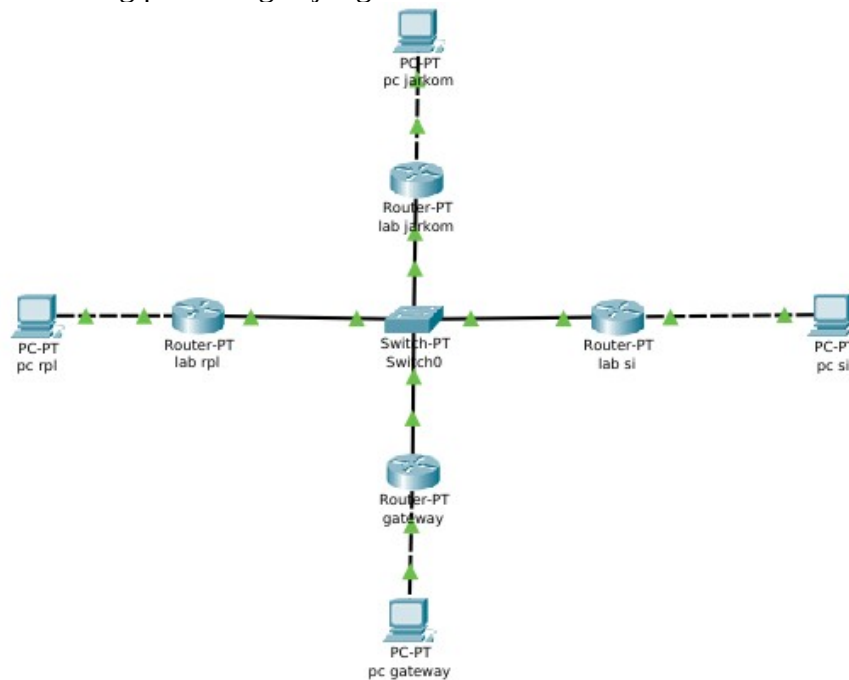


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Kelas : D
Modu : 11

Kegiatan Praktikum

1. Studi kasus tentang perancangan jaringan laboratorium sederhana.



Struktur topologi terdiri dari 1 Switch, 4 Router, dan 4 PC pada masing-masing lab.

2. Konfigurasi semua router yang ada.
 - a) Konfigurasi Router lab jarkom

lab jarkom

Physical **Config** CLI Attributes

GLOBAL	FastEthernet0/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 0001.4207.47EB
RIP	IP Configuration
INTERFACE	IP Address 172.15.0.1
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	Tx Ring Limit 10
Serial2/0	
Serial3/0	
FastEthernet4/0	

Equivalent IOS Commands

```
Router(config)#interface FastEthernet1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

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lab jarkom

Physical **Config** CLI Attributes

GLOBAL	FastEthernet1/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 00D0.FF99.CAC9
RIP	IP Configuration
INTERFACE	IP Address 172.16.0.1
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	
Serial2/0	Tx Ring Limit 10
Serial3/0	
FastEthernet4/0	

Equivalent IOS Commands

```
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
```

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b) Konfigurasi Router lab si

lab si

Physical **Config** CLI Attributes

GLOBAL	FastEthernet0/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 0001.C963.399B
RIP	IP Configuration
INTERFACE	IP Address 172.15.0.2
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	
Serial2/0	Tx Ring Limit 10
Serial3/0	
FastEthernet4/0	

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)#
```

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lab si

Physical **Config** CLI Attributes

GLOBAL	FastEthernet1/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 0060.5CDB.4A02
RIP	IP Configuration
INTERFACE	IP Address 172.17.0.1
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	Tx Ring Limit 10
Serial2/0	
Serial3/0	
FastEthernet4/0	

Equivalent IOS Commands

```
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
```

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c) Konfigurasi Router lab rpl

lab rpl

Physical **Config** CLI Attributes

GLOBAL	FastEthernet0/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 0030.A394.3B05
RIP	IP Configuration
INTERFACE	IP Address 172.15.0.3
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	Tx Ring Limit 10
Serial2/0	
Serial3/0	
FastEthernet4/0	

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)#
```

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lab rpl

Physical **Config** CLI Attributes

GLOBAL	FastEthernet1/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 00D0.97A3.793E
RIP	IP Configuration
INTERFACE	IP Address 172.18.0.1
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	Tx Ring Limit 10
Serial2/0	
Serial3/0	
FastEthernet4/0	

Equivalent IOS Commands

