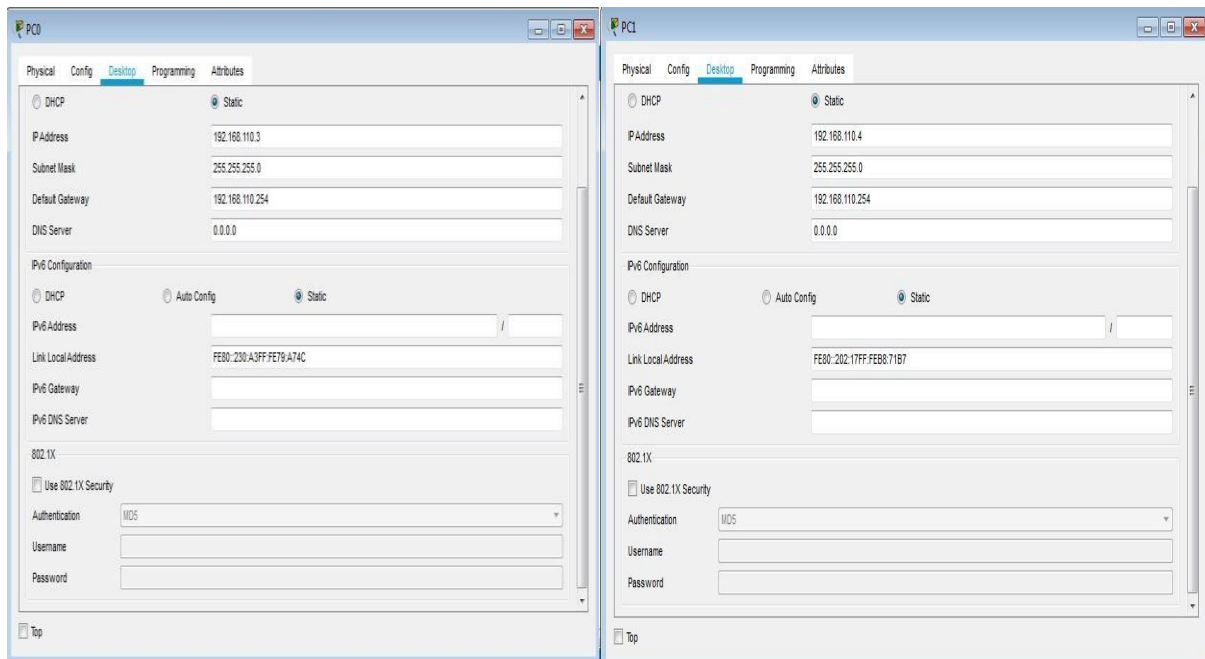
Tx Ring Limit

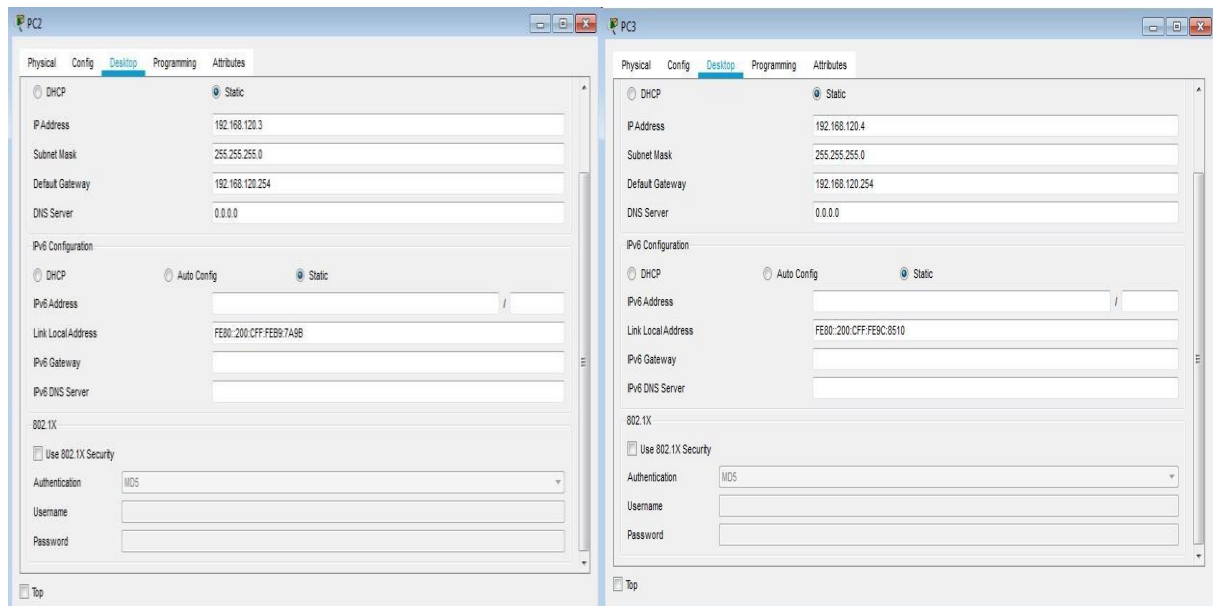
Equivalent IOS Commands

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
```

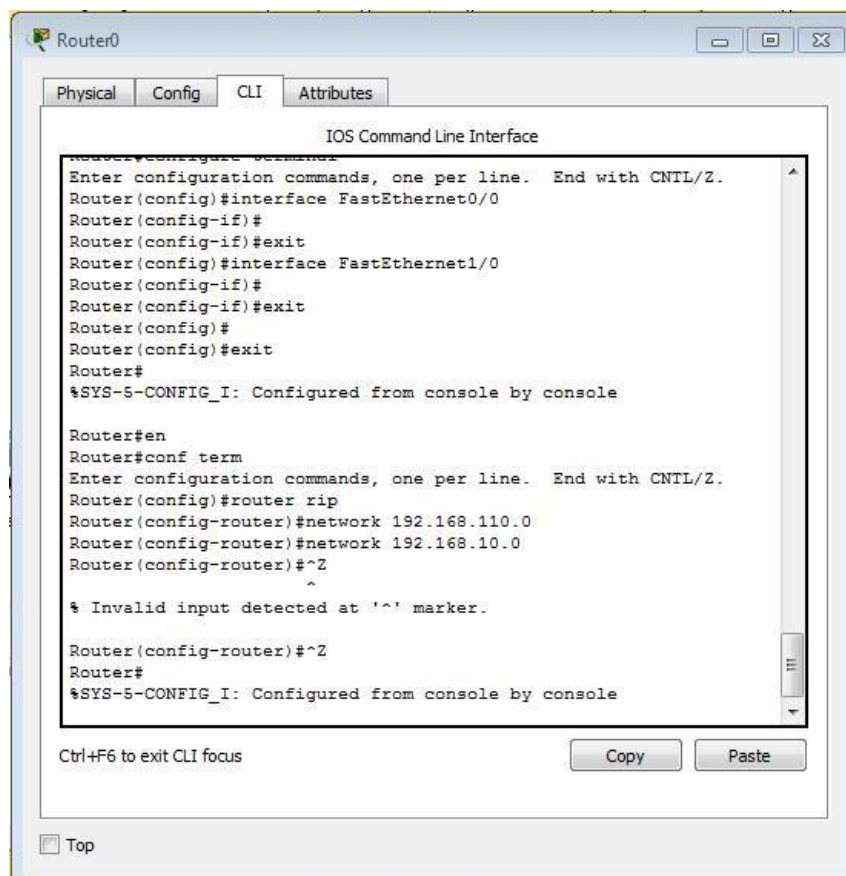


3. Berikutnya berikan alamat IP, subnet mask, dan default gateway pada masing - masing komputer

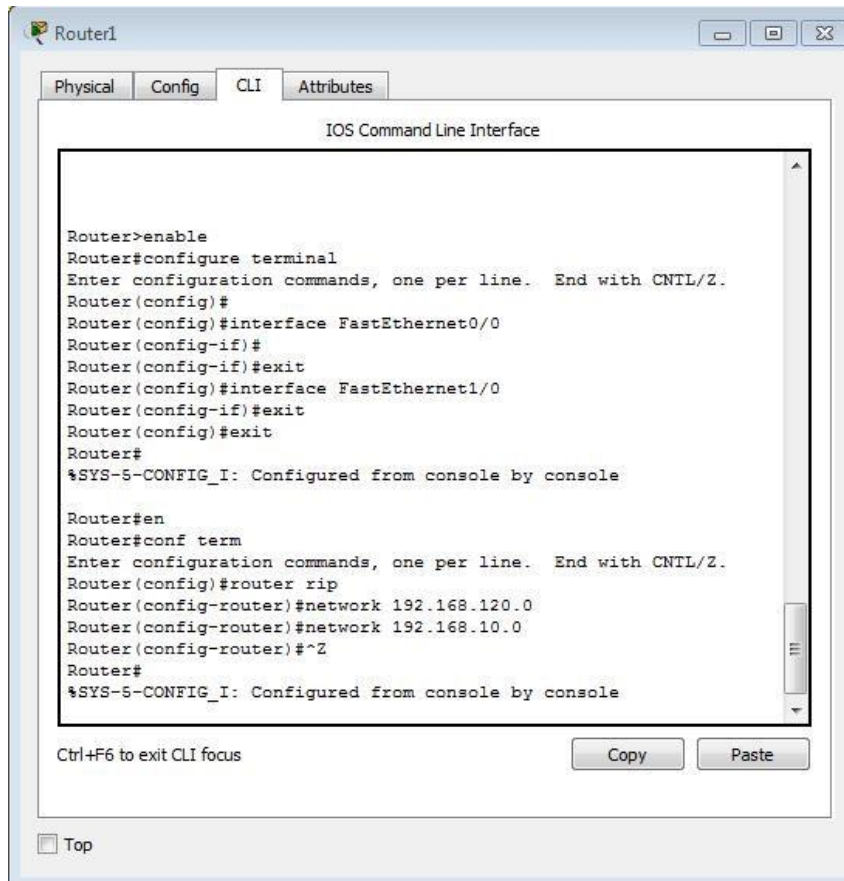




5. Gunakan perintah tersebut untuk memberikan identitas untuk komputer yang lain
6. Setelah semua sumber daya telah mempunyai identitas, lakukan routing untuk kedua jaringan tersebut
7. Gunakan routing dengan protokol RIP pada kedua jaringan tersebut



8. Pada [Router0] diberikan network ID 192.168.110.0 dan 192.168.10.0 untuk digunakan sebagai jalur routing. Sedangkan pada [Router1] diberikan network ID 192.168.120.0 dan 192.168.10.0 untuk digunakan sebagai jalur routing.



9. Lakukan pengecekan tabel routing pada kedua router tersebut dengan perintah [show ip route]

The image shows two side-by-side screenshots of the Cisco Packet Tracer interface, specifically the IOS Command Line Interface (CLI) for two routers, Router1 and Router0. Both routers are configured with the same settings: network 192.168.10.0, interface FastEthernet0/0, and interface FastEthernet1/0. The output of the 'show ip route' command is displayed in the CLI window for both routers.

Router1 CLI Output:

```
Router1(config-router)#network 192.168.10.0
Router1(config-router)#^Z
Router1#
%SYS-5-CONFIG_I: Configured from console by console
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, 00:00:12,
FastEthernet0/0
C    192.168.120.0/24 is directly connected, FastEthernet1/0
Router1#
```

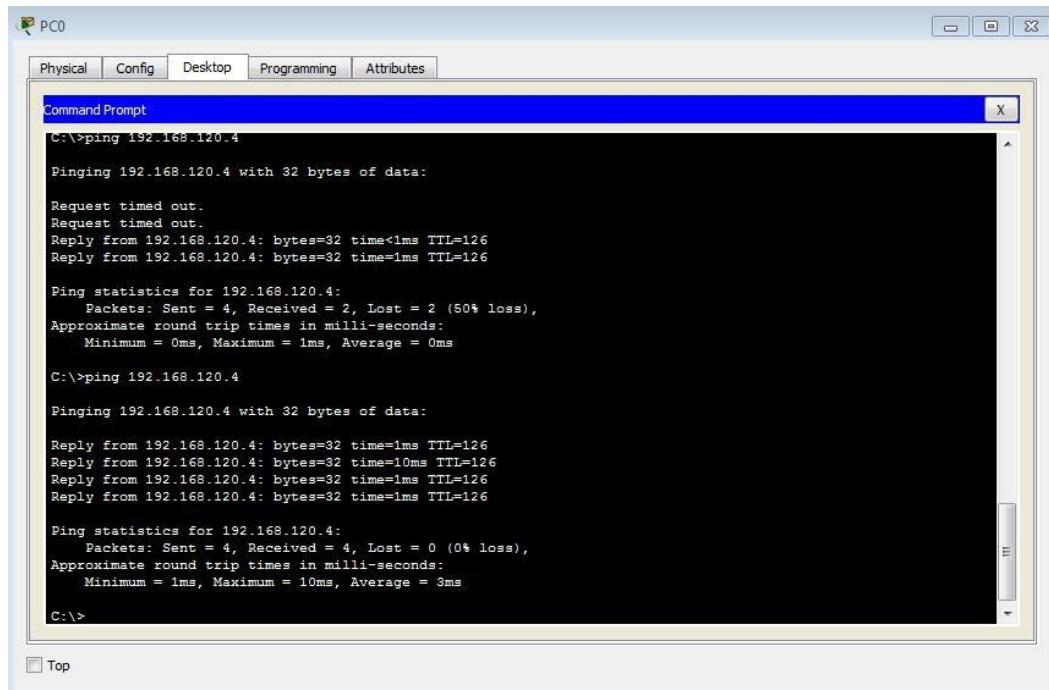
Router0 CLI Output:

```
Router0(config-router)#network 192.168.10.0
Router0(config-router)#^Z
Router0#
%SYS-5-CONFIG_I: Configured from console by console
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
C    192.168.110.0/24 is directly connected, FastEthernet1/0
R    192.168.120.0/24 [120/1] via 192.168.10.2, 00:00:16,
FastEthernet0/0
Router0#
```

10. Selanjutnya lakukan tes koneksi dari [PC0] ke [PC3] dengan menggunakan perintah [Ping]. kedua PC tersebut berada pada jaringan yang berbeda, jika koneksi berhasil maka routing anada berhasil



```
PC0
Physical Config Desktop Programming Attributes
Command Prompt
C:\>ping 192.168.120.4

Pinging 192.168.120.4 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.120.4: bytes=32 time<1ms TTL=126
Reply from 192.168.120.4: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.120.4:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.120.4

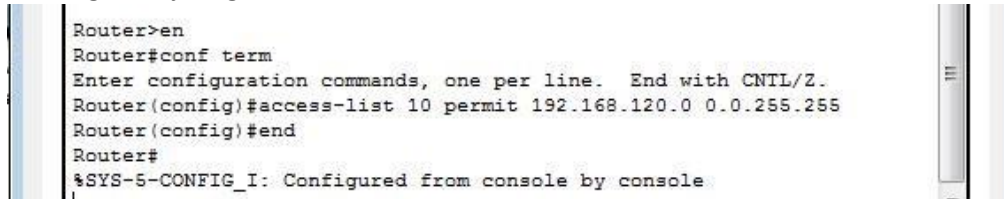
Pinging 192.168.120.4 with 32 bytes of data:

Reply from 192.168.120.4: bytes=32 time=1ms TTL=126
Reply from 192.168.120.4: bytes=32 time=10ms TTL=126
Reply from 192.168.120.4: bytes=32 time=1ms TTL=126
Reply from 192.168.120.4: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.120.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 10ms, Average = 3ms

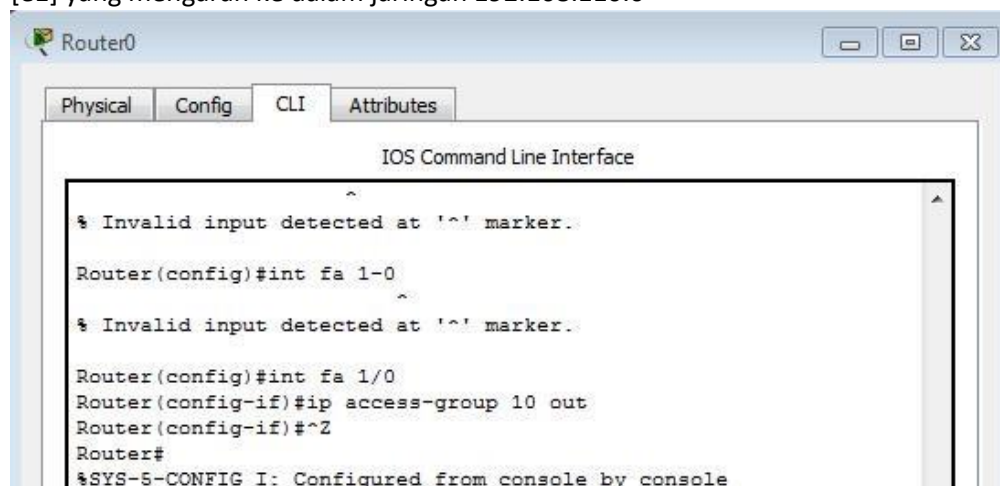
C:\>
```

11. Berikutnya tentukan Access List yang akan diterapkan dalam jaringan tersebut. Sebagai contoh [Router0] kita akan mengijinkan semua host dari jaringan 192.168.120.0 dapat mengakses jaringan 192.168.100.0



```
Router>en
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
```


12. Selanjutnya terapkan Access List tersebut ke interface [Router0] dalam hal ini interface [e1] yang mengarah ke dalam jaringan 192.168.110.0

A screenshot of the Packet Tracer interface showing the configuration of Router0. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The configuration commands entered are: 'int fa 1-0', 'ip access-group 10 out', and '^Z' to exit configuration mode. The output shows the configuration was successfully applied to interface fa1/0.

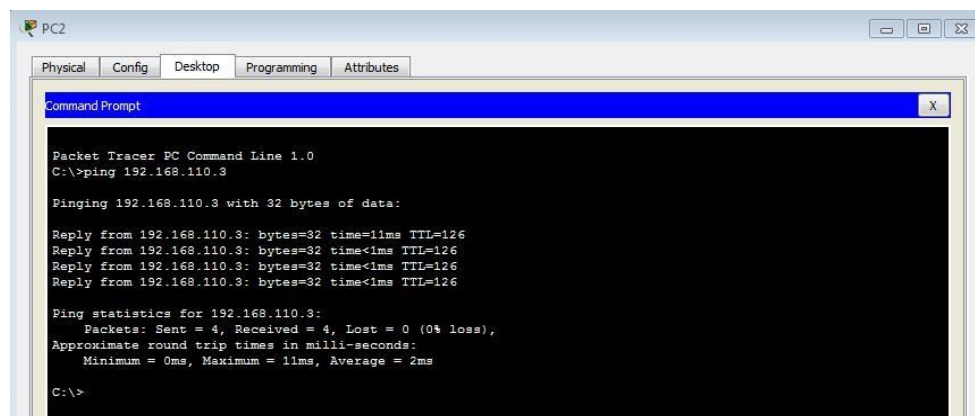
```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
% Invalid input detected at '^' marker.
Router(config)#int fa 1-0
% Invalid input detected at '^' marker.
Router(config)#int fa 1/0
Router(config-if)#ip access-group 10 out
Router(config-if)#^Z
Router#
%SYS-5-CONFIG I: Configured from console by console
```

13. Kemudian lihat konfigurasi Access List tersebut pada [Router 0]

A screenshot of the Packet Tracer interface showing the configuration of Router0. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The command 'show access-lists' is entered, showing the configuration of Standard IP access list 10, which permits traffic from 192.168.0.0 to 0.0.255.255.

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
Router#show access-lists
Standard IP access list 10
10 permit 192.168.0.0 0.0.255.255
```

