

**Praktikum Jaringan Komputer**  
**Tugas Persiapan UAS Jaringan Komputer**  
**2022/2023**



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**Kelas : H**

**PROGRAM STUDI TEKNIK INFORMATIKA**  
**FAKULTAS KOMUNIKASI DAN INFORMATIKA**  
**UNIVERSITAS MUHAMMADIYAH SURAKARTA**

**2023**

## I. Tugas Persiapan UAS

Buatlah topologi jaringan terdapat :

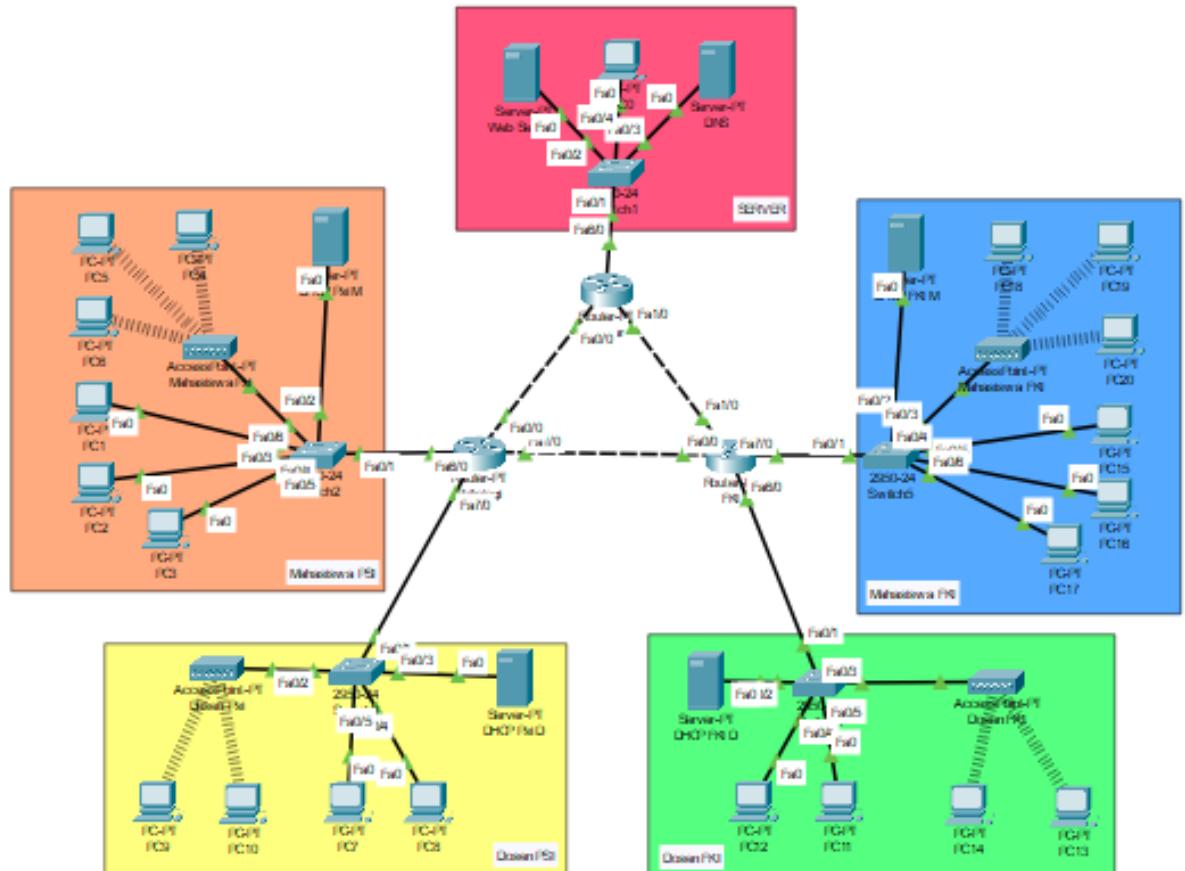
- 3 Router
- 1 Web Server dan 1 DNS Server
- 4 Access Point
- 5 Switch
- 4 DHCP Server
- Beberapa PC

Kembangkan jaringan diatas sesuai dengan spesifikasi berikut:

### 1. Topologi diatas terdiri dari:

- a. Setiap gedung Server, Psikologi, dan FKI terdapat router, switch, access point, DHCP Server, dan beberapa PC yg sudah ditentukan.
- b. Perangkat yang terpasang pada setiap gedung terdapat 3 PC yang terhubung pada jaringan mahasiswa menggunakan media wireless dan 3 PC menggunakan jaringan kabel.
- c. Pada ruang dosen 2 PC terhubung dengan jaringan kabel dan 2 PC terhubung dengan jaringan wireless.
- d. Pada gedung Server terdapat PC server, web server, dan DNS server.

• *Dokumentasikan hasil topologi kalian.*



**2. Konfigurasikan IP masing-masing perangkat (router, server, PC) agar bisa memenuhi client dibawah ini :**

- DHCP - Gedung Psikologi (200 mhs) (20 dosen)
- DHCP - Gedung FKI (100 mahasiswa)(10 dosen)
- Manual – Gedung server

- *Dokumentasikan pemberian alamat IP pada router.*

### **Router Server**

Device Name: Server Device Model: Router-PT Hostname: Router					
Port	Link	IP Address	IPv6 Address	MAC Address	
FastEthernet0/0	Up	10.1.0.0/8	<not set>	0001.9607.5B06	
FastEthernet1/0	Up	11.1.0.0/8	<not set>	0004.9A72.518D	
Serial2/0	Down	<not set>	<not set>	<not set>	
Serial3/0	Down	<not set>	<not set>	<not set>	
FastEthernet4/0	Down	<not set>	<not set>	000C.CF3A.43DC	
FastEthernet5/0	Down	<not set>	<not set>	0001.C73E.8203	
FastEthernet6/0	Up	13.1.1.1/8	<not set>	0001.4328.CDC2	

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Server

### **Router PSI**

Device Name: Psikologi Device Model: Router-PT Hostname: Router					
Port	Link	IP Address	IPv6 Address	MAC Address	
FastEthernet0/0	Up	10.2.0.0/8	<not set>	0001.C90A.EB22	
FastEthernet1/0	Up	12.2.0.0/8	<not set>	0040.0BEC.2A36	
Serial2/0	Down	<not set>	<not set>	<not set>	
Serial3/0	Down	<not set>	<not set>	<not set>	
FastEthernet4/0	Down	<not set>	<not set>	00E0.B070.24D9	
FastEthernet5/0	Down	<not set>	<not set>	0002.171D.7BD1	
FastEthernet6/0	Up	14.1.1.1/8	<not set>	0060.4794.4665	
FastEthernet7/0	Up	15.1.1.1/8	<not set>	0001.C9C4.7D67	

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Psikologi

### **Router FKI**

Device Name: FKI Device Model: Router-PT Hostname: Router					
Port	Link	IP Address	IPv6 Address	MAC Address	
FastEthernet0/0	Up	12.1.0.0/8	<not set>	00D0.FF4E.E573	
FastEthernet1/0	Up	11.2.0.0/8	<not set>	00E0.B056.EA83	
Serial2/0	Down	<not set>	<not set>	<not set>	
Serial3/0	Down	<not set>	<not set>	<not set>	
FastEthernet4/0	Down	<not set>	<not set>	00D0.FF0C.9732	
FastEthernet5/0	Down	<not set>	<not set>	0007.ECAC.8C1B	
FastEthernet6/0	Up	16.1.1.1/8	<not set>	00E0.8F55.CB89	
FastEthernet7/0	Up	17.1.1.1/8	<not set>	000B.BE85.4268	

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > FKI

- Dokumentasikan pemberian alamat IP pada jaringan server.

### *Web server*

Device Name:	Web Server			
Device Model:	Server-PT			
Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	13.1.1.4/8	<not set>	0060.70C5.9CB8
Gateway: 13.1.1.1 DNS Server: <not set> Line Number: <not set>				
Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > Web Server				

### *PC server*

Device Name:	PC0			
Device Model:	PC-PT			
Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	13.1.1.2/8	<not set>	00D0.BCB9.DC2A
Bluetooth	Down	<not set>	<not set>	00E0.F793.EA74
Gateway: 13.1.1.1 DNS Server: 13.1.1.3 Line Number: <not set>				
Physical Location: Intercity > Home City > Corporate Office > PC0				