```
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
```

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d) Konfigurasi router gateway

gateway

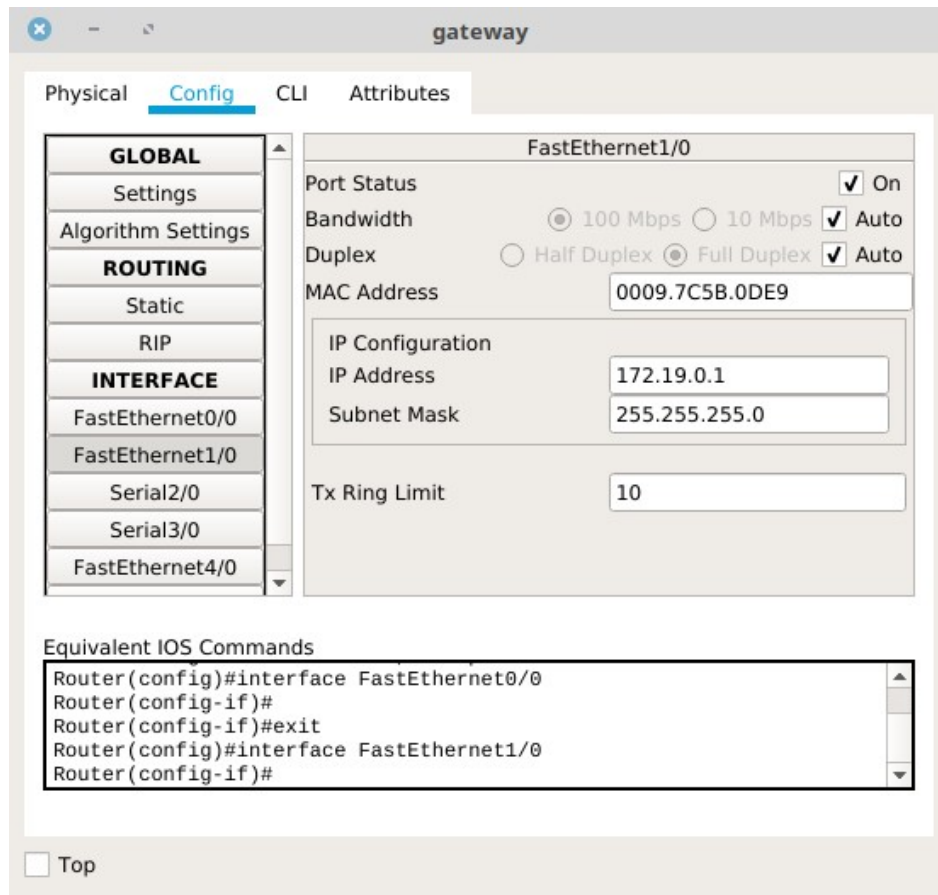
Physical **Config** CLI Attributes

GLOBAL	FastEthernet0/0
Settings	Port Status <input checked="" type="checkbox"/> On
Algorithm Settings	Bandwidth <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto
ROUTING	Duplex <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto
Static	MAC Address 000A.F3AB.DE28
RIP	IP Configuration
INTERFACE	IP Address 172.15.0.4
FastEthernet0/0	Subnet Mask 255.255.255.0
FastEthernet1/0	Tx Ring Limit 10
Serial2/0	
Serial3/0	
FastEthernet4/0	

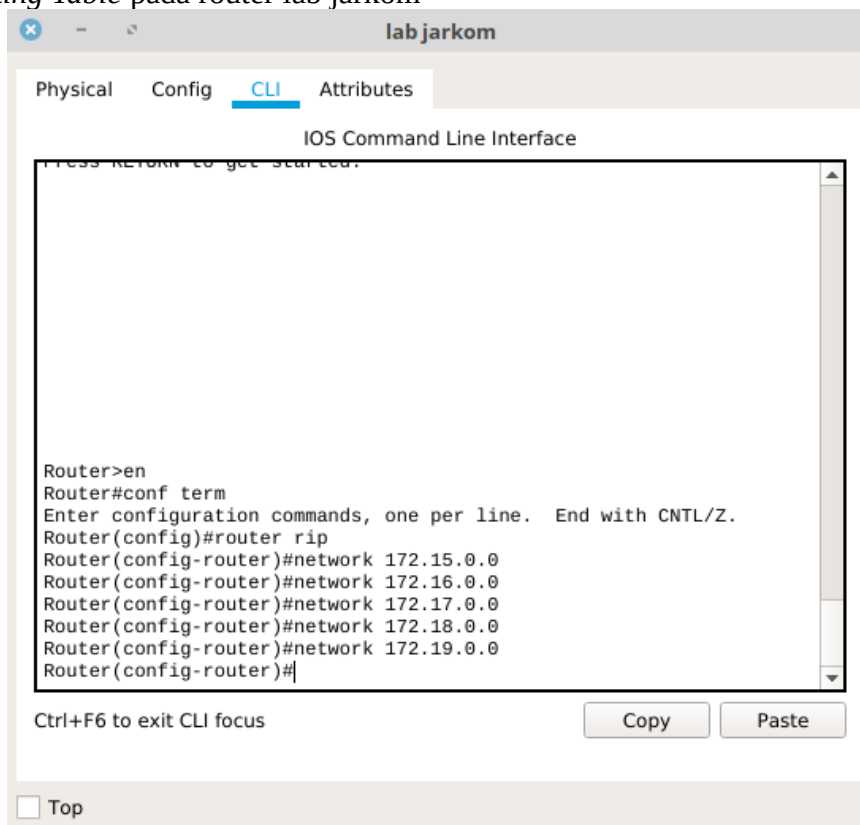
Equivalent IOS Commands

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

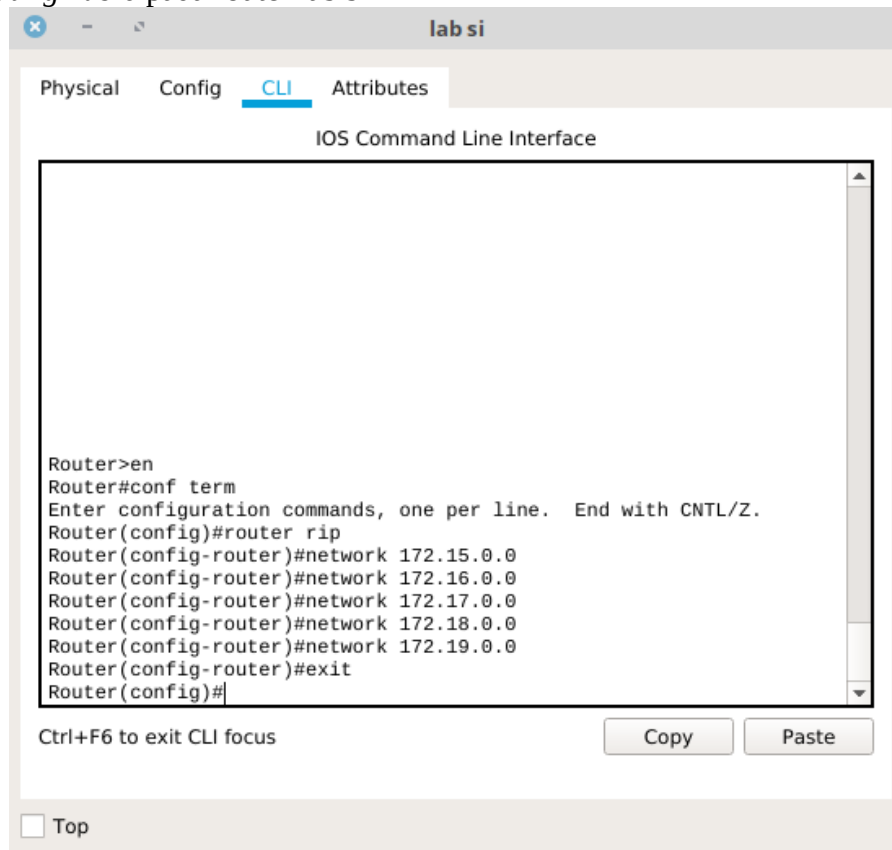
☐ Top



