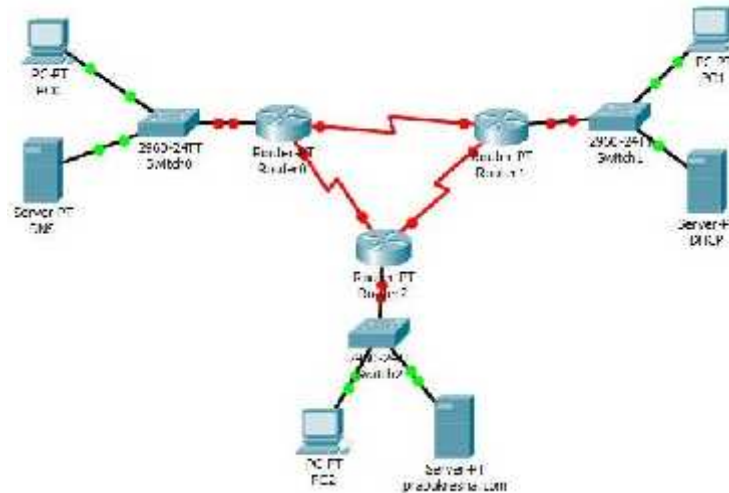


Nama : Fadel Fais Afrizal  
Nim : L200170076  
Kelas : B

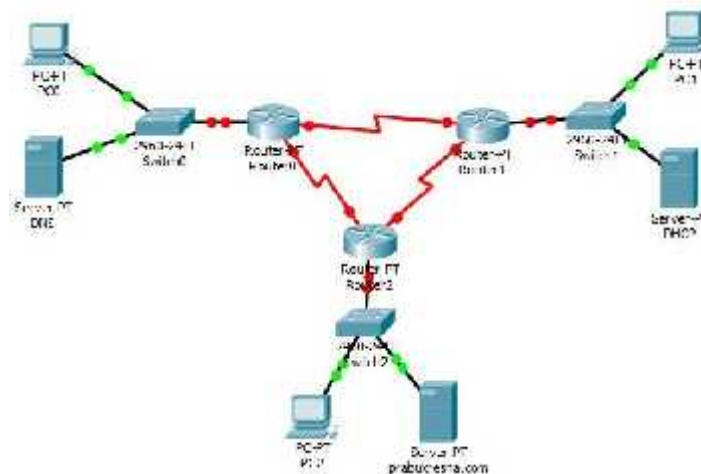
### UJIAN AKHIR SEMESTER JARINGAN KOMPUTER



SOAL :

1. Buat Topologi Seperti Diatas
2. Konfigurasi IP terhadap Router 0,1,2 PC 0,1,2 dan Server 0,1,2
3. Konfigurasi Routing Dinamis
4. Konfigurasi Routing Statis
5. Batasi Hanya 2 PC yang dapat mengakses Webserver

JAWAB :



- **Router 0**  
Fast Ethernet 0/0 : 192.168.10.1  
Serial 2/0 : 10.10.10.1  
Serial 3/0 : 30.30.30.1

Router0

Physical Config CLI All buses

**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 00:00:00:00:00:00

IP Configuration

IP Address 192.168.10.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

**Equivalent IOS Commands**

```

>>> L OUI210_1: Configured from console by console
no shutdown
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#
  
```

Top

Router0

Physical Config CLI All buses

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

**Serial2/0**

Port Status ☒ On

Duplex ☒ Full Duplex

Clock Rate 2000000

IP Configuration

IP Address 10.10.10.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

**Equivalent IOS Commands**

```

Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#ip address 10.10.10.1 255.0.0.0
Router(config-if)#ip address 10.10.10.1 255.255.255.0
Router(config-if)#
  