### *DNS server*

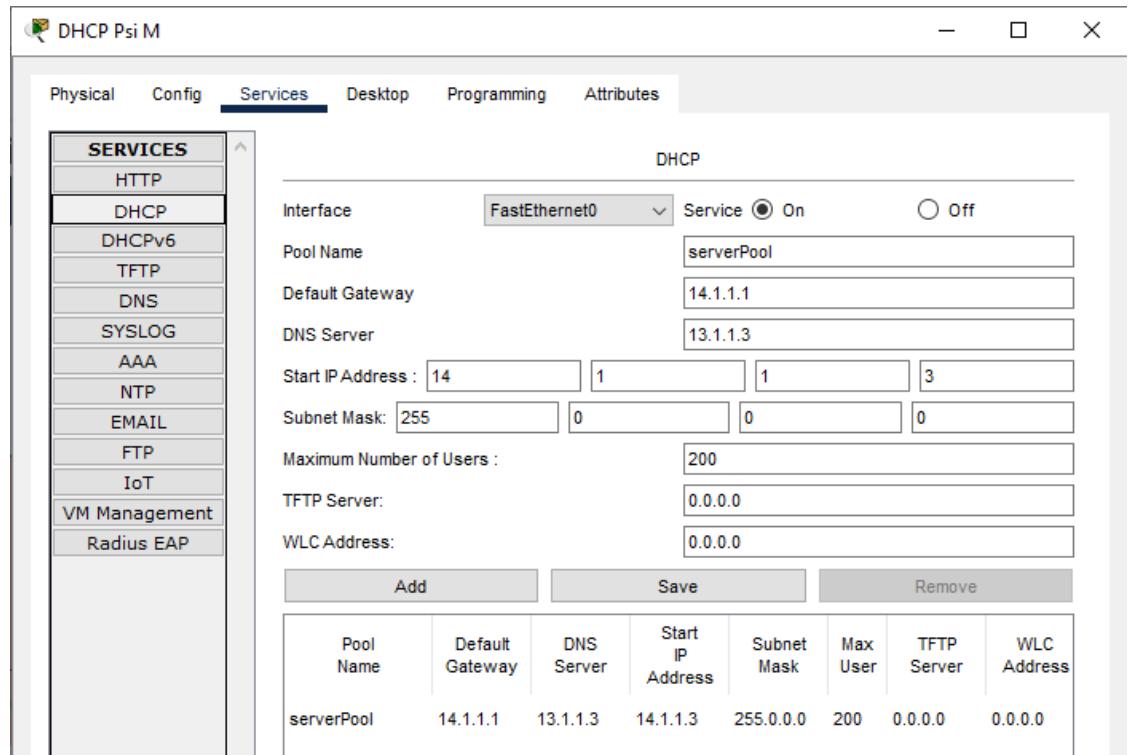
Device Name:	DNS			
Device Model:	Server-PT			
Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	13.1.1.3/8	<not set>	00E0.F733.96B3
Gateway: 13.1.1.1 DNS Server: <not set> Line Number: <not set>				
Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > DNS				

- Dokumentasikan konfigurasi setiap DHCP server dan hasil pemberian IP pada masing-masing PC.

### *Jaringan Mahasiswa PSI*

#### *DHCP server*

Device Name:	DHCP Psi M			
Device Model:	Server-PT			
Port	Link	IP Address	IPv6 Address	MAC Address
FastEthernet0	Up	14.1.1.2/8	<not set>	0090.21CD.7BB8
Gateway: 14.1.1.1 DNS Server: <not set> Line Number: <not set>				
Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > DHCP Psi M				



### IP PC

### Jaringan Dosen PSI

#### DHCP server

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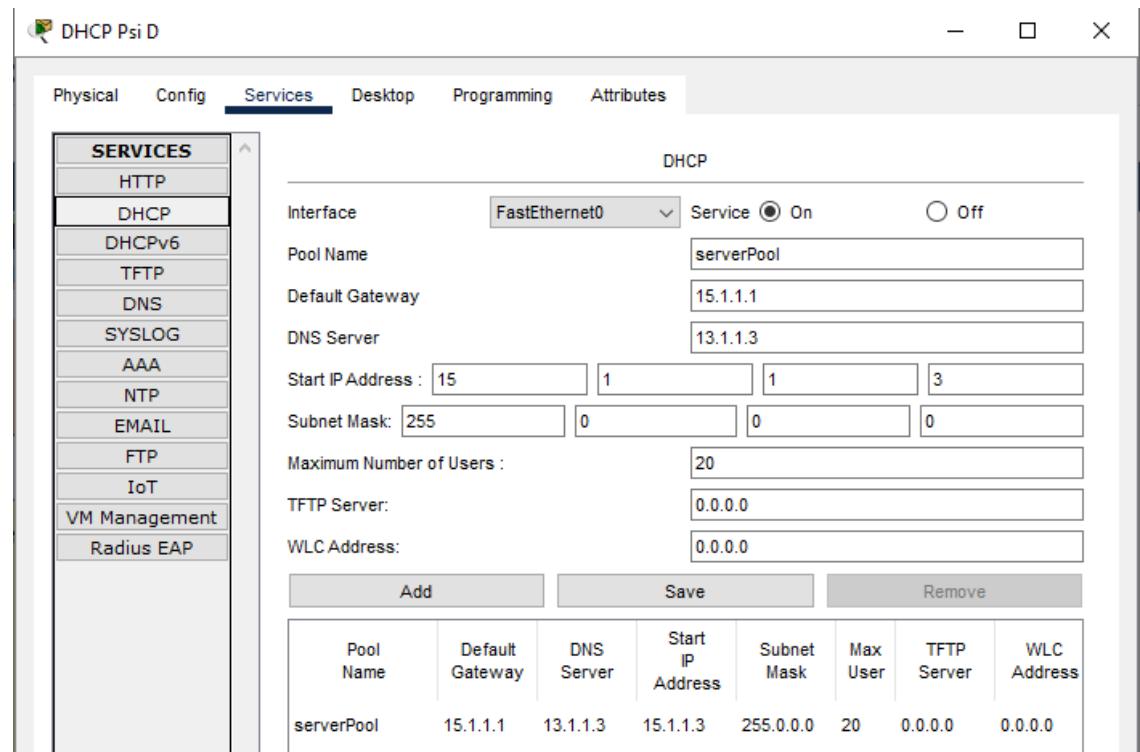
Device Name: DHCP Psi D
Device Model: Server-PT

Port      Link    IP Address          IPv6 Address           MAC Address
FastEthernet0  Up     15.1.1.2/8       <not set>        0000.BAC7.798D

Gateway: 15.1.1.1
DNS Server: <not set>
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > DHCP Psi D

```



## IP PC

PC	Interface	IP Configuration	IPv4 Address	Subnet Mask	Default Gateway	DNS Server	IPv6 Configuration	802.1X	Authentication	Username	Password
PC7	FastEthernet0	DHCP	15.1.1.4	255.0.0.0	15.1.1.1	13.1.1.3	Automatic	<input type="checkbox"/>	MD5		
PC8	FastEthernet0	DHCP	15.1.1.3	255.0.0.0	15.1.1.1	13.1.1.3	Automatic	<input type="checkbox"/>	MD5		
PC9	Wireless0	DHCP	15.1.1.5	255.0.0.0	15.1.1.1	13.1.1.3	Automatic	<input type="checkbox"/>	MD5		
PC10	Wireless0	DHCP	15.1.1.6	255.0.0.0	15.1.1.1	13.1.1.3	Automatic	<input type="checkbox"/>	MD5		

## Jaringan Dosen FKI

### DHCP server

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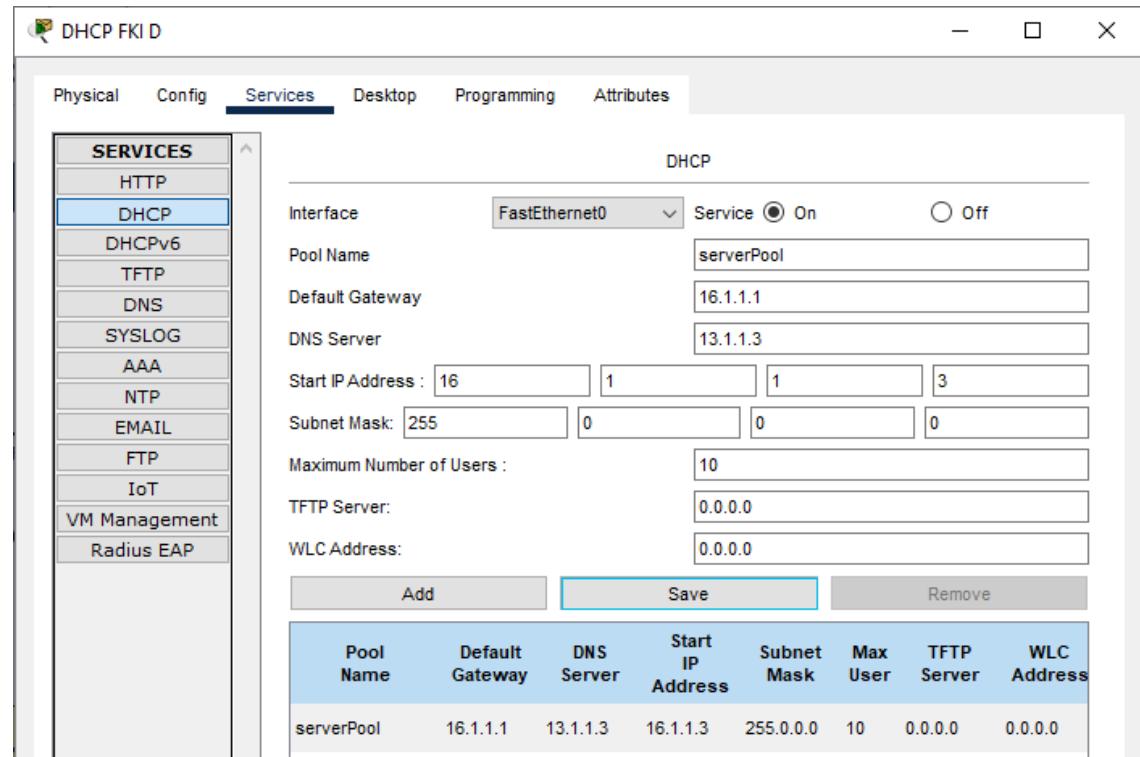
Device Name: DHCP FKI D
Device Model: Server-PT

Port          Link   IP Address           IPv6 Address
FastEthernet0 Up     16.1.1.2/8        <not set>
                                         MAC Address
                                         0001.6368.930B

Gateway: 16.1.1.1
DNS Server: <not set>
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > DHCP FKI D

```



### IP PC

## Jaringan Mahasiswa FKI

### DHCP server

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Device Name: DHCP FKI M
Device Model: Server-PT

Port          Link    IP Address           IPv6 Address      MAC Address
FastEthernet0 Up      17.1.1.2/8        <not set>       000C.CF19.6769