14. Lakukan tes koneksi dua arah antara [PC 2] dengan [PC 0] yang berada pada jaringan berbeda dengan perintah [ping].

A screenshot of the Packet Tracer interface showing the configuration of PC2. The 'Desktop' tab is selected, displaying the Command Prompt. The command 'ping 192.168.110.3' is entered, and the output shows successful ping results with 4 packets sent and received, 0% loss, and an average round trip time of 2ms.

```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.110.3

Pinging 192.168.110.3 with 32 bytes of data:

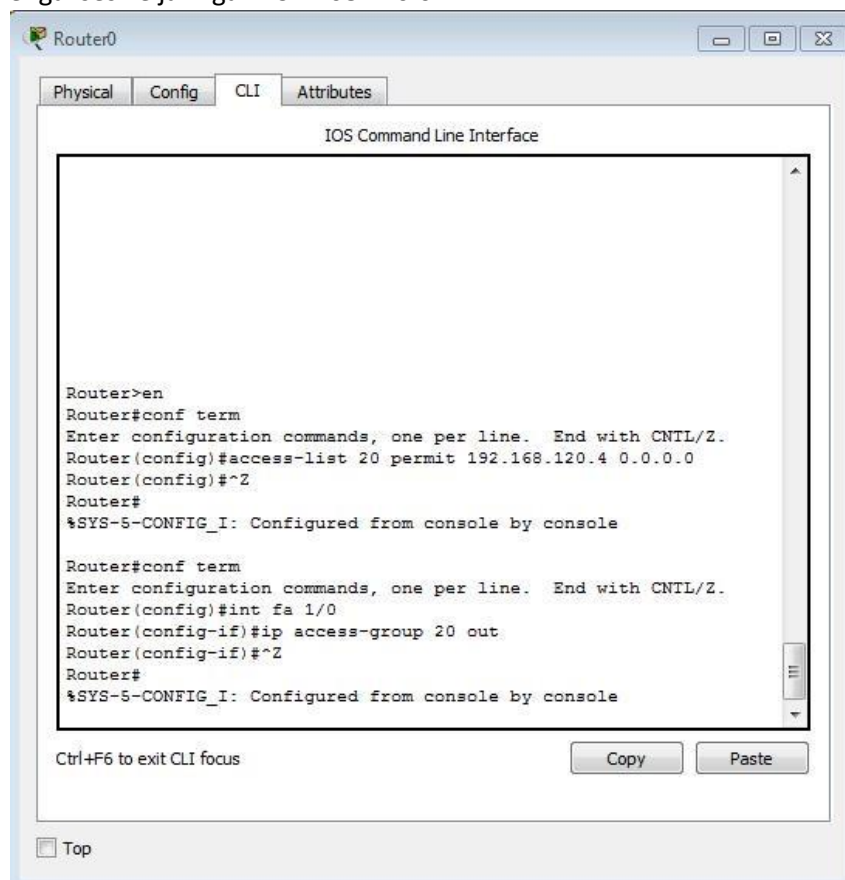
Reply from 192.168.110.3: bytes=32 time=11ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.110.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 2ms

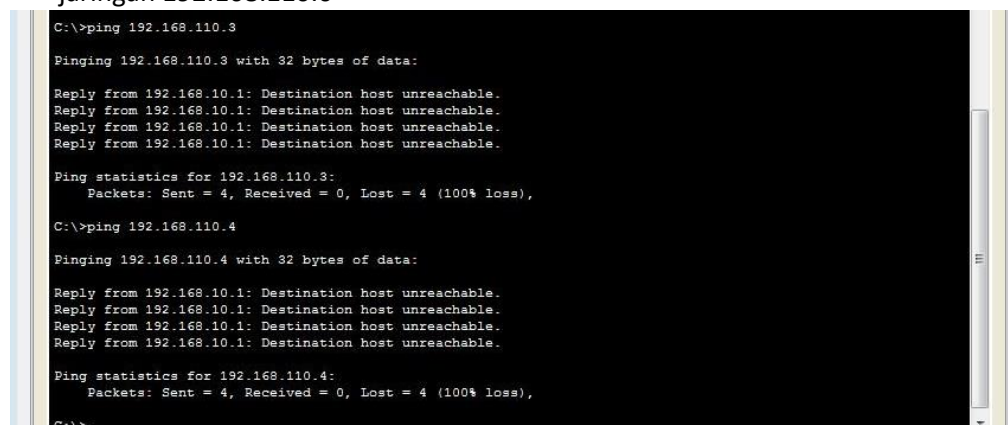
C:\>
```