```

Top

Router0

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

RIP

Static

RIP

INTERFACE

FastEthernet0/0

FastEthernet1/0

Serial0/0

Serial0/0

Serial0/0

FastEthernet4/0

FastEthernet5/0

Serial0/0

Port Status

on

Duplex

Full Duplex

Clock Rate

1000

IP Configuration

IP Address

30.30.30.1

Subnet Mask

255.255.255.0

Linking Limit

10

Equivalent IOS Commands

Router(config)#ip address 10.10.1.1 255.255.255.0

Router(config)#

Router(config-if)#exit

Router(config)(interface Serial0/0

Router(config-if)#no shutdown

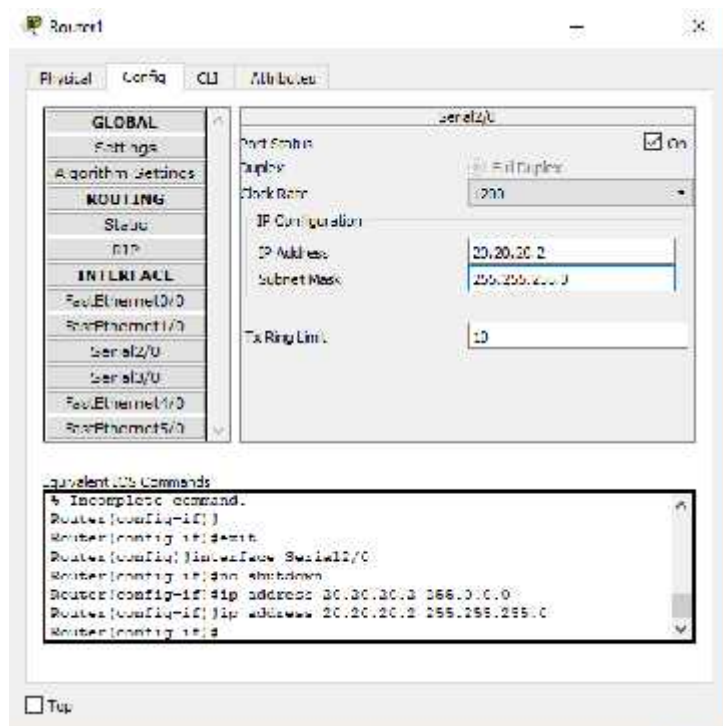
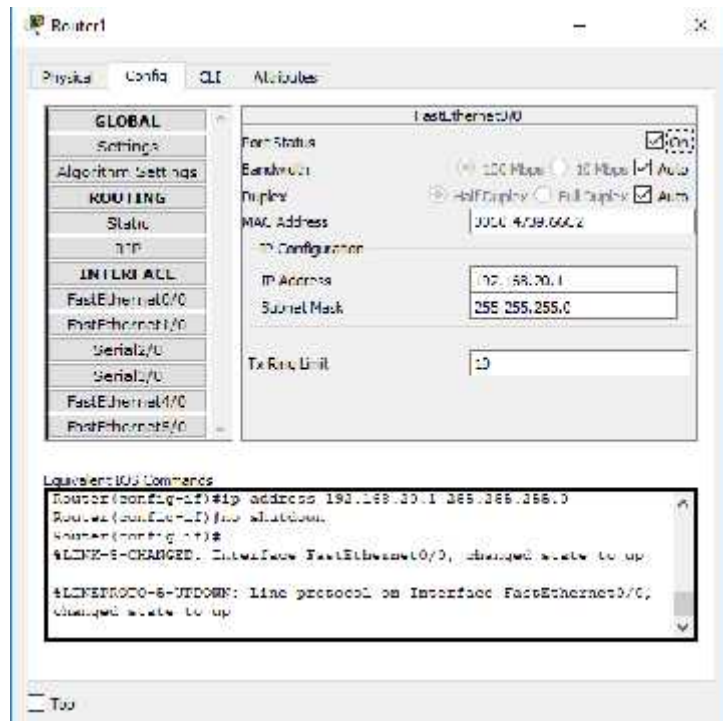
Router(config)#ip address 30.30.30.1 255.255.255.0

Router(config)#ip address 30.30.30.1 255.255.255.0

Router(config-if)#

Top

- **Router 1**  
Fast Ethernet 0/0 : 192.168.20.1  
Serial 2/0 : 20.20.20.2  
Serial 3/0 : 30.30.30.2



Physical
Config
CLI
Attributes

GLOBAL

Settings

Algorithm Settings

RX/TX LINK

Static

QoS

INTERFACE

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

Serial3/0

Port Enable ☒ on

Duplex ☒ Full Duplex

Clock Rate 200

IP Configuration

IP Address 30.30.30.2

Subnet Mask 255.255.255.0

Max Ring Limit 10

Router1(config-if)#

\$LINK-8-CHANGED: Interface Serial3/0, changed state to up

ip address 30.30.30.2 255.0.0.0

Router1(config-if)#ip address 30.30.30.3 255.255.255.0

Router1(config-if)#

\$LINEPROTO-8-UPDOWN: Line protocol on Interface Serial3/0,

changed state to up

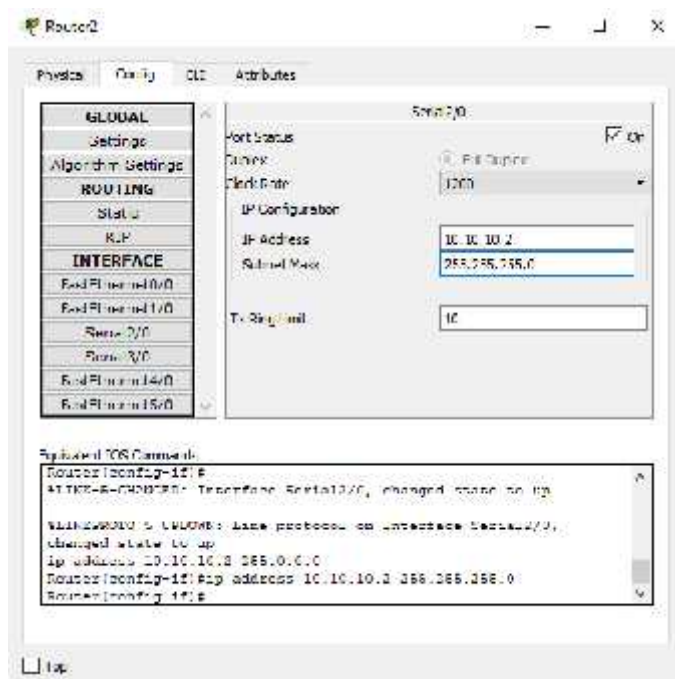
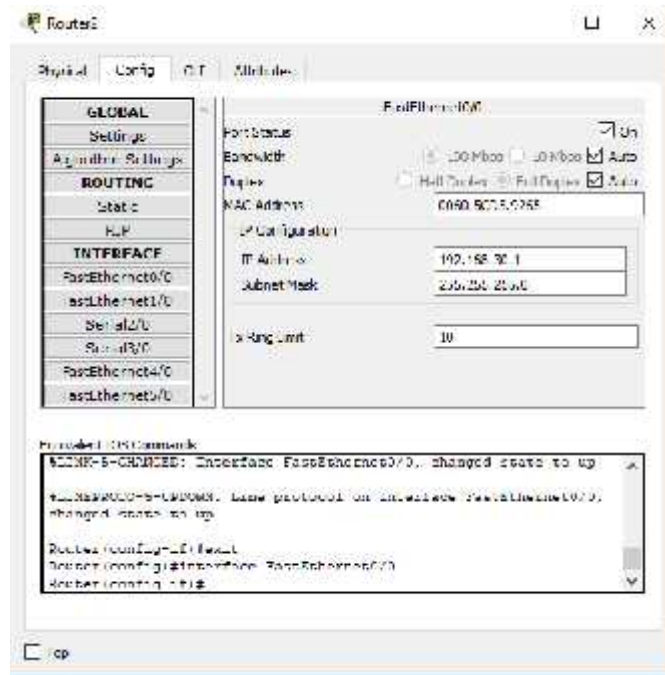
☐ Top