Gateway: 17.1.1.1
DNS Server: <not set>
Line Number: <not set>

Physical Location: Intercity > Home City > Corporate Office > Main Wiring Closet > Rack > DHCP FKI M
  
```

**DHCP FKI M**

Physical	Config	Services	Desktop	Programming	Attributes																																																																																	
<b>SERVICES</b> <ul style="list-style-type: none"> <li>HTTP</li> <li><b>DHCP</b></li> <li>DHCPv6</li> <li>TFTP</li> <li>DNS</li> <li>SYSLOG</li> <li>AAA</li> <li>NTP</li> <li>EMAIL</li> <li>FTP</li> <li>IoT</li> <li>VM Management</li> <li>Radius EAP</li> </ul>																																																																																						
<b>DHCP</b> <table border="1"> <tr> <td>Interface</td> <td>FastEthernet0</td> <td>Service</td> <td><input checked="" type="radio"/> On</td> <td><input type="radio"/> Off</td> </tr> <tr> <td>Pool Name</td> <td colspan="4">serverPool</td> </tr> <tr> <td>Default Gateway</td> <td colspan="4">17.1.1.1</td> </tr> <tr> <td>DNS Server</td> <td colspan="4">13.1.1.3</td> </tr> <tr> <td>Start IP Address :</td> <td>17</td> <td>1</td> <td>1</td> <td>3</td> </tr> <tr> <td>Subnet Mask:</td> <td>255</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Maximum Number of Users :</td> <td colspan="4">100</td> </tr> <tr> <td>TFTP Server:</td> <td colspan="4">0.0.0.0</td> </tr> <tr> <td>WLC Address:</td> <td colspan="4">0.0.0.0</td> </tr> <tr> <td colspan="2"><b>Add</b></td> <td colspan="2"><b>Save</b></td> <td colspan="2"><b>Remove</b></td> </tr> <tr> <th>Pool Name</th> <th>Default Gateway</th> <th>DNS Server</th> <th>Start IP Address</th> <th>Subnet Mask</th> <th>Max User</th> </tr> <tr> <td>serverPool</td> <td>17.1.1.1</td> <td>13.1.1.3</td> <td>17.1.1.3</td> <td>255.0.0.0</td> <td>100</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th>TFTP Server</th> <td colspan="5">0.0.0.0</td> </tr> <tr> <th>WLC Address:</th> <td colspan="5">0.0.0.0</td> </tr> </table>						Interface	FastEthernet0	Service	<input checked="" type="radio"/> On	<input type="radio"/> Off	Pool Name	serverPool				Default Gateway	17.1.1.1				DNS Server	13.1.1.3				Start IP Address :	17	1	1	3	Subnet Mask:	255	0	0	0	Maximum Number of Users :	100				TFTP Server:	0.0.0.0				WLC Address:	0.0.0.0				<b>Add</b>		<b>Save</b>		<b>Remove</b>		Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	serverPool	17.1.1.1	13.1.1.3	17.1.1.3	255.0.0.0	100							TFTP Server	0.0.0.0					WLC Address:	0.0.0.0				
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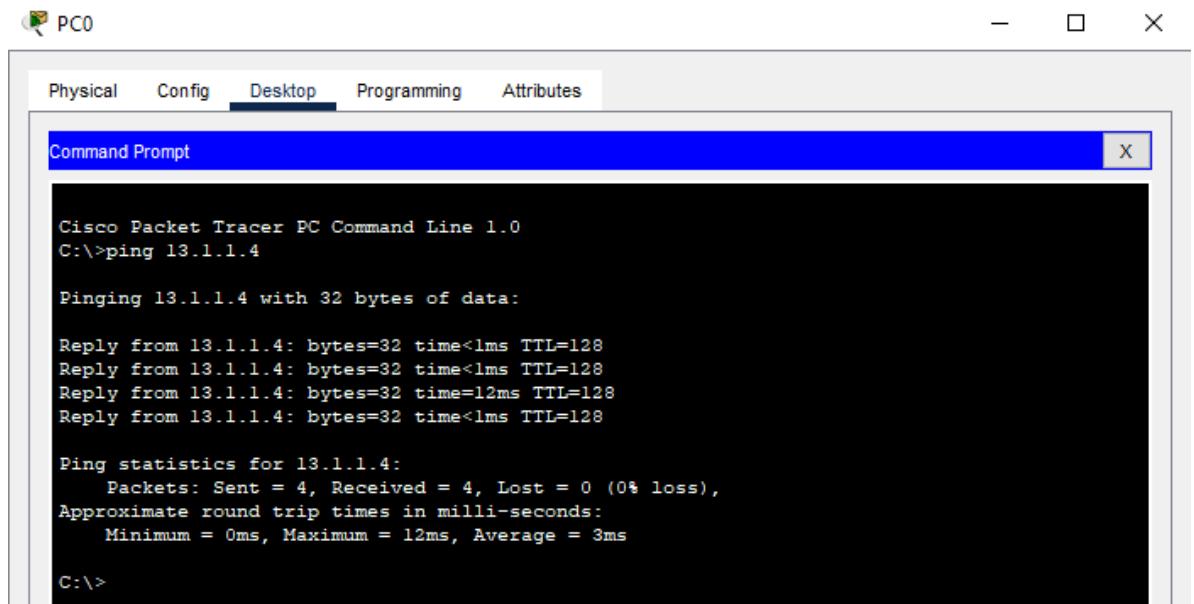
### IP PC

PC16	PC17	PC18	PC19	PC20	PC15																																																																																																																																																																																																																																																												
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<td></td> </tr> <tr> <td>Authentication</td> <td>MDS</td> <td></td> </tr> <tr> <td>Username</td> <td></td> <td></td> </tr> <tr> <td>Password</td> <td></td> <td></td> </tr> </table>	Physical	Config	Desktop	<b>IP Configuration</b>			Interface	FastEthernet0		IP Configuration	<input checked="" type="radio"/> DHCP	<input type="radio"/> Static	IPv4 Address	17.1.1.5		Subnet Mask	255.0.0.0		Default Gateway	17.1.1.1		DNS Server	13.1.1.3		IPv6 Configuration	<input type="radio"/> Automatic	<input checked="" type="radio"/> Static	IPv6 Address			Link Local Address	FE80		Default Gateway			DNS Server			802.1X	<input type="checkbox"/> Use 802.1X Security		Authentication	MDS		Username			Password			<table border="1"> <tr> <th>Physical</th> <th>Config</th> <th>Desktop</th> </tr> <tr> <td colspan="3"> <b>IP Configuration</b> </td> </tr> <tr> <td>Interface</td> <td>FastEthernet0</td> <td></td> </tr> <tr> <td>IP Configuration</td> <td><input checked="" type="radio"/> DHCP</td> <td><input type="radio"/> Static</td> </tr> <tr> <td>IPv4 Address</td> <td>17.1.1.4</td> <td></td> </tr> <tr> <td>Subnet Mask</td> <td>255.0.0.0</td> <td></td> </tr> <tr> <td>Default Gateway</td> <td>17.1.1.1</td> <td></td> </tr> <tr> <td>DNS Server</td> <td>13.1.1.3</td> <td></td> </tr> <tr> <td>IPv6 Configuration</td> <td><input type="radio"/> Automatic</td> <td><input checked="" type="radio"/> Static</td> </tr> <tr> <td>IPv6 Address</td> <td></td> <td></td> </tr> <tr> <td>Link Local Address</td> <td>FE80</td> <td></td> </tr> <tr> <td>Default Gateway</td> <td></td> <td></td> </tr> <tr> <td>DNS Server</td> <td></td> <td></td> </tr> </table>	Physical	Config	Desktop	<b>IP Configuration</b>			Interface	FastEthernet0		IP Configuration	<input checked="" type="radio"/> DHCP	<input type="radio"/> Static	IPv4 Address	17.1.1.4		Subnet Mask	255.0.0.0		Default Gateway	17.1.1.1		DNS Server	13.1.1.3		IPv6 Configuration	<input type="radio"/> Automatic	<input checked="" type="radio"/> Static	IPv6 Address			Link Local 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- Dokumentasikan percobaan ping dari satu jaringan yang sama. Pastikan semua PC dapat terkoneksi datu sama lain menggunakan media wireless maupun wired.

### Jaringan Server

Ping pc → web server



PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 13.1.1.4

Pinging 13.1.1.4 with 32 bytes of data:

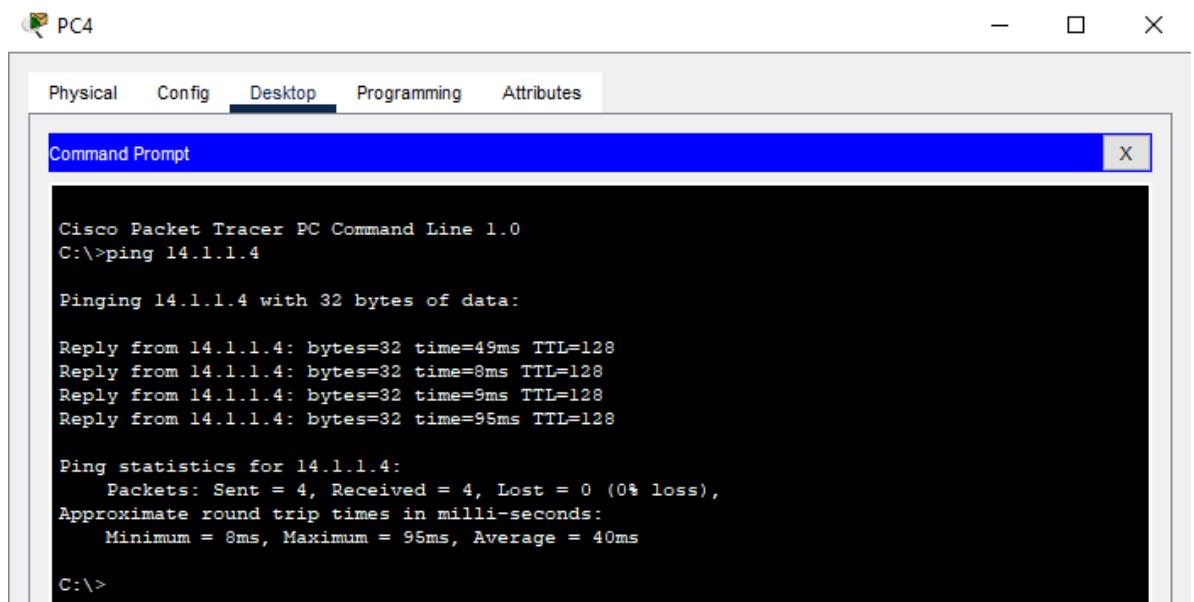
Reply from 13.1.1.4: bytes=32 time<1ms TTL=128
Reply from 13.1.1.4: bytes=32 time<1ms TTL=128
Reply from 13.1.1.4: bytes=32 time=12ms TTL=128
Reply from 13.1.1.4: bytes=32 time<1ms TTL=128

Ping statistics for 13.1.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 12ms, Average = 3ms

C:\>
```