Terjadi koneksi dikarenakan dari [Router 0] mengizinkan semua host dari jaringan 192.168.120.0 dapat mengakses jaringan 192.168.110.0

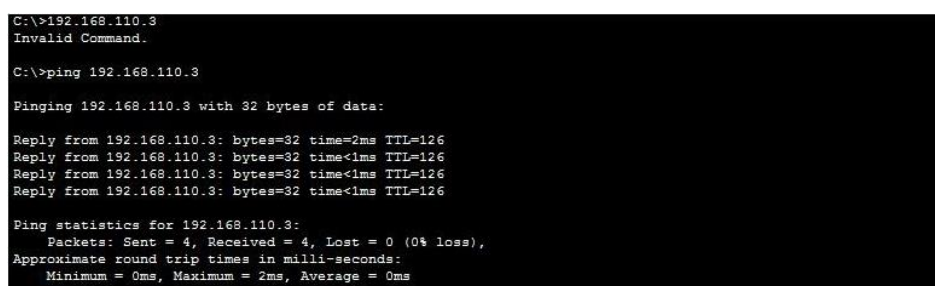
15. Memberikan akses hanya pada 1 host (PC 3) dengan alamat IP 192.168.120.4 agar dapat mengakses ke jaringan 192.168.110.0



16. Tes koneksi
a. [PC 2] yang berada pada jaringan 192.168.120.0 ke [PC 0] dan [PC 1] yang ada pada jaringan 192.168.110.0



17. Lakukan juga 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?




```

C:\>ping 192.168.110.4

Pinging 192.168.110.4 with 32 bytes of data:

Reply from 192.168.110.4: bytes=32 time=1ms TTL=126
Reply from 192.168.110.4: bytes=32 time=1ms TTL=126
Reply from 192.168.110.4: bytes=32 time=1ms TTL=126
Reply from 192.168.110.4: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.110.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>

```

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

Kegiatan2.

Untuk mengkonfigurasi Extended Access List sebenarnya tidak terlalu beda jauh dengan cara mengkonfigurasi Standart Access List. Perintah yang digunakan ada penambahan informasi tentang paket yang diijinkan atau ditolak.