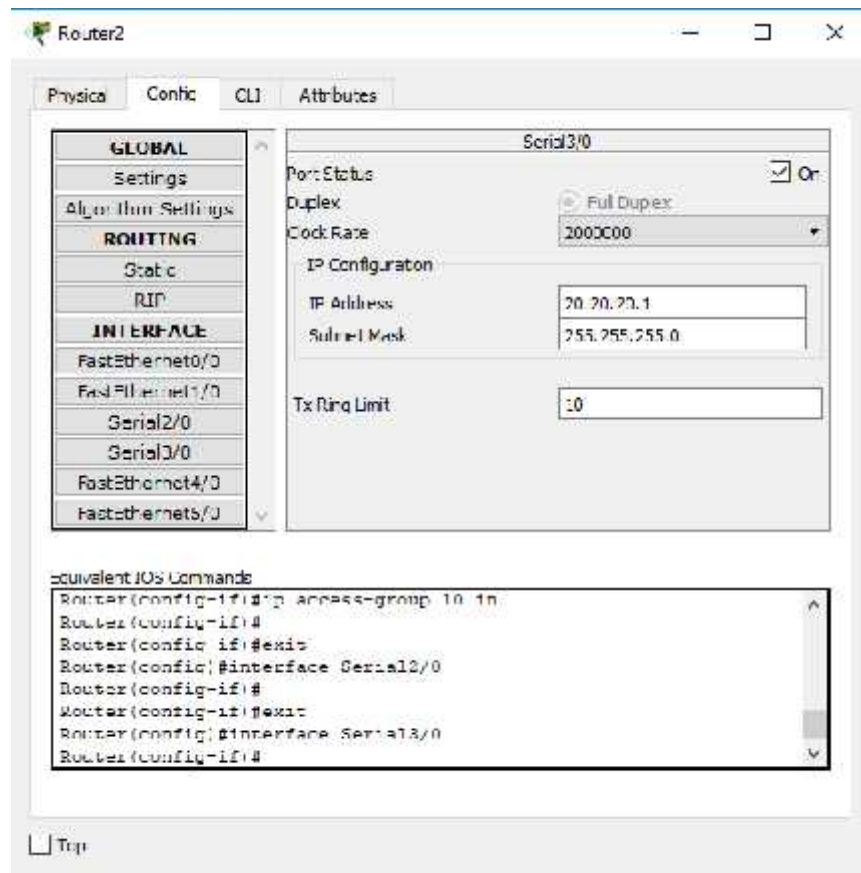
- **Router 2**

FastEthernet0/0 : 192.168.30.1

Serial 2/0 : 10.10.10.2

Serial 3/0 : 20.20.20.1





Kemudian Kita akan lakukan konfigurasi DHCP pada Server

- Server DNS

IP Configuration

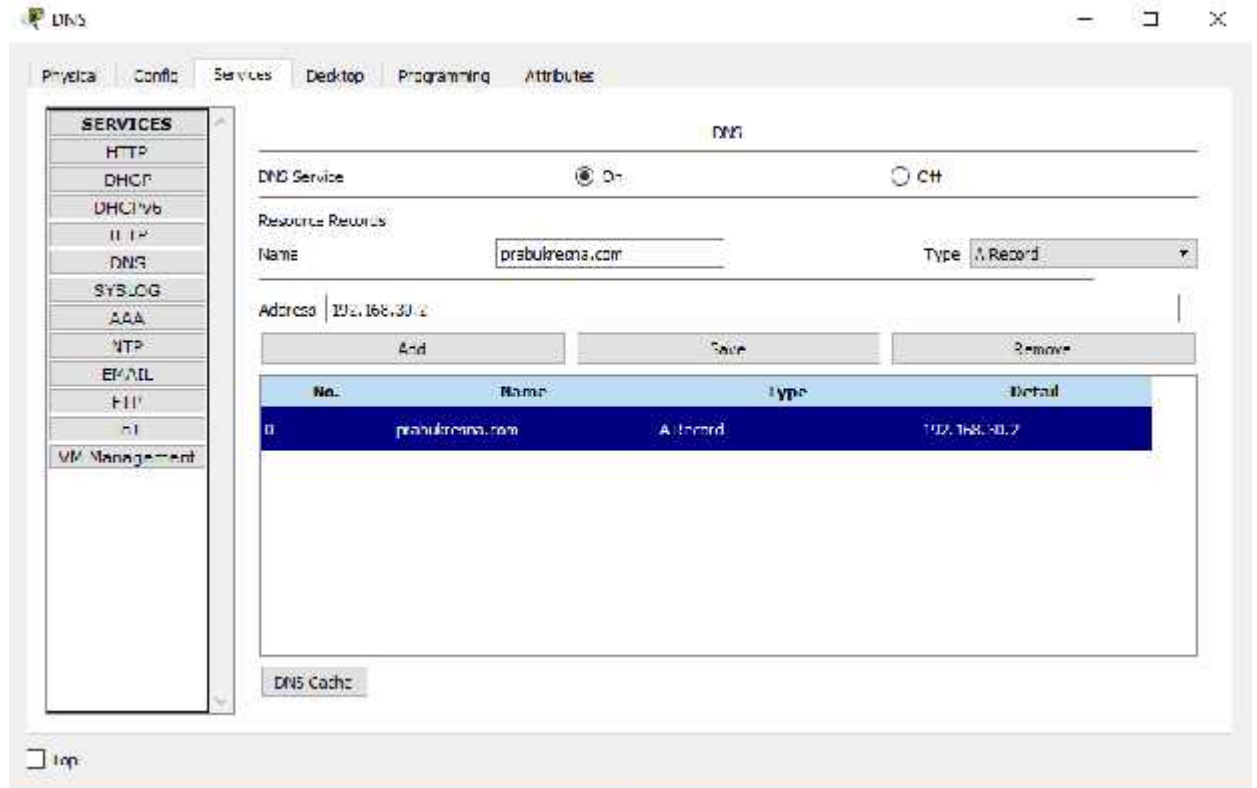
☐ DHCP ☒ Static

IP Address: 192.168.10.2

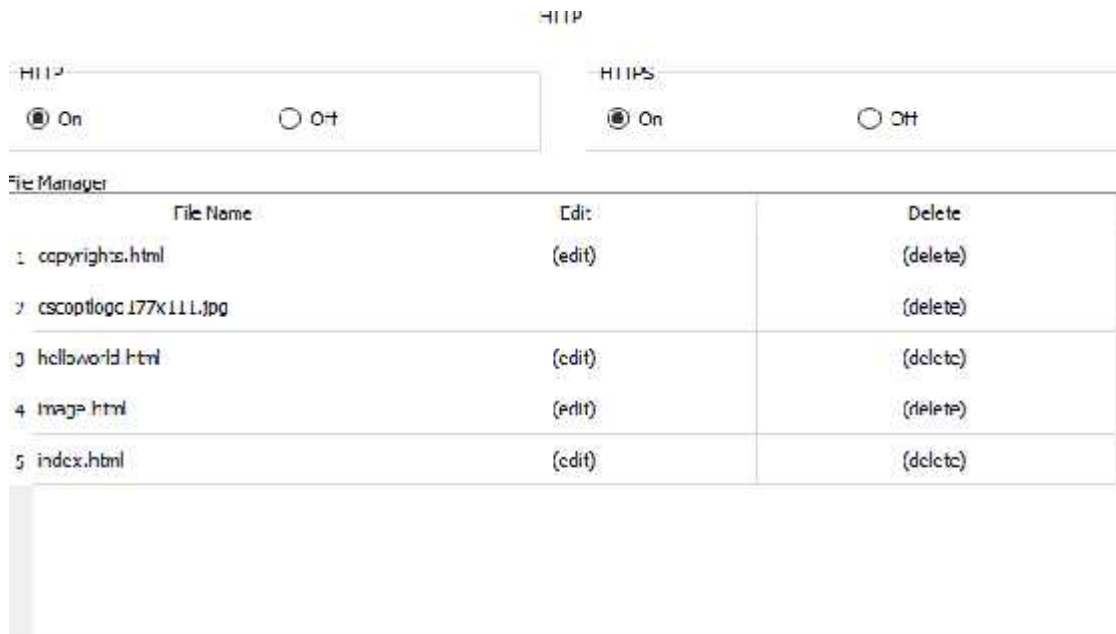
Subnet Mask: 255.255.255.0

Default Gateway: 192.168.10.1

DNS Server: 2.0.0.0



- Server prabukresna.com





File Name: index.html

```
<html>
<center><font size="+2" color="blue">NDOROWATI PRABU KRESNA</font></center>
<hr>Welcome to Cisco Packet Tracer, Opening doors to new opportunities, Mind Wecc Open.
<p>Quick Links:
<br><a href="helloword.html">A small page</a>
<br><a href="copyrights.html">Copyrights</a>
<br><a href="image.html">Image page</a>
<br><a href="ciscoptlogo177x111.jpg">Image</a>
</html>
```