### Jaringan Mahasiswa PSI

Ping pc (4) wireless → pc (1) wired



PC4

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 14.1.1.4

Pinging 14.1.1.4 with 32 bytes of data:

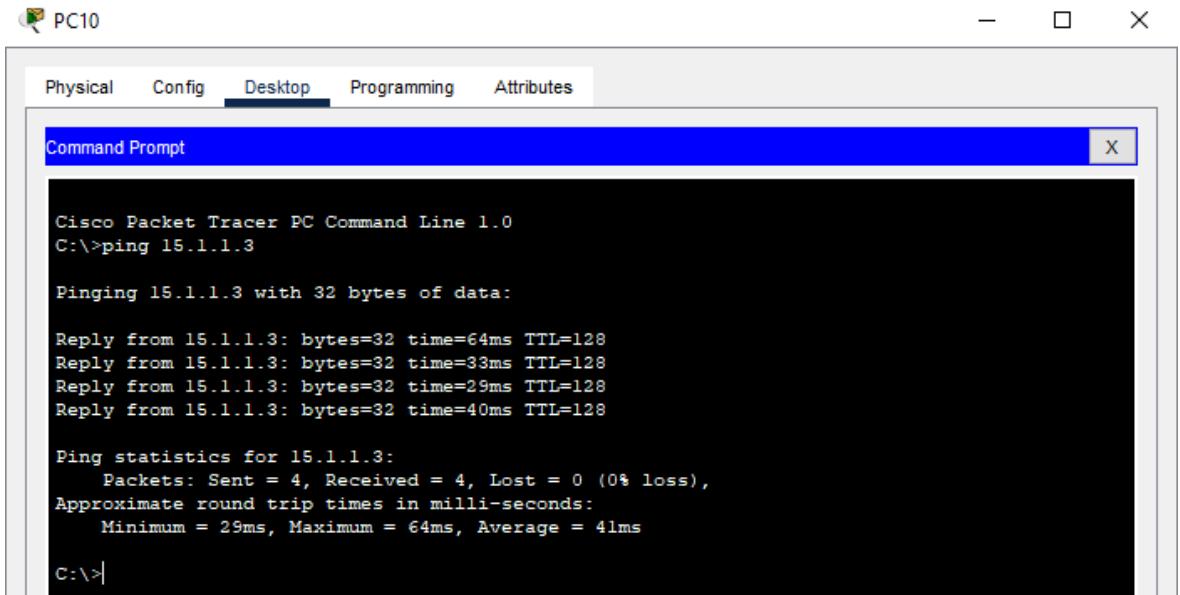
Reply from 14.1.1.4: bytes=32 time=49ms TTL=128
Reply from 14.1.1.4: bytes=32 time=8ms TTL=128
Reply from 14.1.1.4: bytes=32 time=9ms TTL=128
Reply from 14.1.1.4: bytes=32 time=95ms TTL=128

Ping statistics for 14.1.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 8ms, Maximum = 95ms, Average = 40ms

C:\>
```

### **Jaringan Dosen PSI**

**Ping pc (10) wireless →pc (8) wired**



The screenshot shows a Cisco Packet Tracer window titled "PC10". The "Desktop" tab is selected in the top menu bar. A "Command Prompt" window is open, displaying the output of a ping command. The text in the window is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 15.1.1.3

Pinging 15.1.1.3 with 32 bytes of data:

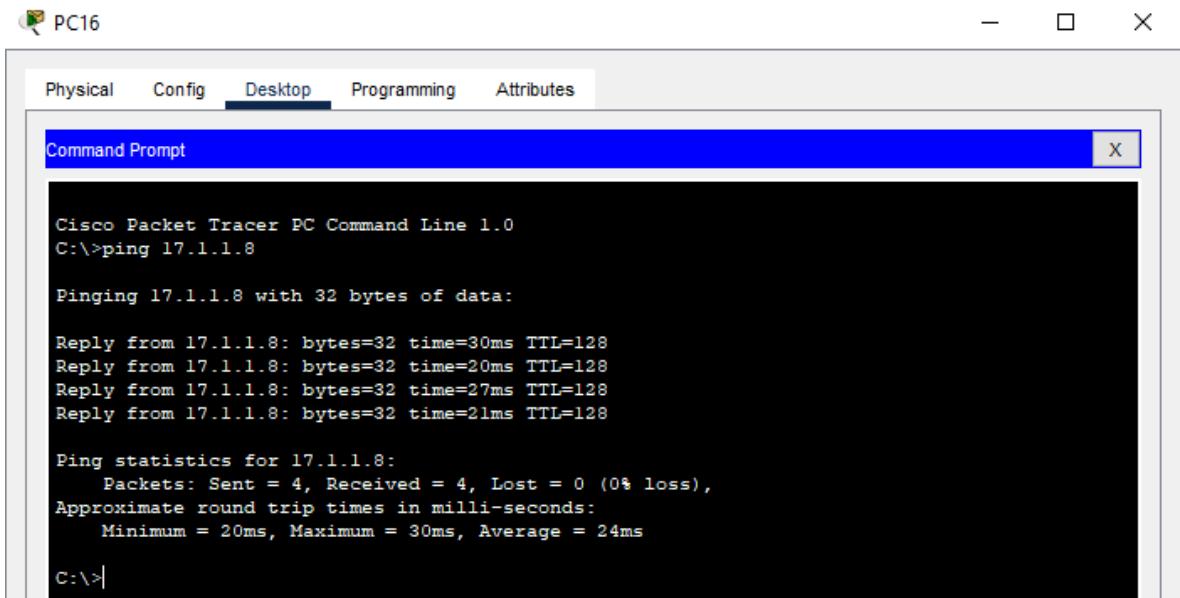
Reply from 15.1.1.3: bytes=32 time=64ms TTL=128
Reply from 15.1.1.3: bytes=32 time=33ms TTL=128
Reply from 15.1.1.3: bytes=32 time=29ms TTL=128
Reply from 15.1.1.3: bytes=32 time=40ms TTL=128

Ping statistics for 15.1.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 29ms, Maximum = 64ms, Average = 41ms

C:\>|
```

### **Jaringan Mahasiswa FKI**

**Ping pc (20) wireless →pc (16) wired**



The screenshot shows a Cisco Packet Tracer window titled "PC16". The "Desktop" tab is selected in the top menu bar. A "Command Prompt" window is open, displaying the output of a ping command. The text in the window is as follows:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 17.1.1.8

Pinging 17.1.1.8 with 32 bytes of data:

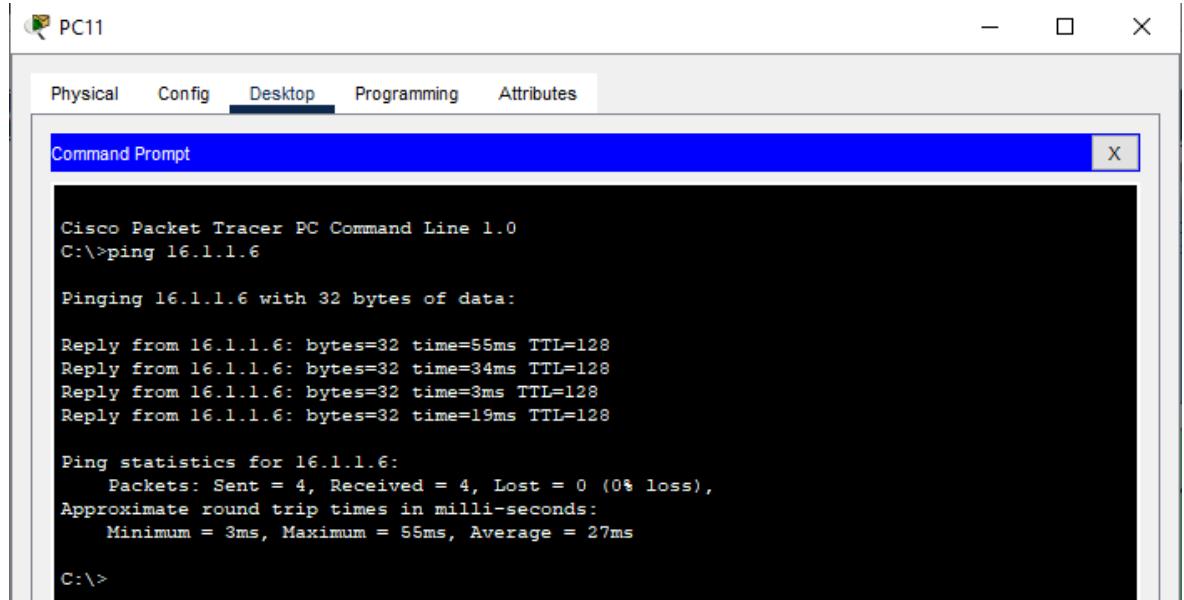
Reply from 17.1.1.8: bytes=32 time=30ms TTL=128
Reply from 17.1.1.8: bytes=32 time=20ms TTL=128
Reply from 17.1.1.8: bytes=32 time=27ms TTL=128
Reply from 17.1.1.8: bytes=32 time=21ms TTL=128