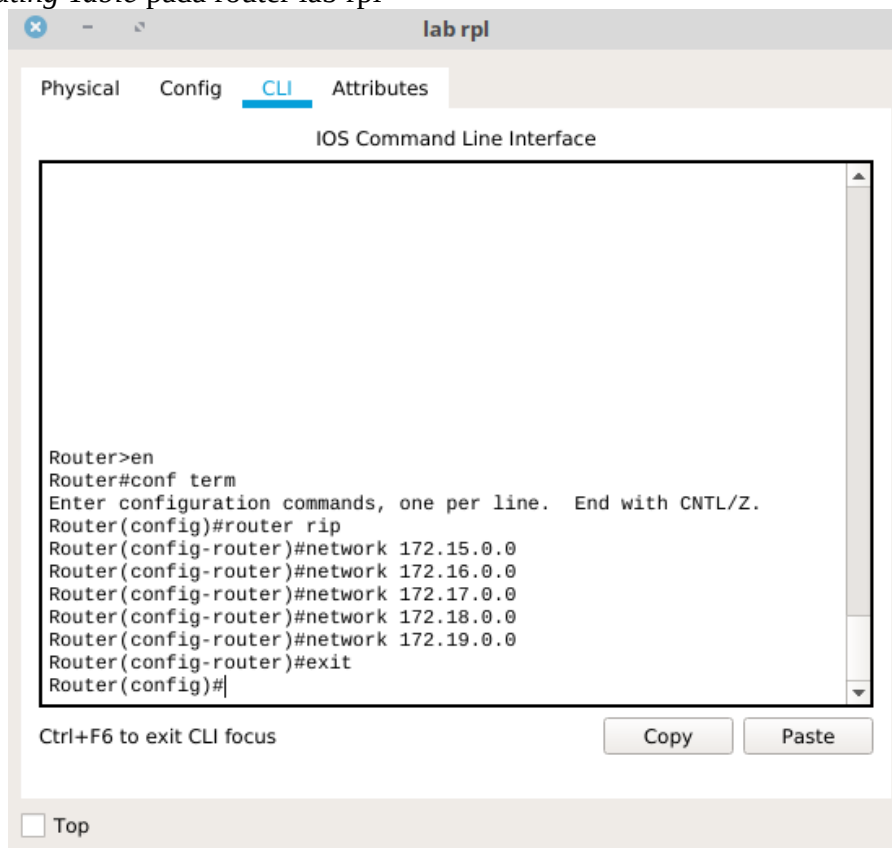
3. Konfigurasi Routing Table pada masing-masing router
Menggunakan metode Routing Dinamis yaitu *RIP Routing*.
a) *Routing Table* pada router lab jarkom



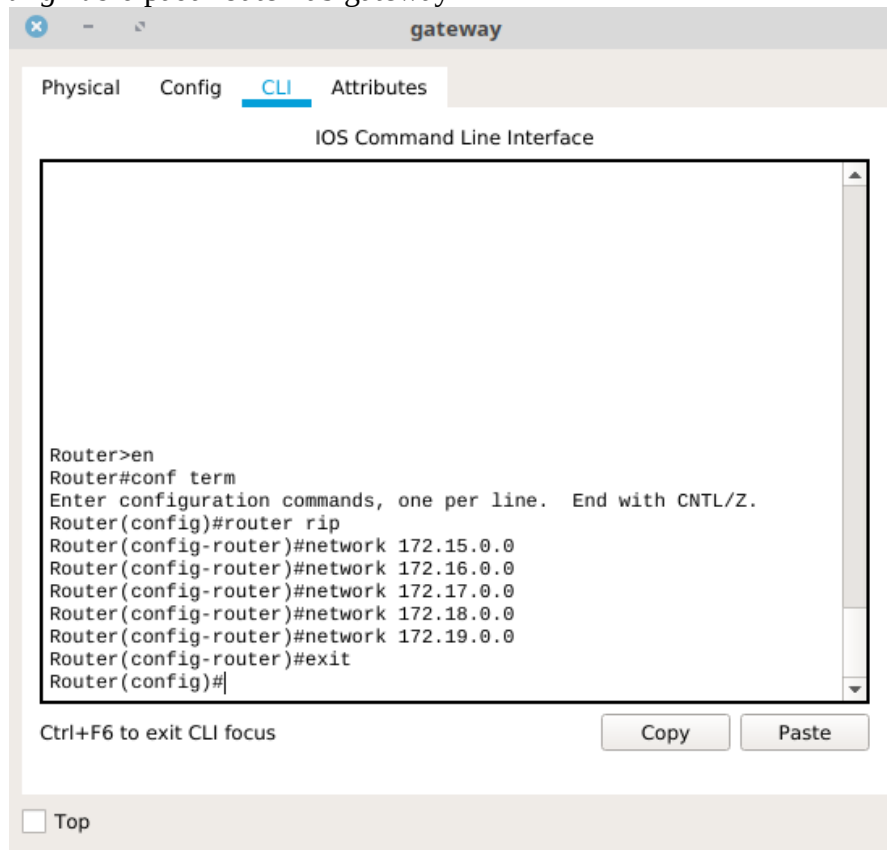
b) *Routing Table* pada router lab si



c) *Routing Table* pada router lab rpl

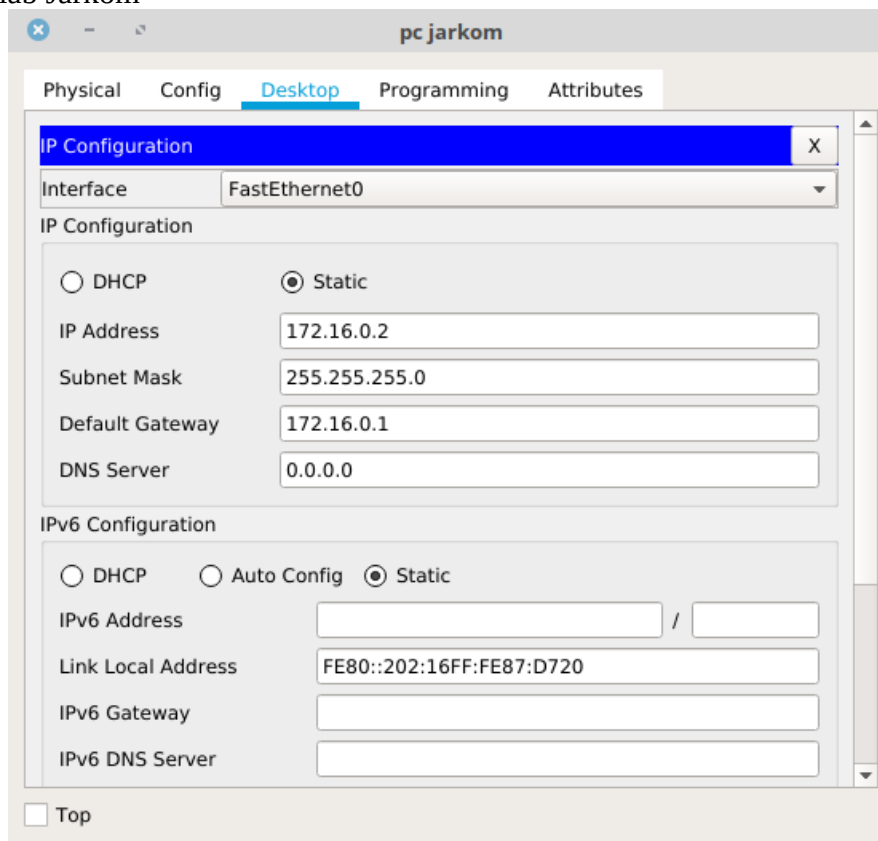


d) *Routing Table* pada router lab gateway



4. Selanjutnya ialah mengkonfigurasi IP Address pada masing-masing PC.

a) PC lab Jarkom



b) PC lab SI

The screenshot shows the 'pc si' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is active, showing settings for the 'FastEthernet0' interface. The 'Static' radio button is selected for IP configuration. The IP Address is 172.17.0.2, Subnet Mask is 255.255.255.0, Default Gateway is 172.17.0.1, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' section