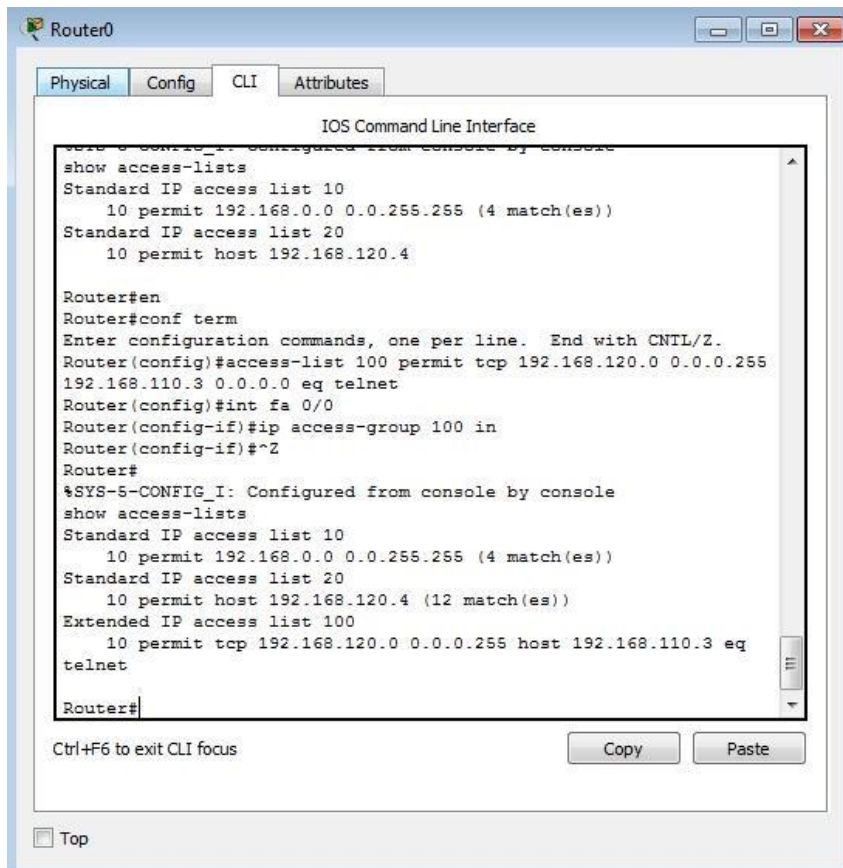
```

Router#en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 100 permit tcp 192.168.120.0 0.0.0.255
192.168.110.3 0.0.0.0 eq telnet
Router(config)#int fa 0/0
Router(config-if)#ip access-group 100 in
Router(config-if)#

```

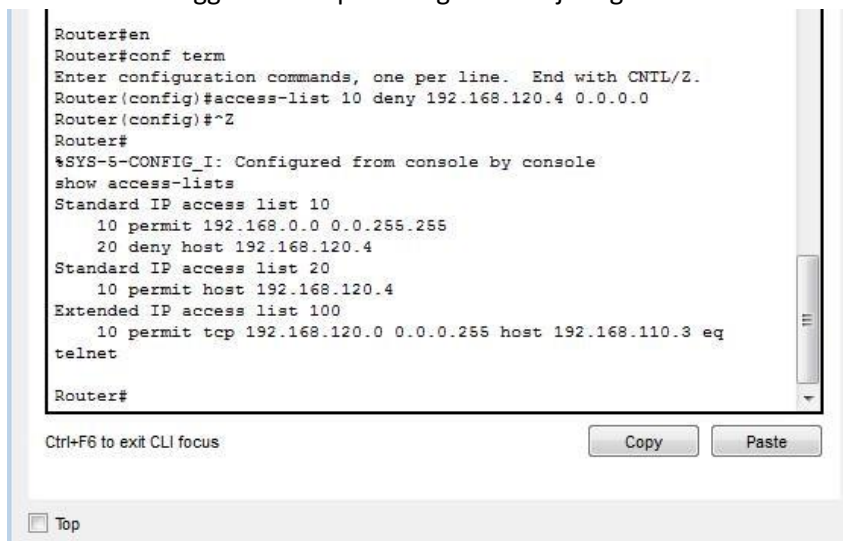
Pada contoh perintah diatas, kita mengijinkan (permit) paket telnet dari semua host yang ada di jaringan 192.168.120.0 ke host 192.168.110.3.

Angka [100] setelah perintah [access-list] merupakan pengenalan 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