Ping statistics for 17.1.1.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 20ms, Maximum = 30ms, Average = 24ms

C:\>|
```

## Jaringan Dosen FKI

Ping pc (14) wireless → pc (11) wired



The screenshot shows a Cisco Packet Tracer window titled "PC11". The "Config" tab is selected. A "Command Prompt" window is open, displaying the output of a ping command:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 16.1.1.6

Pinging 16.1.1.6 with 32 bytes of data:

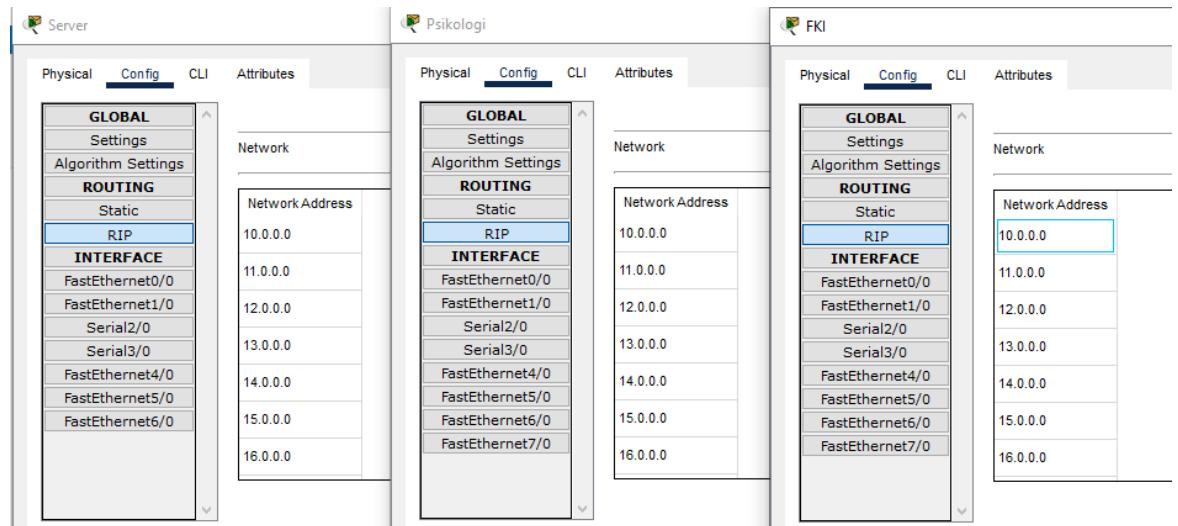
Reply from 16.1.1.6: bytes=32 time=55ms TTL=128
Reply from 16.1.1.6: bytes=32 time=34ms TTL=128
Reply from 16.1.1.6: bytes=32 time=3ms TTL=128
Reply from 16.1.1.6: bytes=32 time=19ms TTL=128

Ping statistics for 16.1.1.6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 55ms, Average = 27ms

C:\>
```

### 3. Buatlah konfigurasi routing dinamis pada setiap router

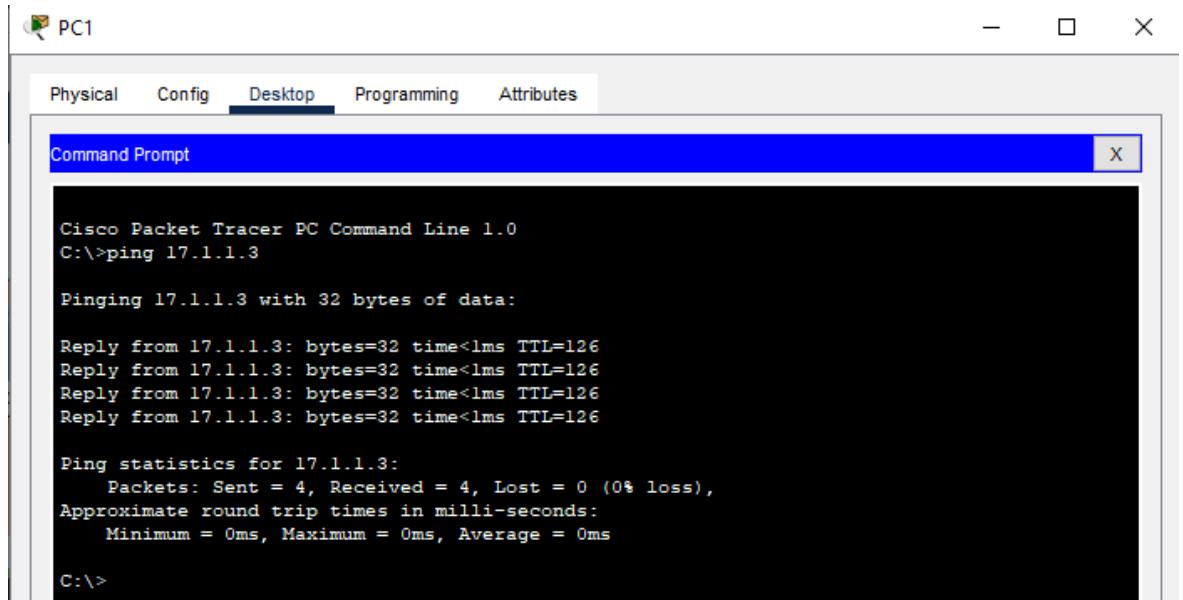
- Dokumentasikan konfigurasi routing setiap router



\* Note : pada routing dinamis terdapat ip network 17.0.0.0, namun tidak terlihat saat proses screenshot.

- Dokumentasikan hasil percobaan ping dari pc Psi ke FKI, Psi ke server, dan FKI ke server.

### Ping PSI → FKI



PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 17.1.1.3

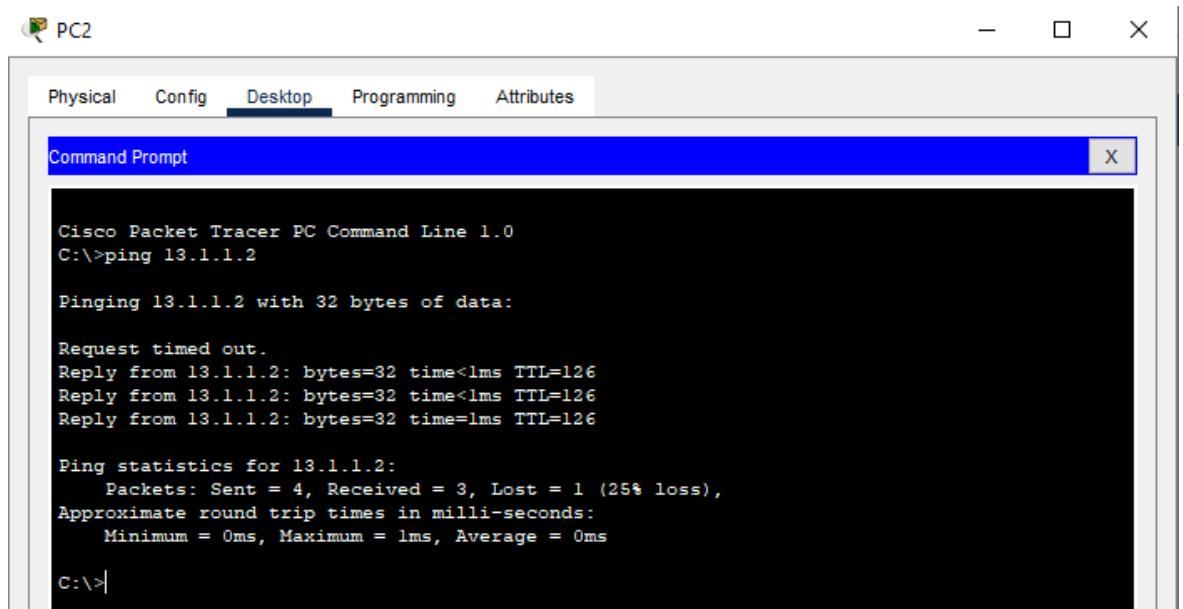
Pinging 17.1.1.3 with 32 bytes of data:

Reply from 17.1.1.3: bytes=32 time<1ms TTL=126

Ping statistics for 17.1.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

### Ping PSI → Server



PC2

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 13.1.1.2

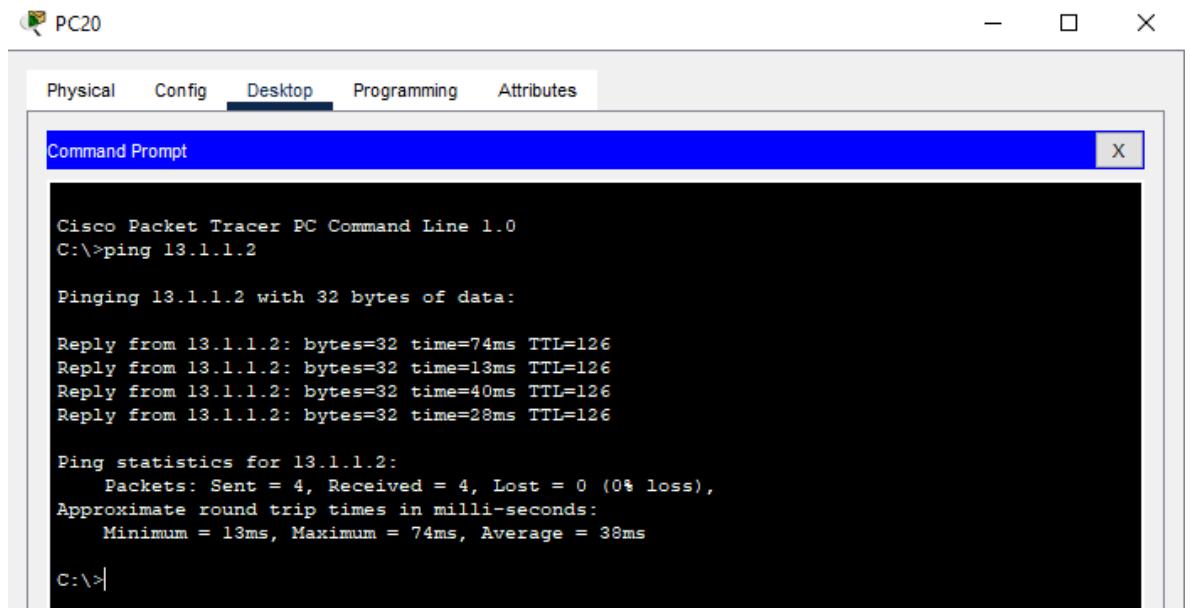
Pinging 13.1.1.2 with 32 bytes of data:

Request timed out.
Reply from 13.1.1.2: bytes=32 time<1ms TTL=126
Reply from 13.1.1.2: bytes=32 time<1ms TTL=126
Reply from 13.1.1.2: bytes=32 time=1ms TTL=126

Ping statistics for 13.1.1.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

### *Ping FKI → Server*



```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 13.1.1.2

Pinging 13.1.1.2 with 32 bytes of data:

Reply from 13.1.1.2: bytes=32 time=74ms TTL=126
Reply from 13.1.1.2: bytes=32 time=13ms TTL=126
Reply from 13.1.1.2: bytes=32 time=40ms TTL=126
Reply from 13.1.1.2: bytes=32 time=28ms TTL=126

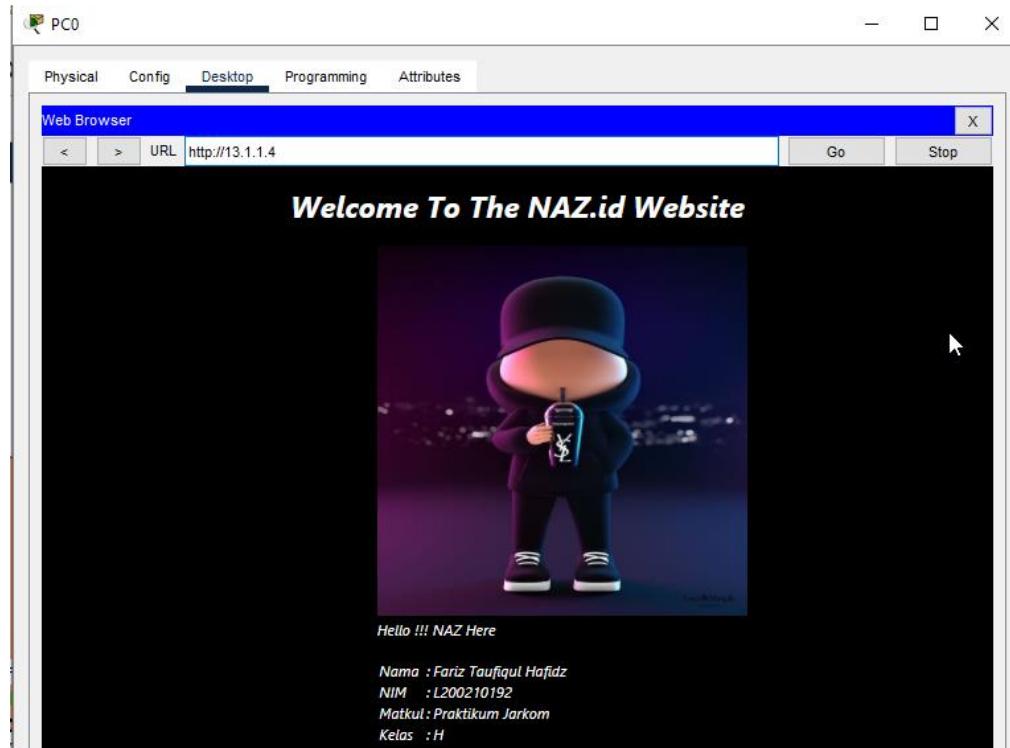
Ping statistics for 13.1.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 13ms, Maximum = 74ms, Average = 38ms

C:\>
```

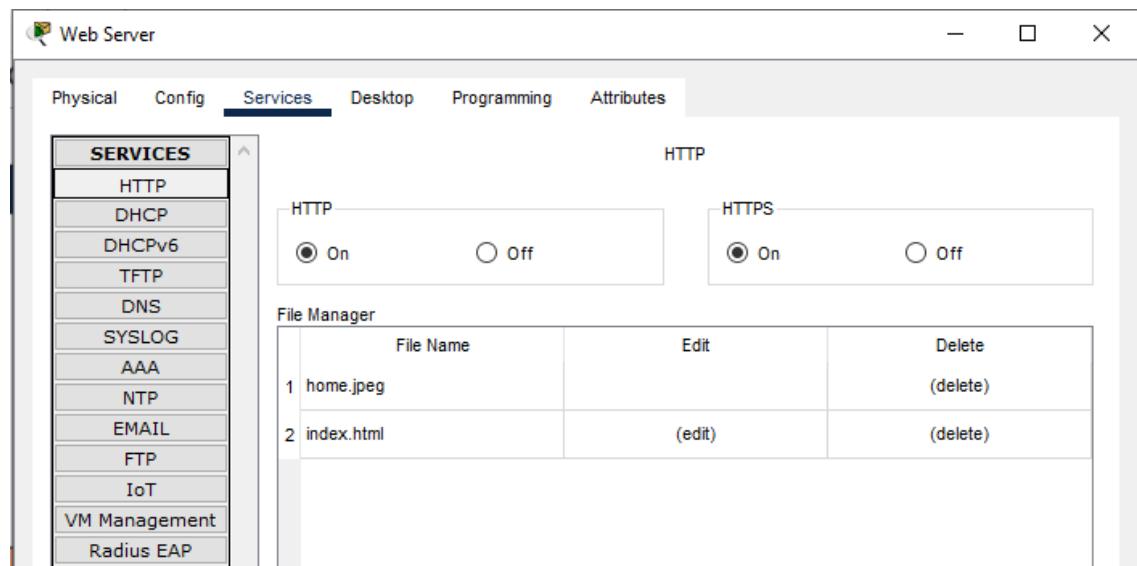
#### **4. Rancanganlah server Web dan DNS server di gedung server.**

- Pada web server menampilkan tampilan tentang biodata setiap mahasiswa yang terdiri dari Nama, NIM, Kelas.
- Pada DNS server menampilkan alamat web sesuai nimnya masing- masing
- Hasil dari server diatas dibuktikan dengan menampilkan pada pc server

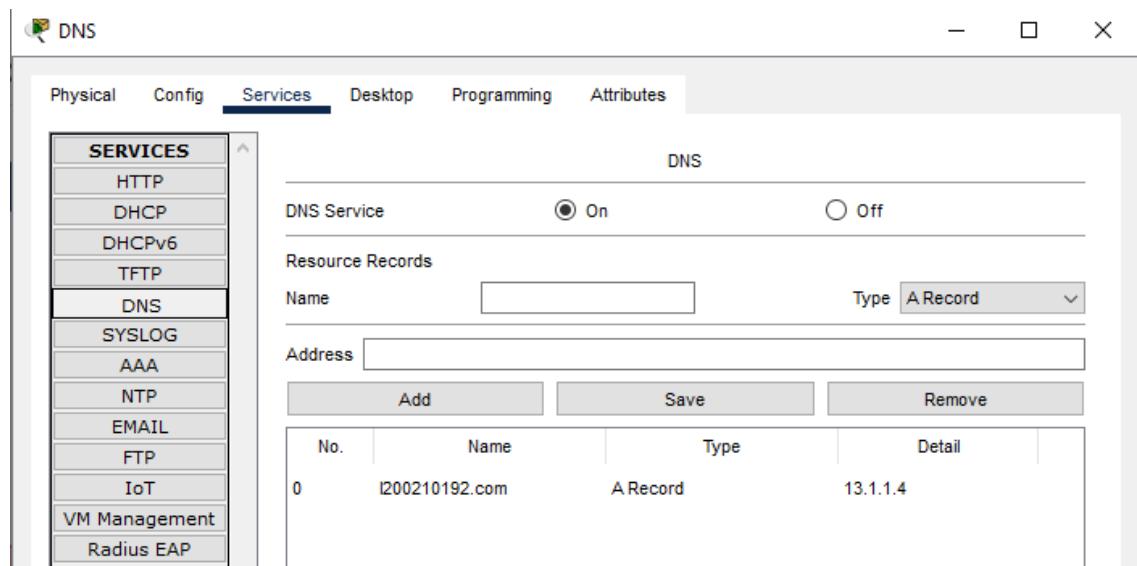
#### *Akses ip web server dari PC server*



- Dokumentasikan konfigurasi HTTP pada web server .