shows 'Static' selected, with an empty IPv6 Address field, a Link Local Address of FE80::290:21FF:FE7A:8EAC, and empty fields for IPv6 Gateway and IPv6 DNS Server. A 'Top' button is at the bottom left.

Interface	FastEthernet0	
IP Configuration		
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static	
IP Address	172.17.0.2	
Subnet Mask	255.255.255.0	
Default Gateway	172.17.0.1	
DNS Server	0.0.0.0	
IPv6 Configuration		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::290:21FF:FE7A:8EAC	
IPv6 Gateway		
IPv6 DNS Server		

☐ Top

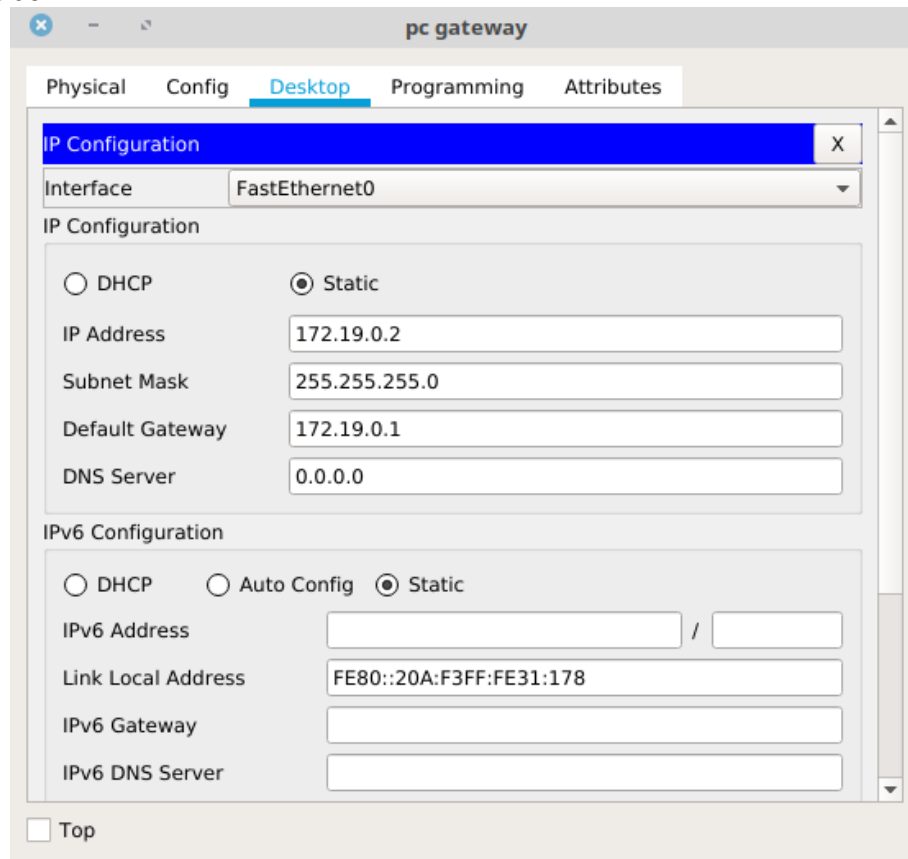
c) PC lab RPL

The screenshot shows the 'pc rpl' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is active, showing settings for the 'FastEthernet0' interface. The 'Static' radio button is selected for IP configuration. The IP Address is 172.18.0.2, Subnet Mask is 255.255.255.0, Default Gateway is 172.18.0.1, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' section shows 'Static' selected, with an empty IPv6 Address field, a Link Local Address of FE80::201:97FF:FEE5:B101, and empty fields for IPv6 Gateway and IPv6 DNS Server. A 'Top' button is at the bottom left.

Interface	FastEthernet0	
IP Configuration		
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static	
IP Address	172.18.0.2	
Subnet Mask	255.255.255.0	
Default Gateway	172.18.0.1	
DNS Server	0.0.0.0	
IPv6 Configuration		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::201:97FF:FEE5:B101	
IPv6 Gateway		
IPv6 DNS Server		

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d) PC admin



5. Setelah konfigurasi selesai, pengujian *ping* untuk test koneksi. *Ping* dilakukan dari PC Admin

a) ping ke PC Jarkom