File Manager

Save

## - Server DHCP

### DHCP

Interface	FastEthernet0	Service	<input checked="" type="radio"/> On	<input type="radio"/> Off			
Pool Name	serverPool						
Default Gateway	192.168.10.1						
DNS Server	192.168.10.2						
Start IP Address :	192	168	10	3			
Subnet Mask:	255	255	255	0			
Maximum Number of Users :	253						
TFTP Server:	0.0.0.0						
WLC Address:	0.0.0.0						
Add		Save		Remove			
Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.10.1	192.168.10.2	192.168.10.3	255.255.255.0	253	0.0.0.0	0.0.0.0

DHCP

---

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 192.168.30.1

DNS Server: 192.168.10.2

Start IP Address: 192 168 30 3

Subnet Mask: 255 255 255 0

Maximum Number of Users: 253

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.30.1	192.168.10.2	192.168.30.3	255.255.255.0	253	0.0.0.0	0.0.0.0

DHCP

---

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 192.168.20.1

DNS Server: 192.168.10.2

Start IP Address: 192 168 20 3

Subnet Mask: 255 255 255 0

Maximum Number of Users: 253

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.20.1	192.168.10.2	192.168.20.3	255.255.255.0	253	0.0.0.0	0.0.0.0

Kemudian apa Bila telah terkonfigurasi otomatis PC akan mendapatkan IP

PCD

Physical Config Desktop Programming Attributes

Configuration

IP Configuration

☒ DHCP ☐ Static

IP Address: 192.168.1.5

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1

DNS Server: 192.168.1.2

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::7D2:1A55:FE2F:6551

IPv6 Gateway:

IPv6 DNS Server:

Top

PCD

Physical Config Desktop Programming Attributes

Configuration

IP Configuration

☒ DHCP ☐ Static

IP Address: 192.168.20.5

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.20.1

DNS Server: 192.168.20.2

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::7D2:1A55:FE2F:6551

IPv6 Gateway:

IPv6 DNS Server:

Top

PC2

Physical

Config

Desktop

Networking

Attributes

IP Configuration

IP Configuration

☒ DHCP

☐ Static

IP Address

192.168.30.2

Subnet Mask

255.255.255.0

Default Gateway

192.168.30.1

DNS Server

192.168.30.2

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

Link Local Address

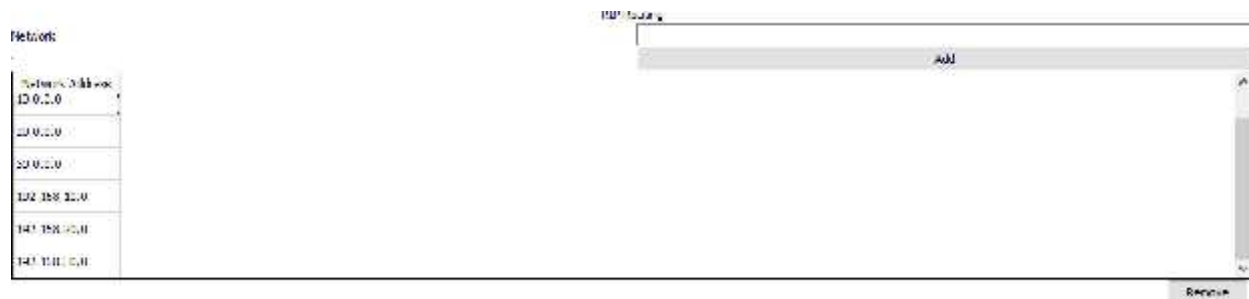
FE80::202:1:0FF:FE1D:21C8

IPv6 Gateway

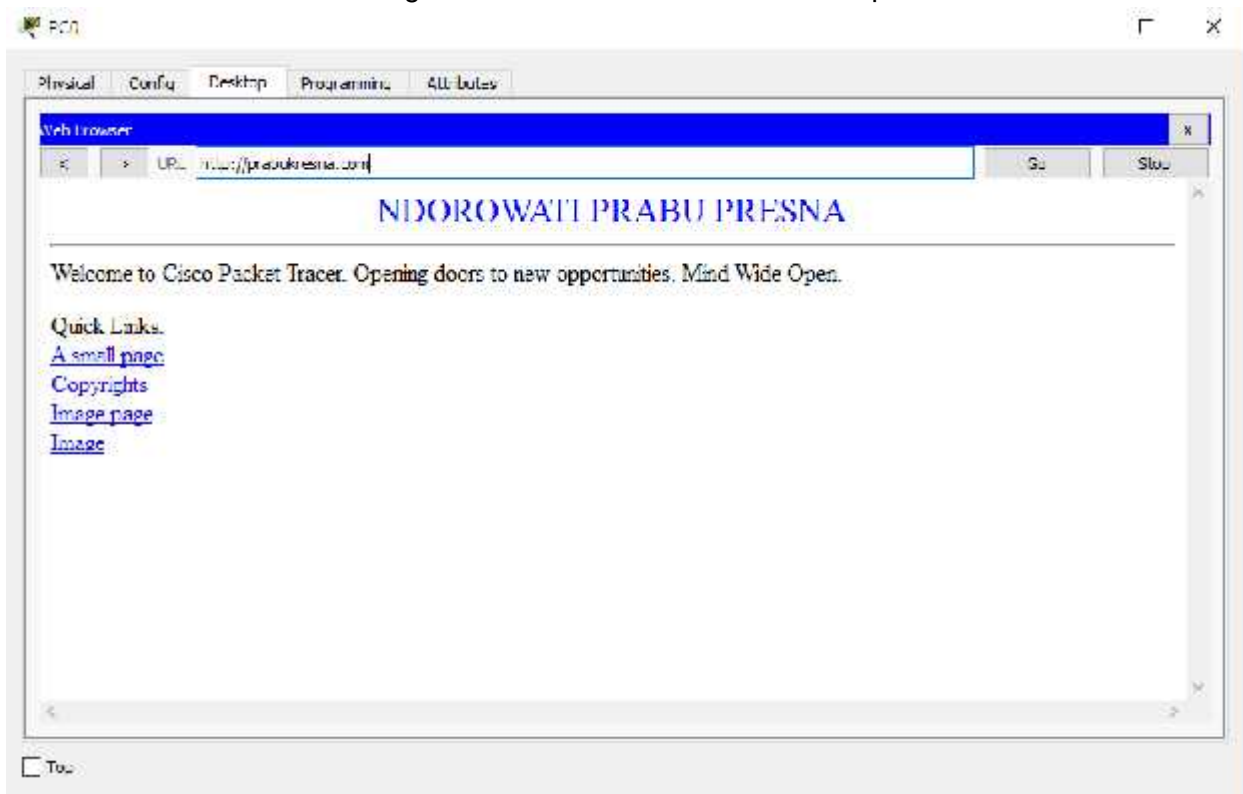
IPv6 DNS Server

100

Kemudian agar PC bisa terhubung beda jaringan kita akan mencoba konfigurasi **routing DINAMIS** pada **Router 0,1,2** dengan seperti dibawah ini



Kemudian kita tes koneksi dengan **PING** dan **MENGAkses WEB** prabukresna.com dari PC :



```
C:\>ping prabukresna.com

Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time=1ms TTL=126
Reply from 192.168.30.2: bytes=32 time=1ms TTL=126
Reply from 192.168.30.2: bytes=32 time=2ms TTL=126
Reply from 192.168.30.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

Kemudian agar PC bisa terhubung beda jaringan kita akan mencoba konfigurasi **routing STATIS**, konfigurasi sebelumnya dihapus pada Router 0,1,2 dengan seperti dibawah ini

- **ROUTER0**

The screenshot shows the configuration window for Router0, specifically the CLI tab. The left sidebar contains a tree view with categories: GLOBAL, Settings, Algorithm Settings, ROUTING, Static, RIP, INTERFACE, and a list of interfaces: FastEthernet0/0, FastEthernet1/0, Serial2/0, Serial3/0, FastEthernet4/0, and FastEthernet5/0. The main area is titled 'Static Routes' and contains input fields for 'Network', 'Mask', and 'Next Hop', followed by an 'Add' button. Below this is a list of configured static routes: '192.168.30.0/24 via 10.10.10.2' and '192.168.20.0/24 via 30.30.30.2', with a 'Remove' button at the bottom right. At the bottom of the window, there is a section for 'Equivalent IOS Commands' showing a sequence of commands: 'Router(config)#exit', 'Router(config)#interface Serial3/0', 'Router(config-if)#', 'Router(config-if)#exit', 'Router(config)#', and 'Router(config)#'.

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

Static Routes

Network

Mask

Next Hop

Add

Network Address

192.168.30.0/24 via 10.10.10.2

192.168.20.0/24 via 30.30.30.2

Remove

Equivalent IOS Commands