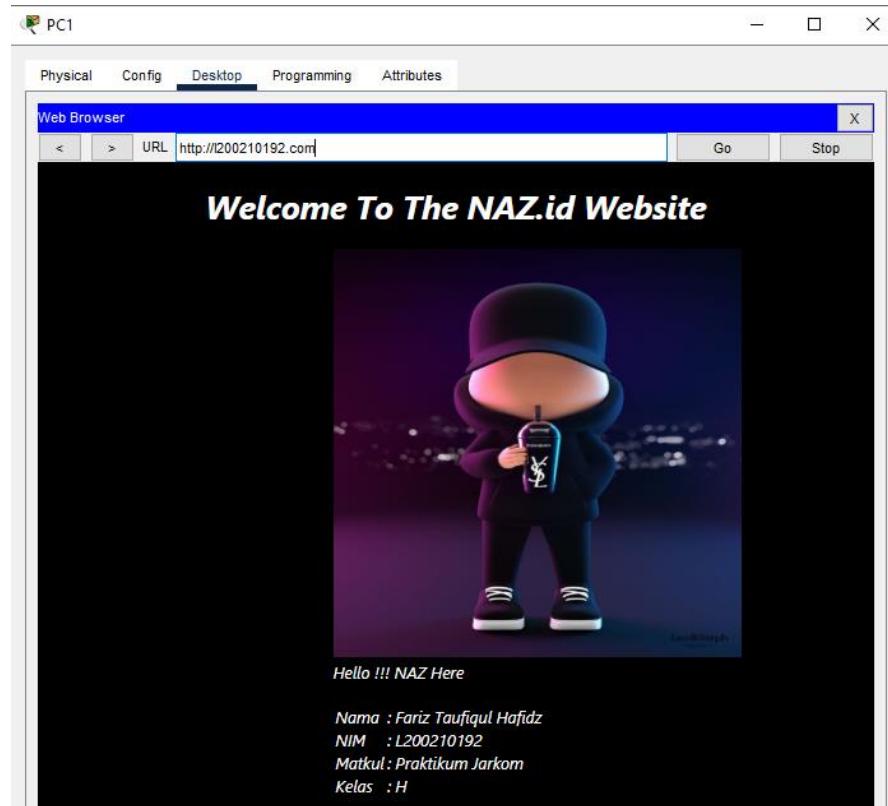


- Dokumentasikan konfigurasi DNS server.

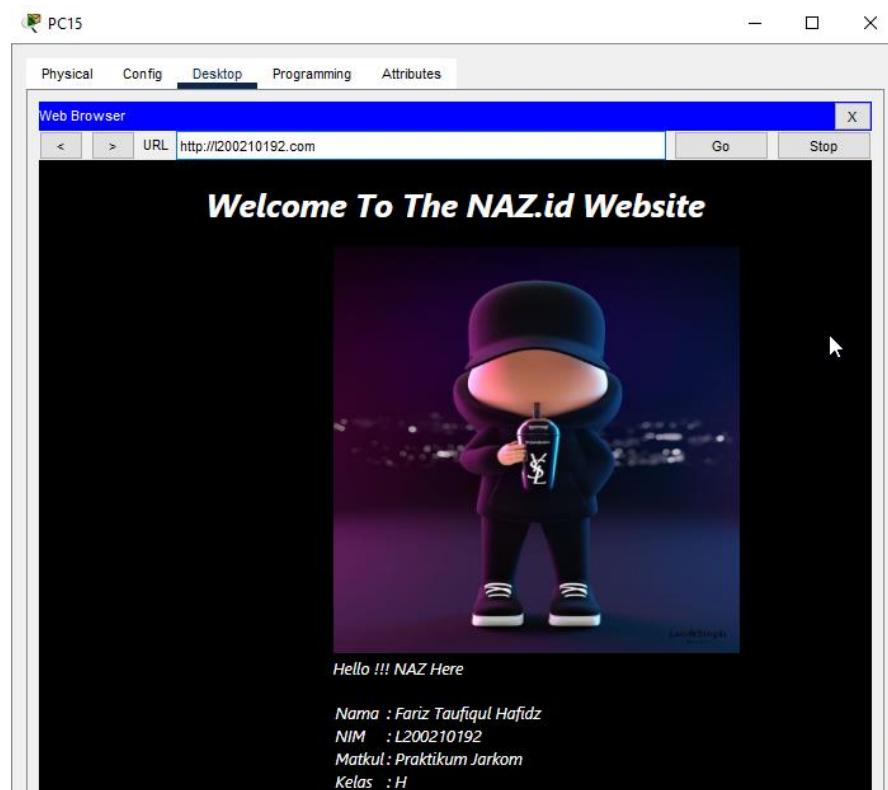


- Dokumentasikan hasil akses domain name dari salah satu PC Psi dan FKI.

#### Akses domain name dari PC PSI



#### Akses domain name dari PC FKI



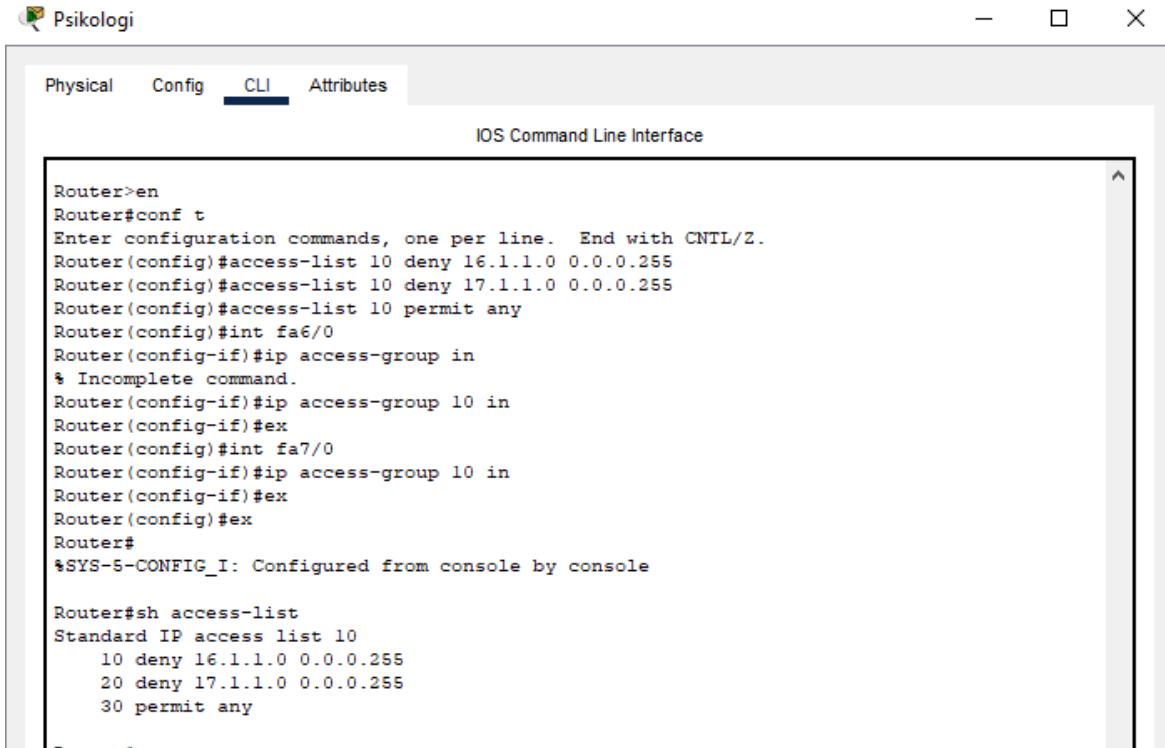
## 5. Buatlah pembatasan dengan access list dimana

a. NIM Genap : Mahasiswa & Dosen FKI tidak bisa melakukan ping pada

Jaringan Psi

- *Dokumentasikan konfigurasi ACL pada router*

### *Konfigurasi Access-List pada Router Psikologi*



The screenshot shows the Cisco IOS Command Line Interface (CLI) running on a router named 'Psikologi'. The interface has tabs for Physical, Config, CLI (which is selected), and Attributes. The CLI window displays the following configuration commands:

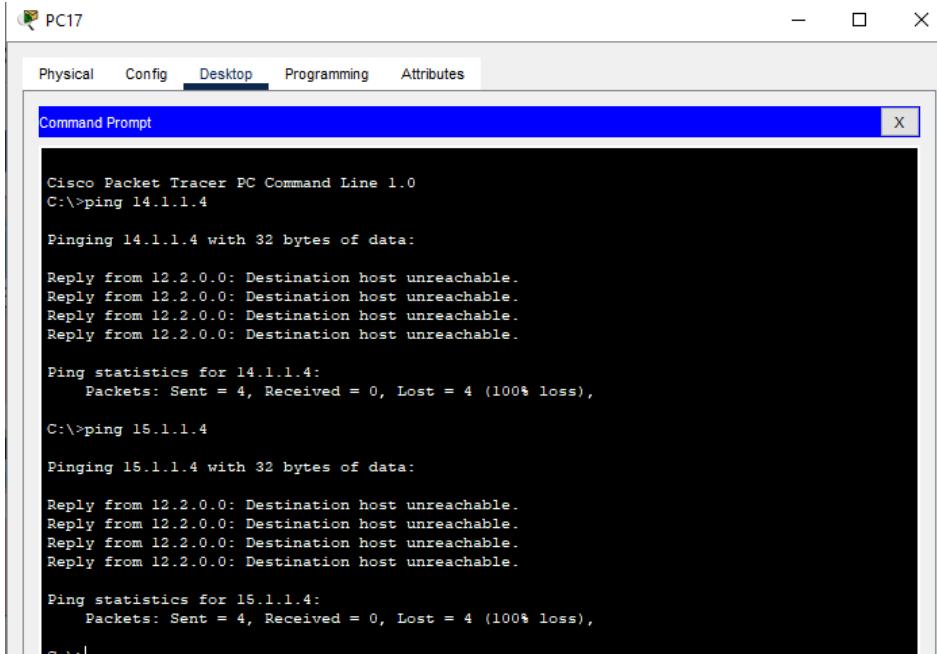
```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 10 deny 16.1.1.0 0.0.0.255
Router(config)#access-list 10 deny 17.1.1.0 0.0.0.255
Router(config)#access-list 10 permit any
Router(config)#int fa6/0
Router(config-if)#ip access-group in
% Incomplete command.
Router(config-if)#ip access-group 10 in
Router(config-if)#ex
Router(config)#int fa7/0
Router(config-if)#ip access-group 10 in
Router(config-if)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#sh access-list
Standard IP access list 10
  10 deny 16.1.1.0 0.0.0.255
  20 deny 17.1.1.0 0.0.0.255
  30 permit any

Router#
```