```
C:\>ping 172.16.0.2

Pinging 172.16.0.2 with 32 bytes of data:

Reply from 172.16.0.2: bytes=32 time=14ms TTL=126
Reply from 172.16.0.2: bytes=32 time=13ms TTL=126
Reply from 172.16.0.2: bytes=32 time=21ms TTL=126
Reply from 172.16.0.2: bytes=32 time=12ms TTL=126

Ping statistics for 172.16.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 12ms, Maximum = 21ms, Average = 15ms

C:\>
```

b) ping ke PC SI

```
C:\>ping 172.17.0.2

Pinging 172.17.0.2 with 32 bytes of data:

Reply from 172.17.0.2: bytes=32 time=2ms TTL=126
Reply from 172.17.0.2: bytes=32 time=12ms TTL=126
Reply from 172.17.0.2: bytes=32 time=13ms TTL=126
Reply from 172.17.0.2: bytes=32 time=14ms TTL=126

Ping statistics for 172.17.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 14ms, Average = 10ms

C:\>
```

c) ping ke PC RPL

```
C:\>ping 172.18.0.2

Pinging 172.18.0.2 with 32 bytes of data:

Reply from 172.18.0.2: bytes=32 time=3ms TTL=126
Reply from 172.18.0.2: bytes=32 time=4ms TTL=126
Reply from 172.18.0.2: bytes=32 time<1ms TTL=126
Reply from 172.18.0.2: bytes=32 time=12ms TTL=126

Ping statistics for 172.18.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 12ms, Average = 4ms

C:\>
```

Dari pengujian ke PC masing-masing lab dari pc admin hasilnya sukses. Metode Routing Table yang digunakan ialah RIP (Routing Dinamis).