```
Router(config)#exit
Router(config)#interface Serial3/0
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#
```

☐ Top

- **ROUTER1**

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

Static Routes

Network

Mask

Next Hop

Add

Network Address

192.168.10.0/24 via 30.30.30.1

192.168.30.0/24 via 20.20.20.1

Remove

Equivalent IOS Commands

Router(config-if)#

Router(config-if)#exit

Router(config)#

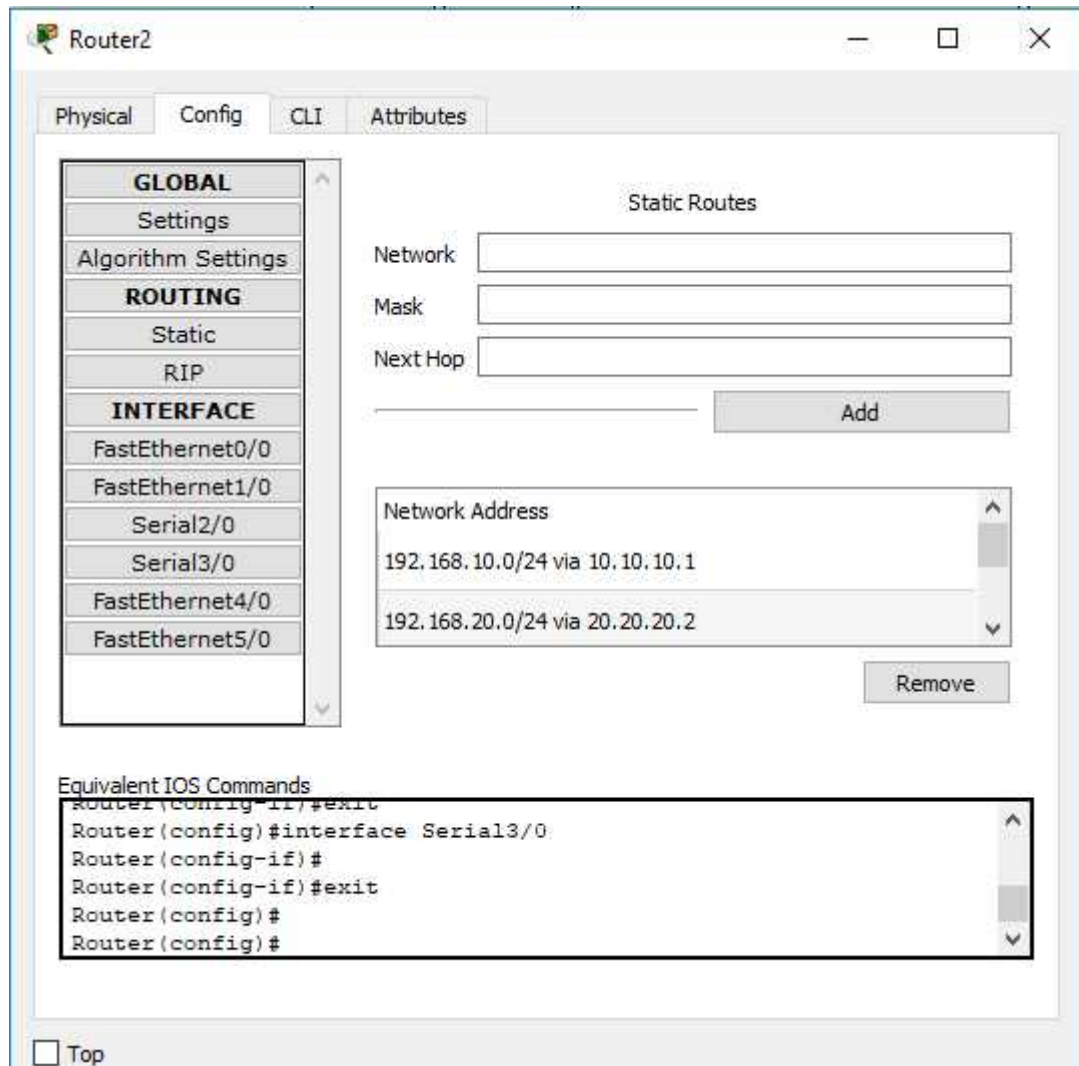
Router(config)#

Router(config)#

Router(config)#

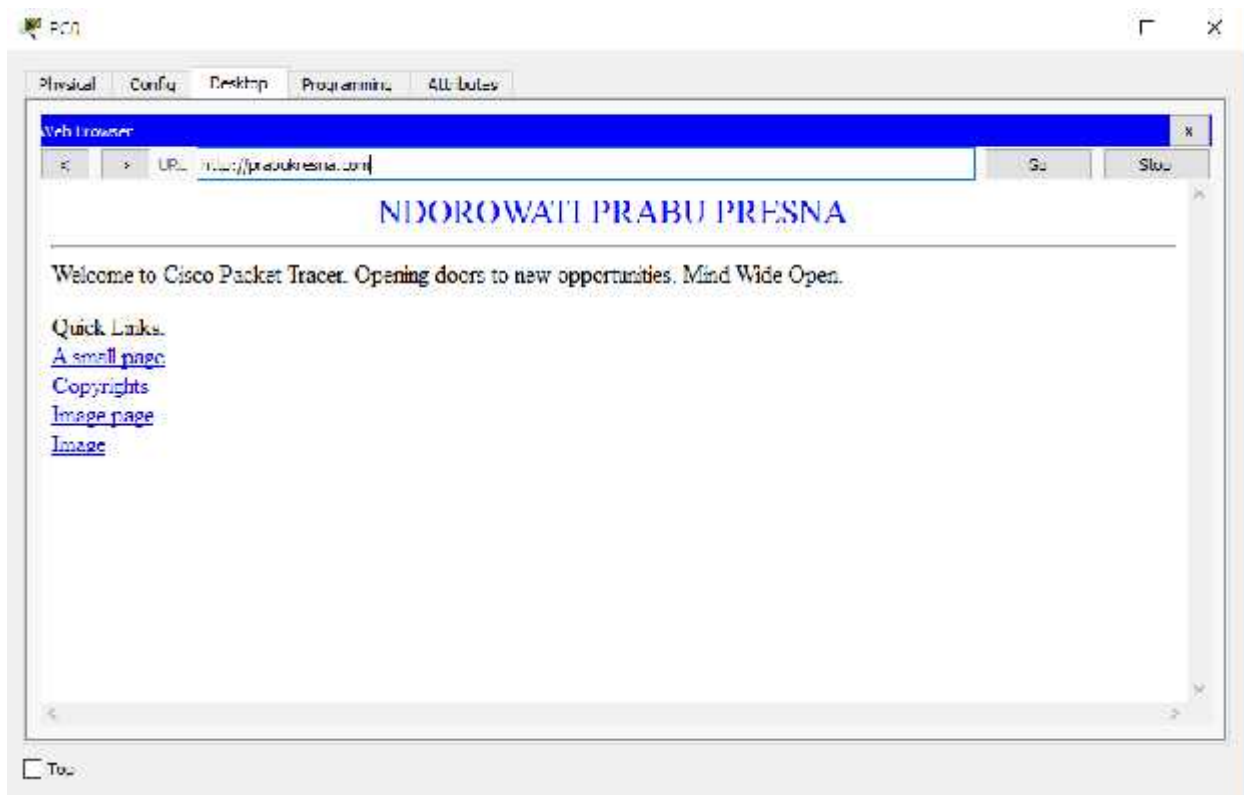
☐ Top

- ROUTER 2



Kemudian kita tes koneksi dengan **PING** dan **MENGAkses WEB** prabukresna.com dari PC :