- *Dokumentasikan hasil percobaan ping*

### *Ping PC mahasiswa FKI → PC mahasiswa dan dosen PSI*



The screenshot shows the Cisco Packet Tracer Command Prompt window titled 'Command Prompt'. The window has tabs for Physical, Config, Desktop (which is selected), Programming, and Attributes. The command prompt displays the results of pinging two hosts:

```
Cisco Packet Tracer PC Command Line 1.0
C:>ping 14.1.1.4

Pinging 14.1.1.4 with 32 bytes of data:

Reply from 12.2.0.0: Destination host unreachable.

Ping statistics for 14.1.1.4:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:>ping 15.1.1.4

Pinging 15.1.1.4 with 32 bytes of data:

Reply from 12.2.0.0: Destination host unreachable.

Ping statistics for 15.1.1.4:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:>
```

*Ping PC mahasiswa PSI → PC mahasiswa dan dosen FKI*

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 17.1.1.4

Pinging 17.1.1.4 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 17.1.1.4:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>ping 16.1.1.4

Pinging 16.1.1.4 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 16.1.1.4:
  Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\>
```

6. Tambahkan konfigurasi NAT pada server web.

- *Dokumentasikan konfigurasi NAT pada router*

*Konfigurasi IP NAT pada Router Server*

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip nat inside source static 13.1.1.4 50.0.0.1
Router(config)#int fa0/0
Router(config-if)#ip nat inside
Router(config-if)#ex
Router(config)#int fa0/0
Router(config-if)#ip nat outside
Router(config-if)#ex
Router(config)#int fal0/0
Router(config-if)#ip nat outside
Router(config-if)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#sh ip nat translations
Pro Inside global      Inside local        Outside local        Outside global
--- 50.0.0.1           13.1.1.4          ---               ---
```

## **Routing static pada Router Psikologi dan FKI**

The image displays two windows from a network configuration tool, illustrating the setup of static routes on two different routers.

**Router Psikologi Configuration:**

- Config Tab:** Selected.
- Global Settings:** Under ROUTING.
- Static Routes:** Network: 50.0.0.0, Mask: 255.0.0.0, Next Hop: 10.1.0.0.
- Network Address:** 50.0.0.0/8 via 10.1.0.0.
- Add Button:** Enabled.

**Router FKI Configuration:**

- Config Tab:** Selected.
- Global Settings:** Under ROUTING.
- Static Routes:** Network: 50.0.0.0, Mask: 255.0.0.0, Next Hop: 11.1.0.0.
- Network Address:** 50.0.0.0/8 via 11.1.0.0.
- Add Button:** Enabled.

- Dokumentasikan hasil percobaan ping

**Ping PC mahasiswa PSI → Web server (ip local 13.1.1.4) dan (ip global 50.0.0.1)**

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 50.0.0.1

Pinging 50.0.0.1 with 32 bytes of data:

Reply from 50.0.0.1: bytes=32 time=80ms TTL=126
Reply from 50.0.0.1: bytes=32 time=18ms TTL=126
Reply from 50.0.0.1: bytes=32 time=20ms TTL=126
Reply from 50.0.0.1: bytes=32 time=27ms TTL=126

Ping statistics for 50.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 18ms, Maximum = 80ms, Average = 36ms

C:\>
C:\>
C:\>ping 13.1.1.4

Pinging 13.1.1.4 with 32 bytes of data:

Reply from 50.0.0.1: bytes=32 time=14ms TTL=126
Reply from 50.0.0.1: bytes=32 time=16ms TTL=126
Reply from 50.0.0.1: bytes=32 time=7ms TTL=126
Reply from 50.0.0.1: bytes=32 time=14ms TTL=126

Ping statistics for 13.1.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 7ms, Maximum = 16ms, Average = 12ms

C:\>

```

**Ping PC mahasiswa FKI → Web server (ip local 13.1.1.4) dan (ip global 50.0.0.1)**

```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 50.0.0.1

Pinging 50.0.0.1 with 32 bytes of data:

Reply from 50.0.0.1: bytes=32 time=90ms TTL=126
Reply from 50.0.0.1: bytes=32 time=21ms TTL=126
Reply from 50.0.0.1: bytes=32 time=44ms TTL=126
Reply from 50.0.0.1: bytes=32 time=36ms TTL=126

Ping statistics for 50.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 21ms, Maximum = 90ms, Average = 47ms

C:\>
C:\>
C:\>ping 13.1.1.4

Pinging 13.1.1.4 with 32 bytes of data:

Reply from 50.0.0.1: bytes=32 time=13ms TTL=126
Reply from 50.0.0.1: bytes=32 time=41ms TTL=126
Reply from 50.0.0.1: bytes=32 time=54ms TTL=126
Reply from 50.0.0.1: bytes=32 time=25ms TTL=126

Ping statistics for 13.1.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 13ms, Maximum = 54ms, Average = 33ms

C:\>

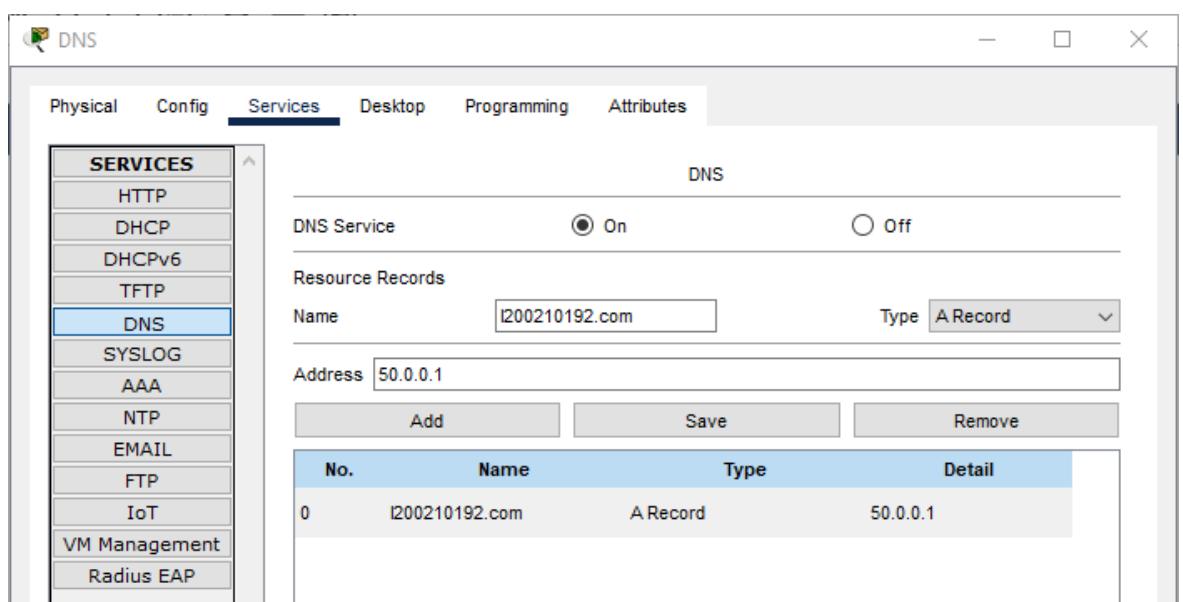
```

\* Note tambahan

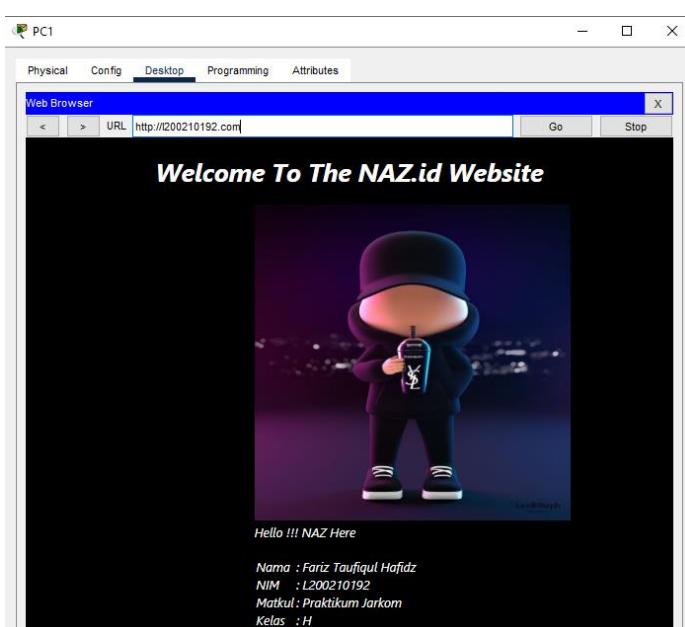
### Perubahan Address pada DNS server

Sebelum dilakukannya proses IP NAT router server, Pada DNS server melakukan servive dns dengan memanggil ip pada web server yaitu 13.1.1.4 dengan domain akses diubah ke 1200210192.com.

Namun, setelah dilakukan IP NAT pada web server yang awalnya IP 13.1.1.4 (local) lalu ditranslasi menjadi IP global yaitu 50.0.0.1 (global) mengakibatkan akses domain 1200210192.com bermasalah karena ketika kita mengakses ip 13.1.1.4 otomatis ditranslasi ke 50.0.0.1. Untuk mengatasi hal itu, dilakukan perubahan address pada service dns 13.1.1.4 menjadi 50.0.0.1. seperti pada gambar dibawah ini :



### Akses domain name dari PC PSI



### **Akses domain name dari PC FKI**