```
C:\>ping prabukresna.com

Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time=1ms TTL=126
Reply from 192.168.30.2: bytes=32 time=1ms TTL=126
Reply from 192.168.30.2: bytes=32 time=2ms TTL=126
Reply from 192.168.30.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

Setelah itu kita akan mencoba memblock koneksi host 192.168.10.3 dan 192.168.20.3, maka komputer yang dapat mengakses server prabukresna.com adalah SERVER DNS, SERVER DHCP, SERVER PRABUKRESNA.COM dan PC-2

Pada ROUTER 2:

```
Router(config)#access-list 10 deny host 192.168.10.3
Router(config)#access-list 10 deny host 192.168.20.3
Router(config)#access-list 10 permit any
```

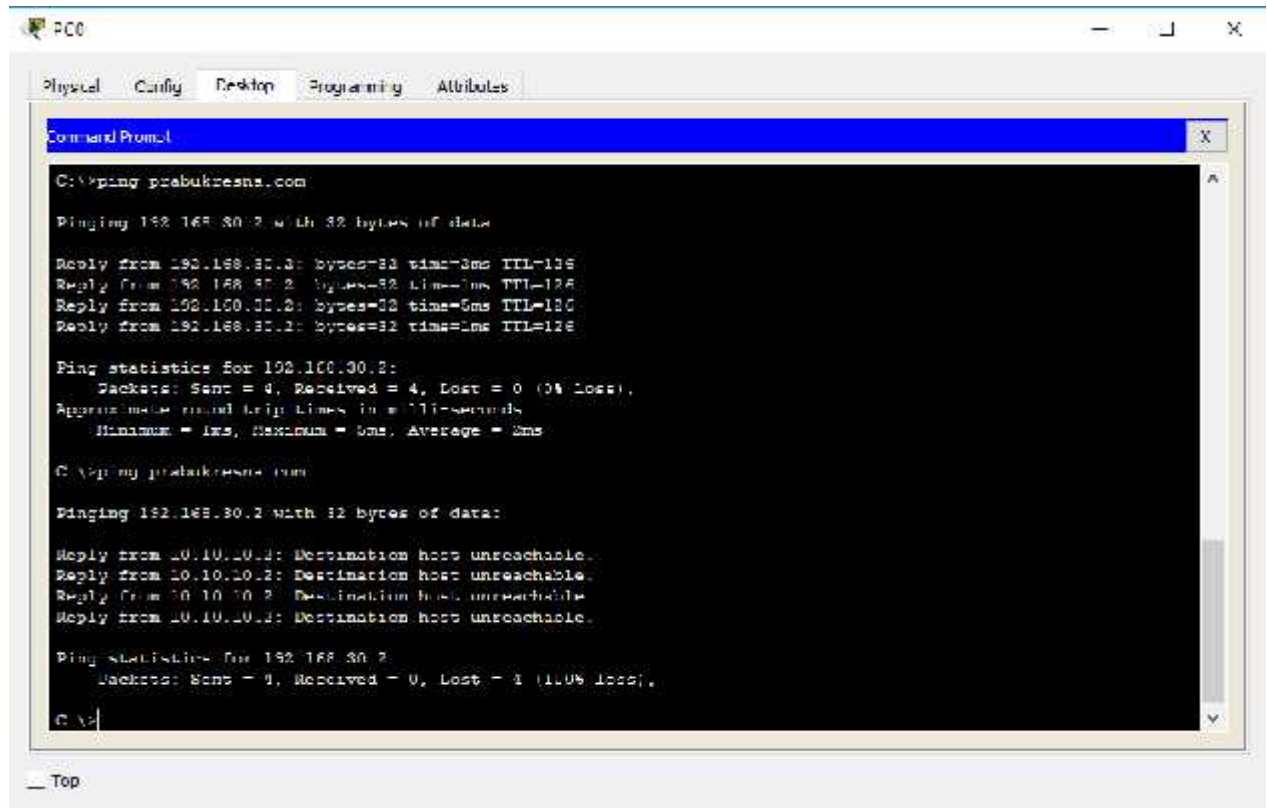
```

Router(config)#int
Router(config)#interface fa
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip a
Router(config-if)#ip acc
Router(config-if)#ip access-group 10 out
Router(config-if)#

```

Kemudian Kita Uji coba dari PC 0

- PC 0



- Akses prabukresna.com dari SERVER DNS

