



1/2021

Computer Network

# Project PACKET TRACER



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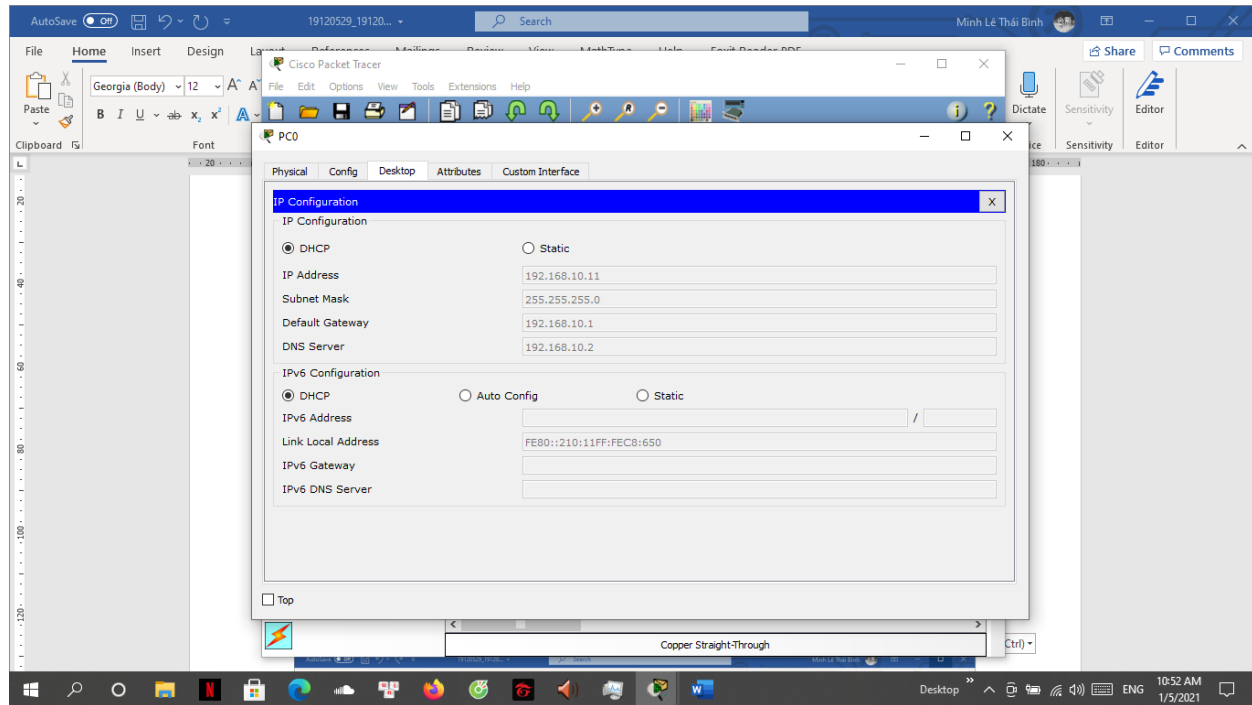
<i><b>Student's ID</b></i>	<i><b>Name</b></i>
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19120583	Lê Thái Bình Minh

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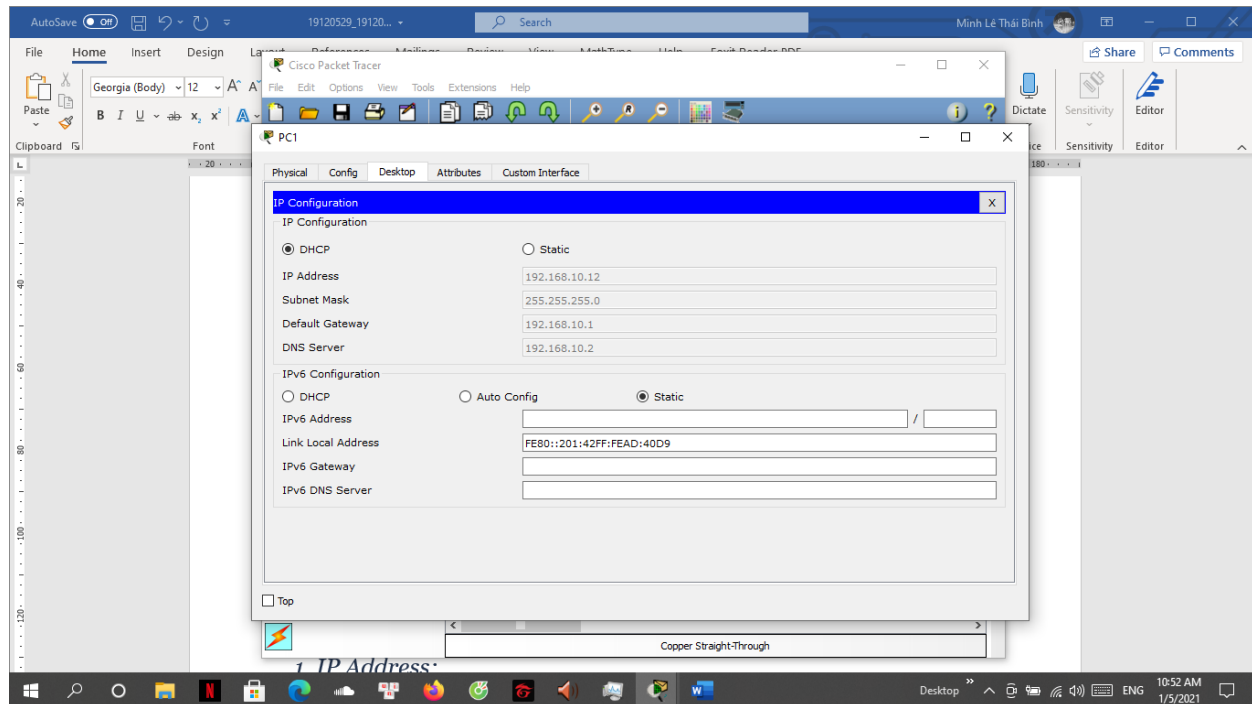
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# I/DHCP configuration on CISCO router:

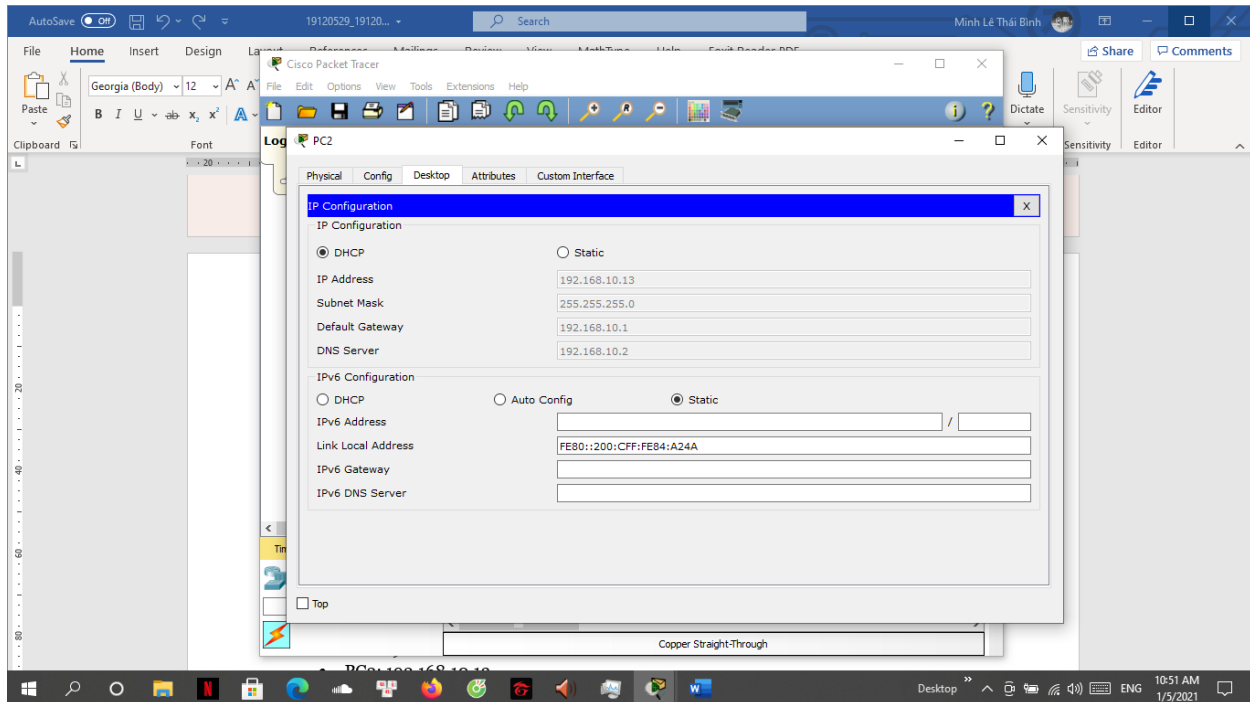
PC0:



PC1:



PC2:



### 1. IP Address:

The IP Addresses which were acquired from DHCP of:

- PC0: 192.168.10.11
- PC1: 192.168.10.12
- PC2: 192.168.10.13

### 2. IP Address:

The Gateway Addresses of PC0, PC1, PC2 is: **192.168.10.1**.

### 3. IP Address:

The DNS Server for PC0, PC1, PC2 is **192.168.10.2**.

## II/Static routing implementation:

### 1. Ping:

The ping result between:

- PC0 -> PC2

The screenshot shows a Cisco Packet Tracer interface with a network topology. A central router (R0) is connected to three PCs (PC0, PC1, PC2). PC0 is connected to R0 via Fa0/0, PC1 to R0 via Fa0/1, and PC2 to R0 via Fa0/2. The IP addresses are 192.168.1.2 for PC0, 192.168.1.3 for PC1, and 192.168.2.2 for PC2. The router's Fa0/0 interface is configured with IP 192.168.3.5 and Fa0/1 with IP 192.168.3.6. The Command Prompt window for PC0 shows a successful ping to 192.168.2.2.

```

C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>

```

- PC2 -> PC0

The screenshot shows the same Cisco Packet Tracer interface. The Command Prompt window for PC2 shows a successful ping to 192.168.1.2.

```

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>

```

• PC1 -> PC3

The screenshot shows a Cisco Packet Tracer interface with a network topology. A central router (R1) is connected to two switches (S1 and S2). S1 is connected to PC1 and PC2, while S2 is connected to PC3 and PC4. The IP addresses for the PCs are 192.168.1.2, 192.168.1.3, 192.168.2.2, and 192.168.2.3. The router R1 has interfaces Fa0/0, Fa0/1, Fa0/24, and Fa0/25. The command prompt window shows the following output:

```

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>

```

Đây là link demo được nhóm upload lên Youtube:

• PC3 -> PC1

The screenshot shows the same Cisco Packet Tracer interface as the previous one, but with the command prompt window open for PC3. The output shows successful ping results for 192.168.1.3 and 192.168.1.2:

```

C:\>ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:
Reply from 192.168.1.3: bytes=32 time=1ms TTL=126
Reply from 192.168.1.3: bytes=32 time=1ms TTL=126
Reply from 192.168.1.3: bytes=32 time=1ms TTL=126
Reply from 192.168.1.3: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126
Reply from 192.168.1.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

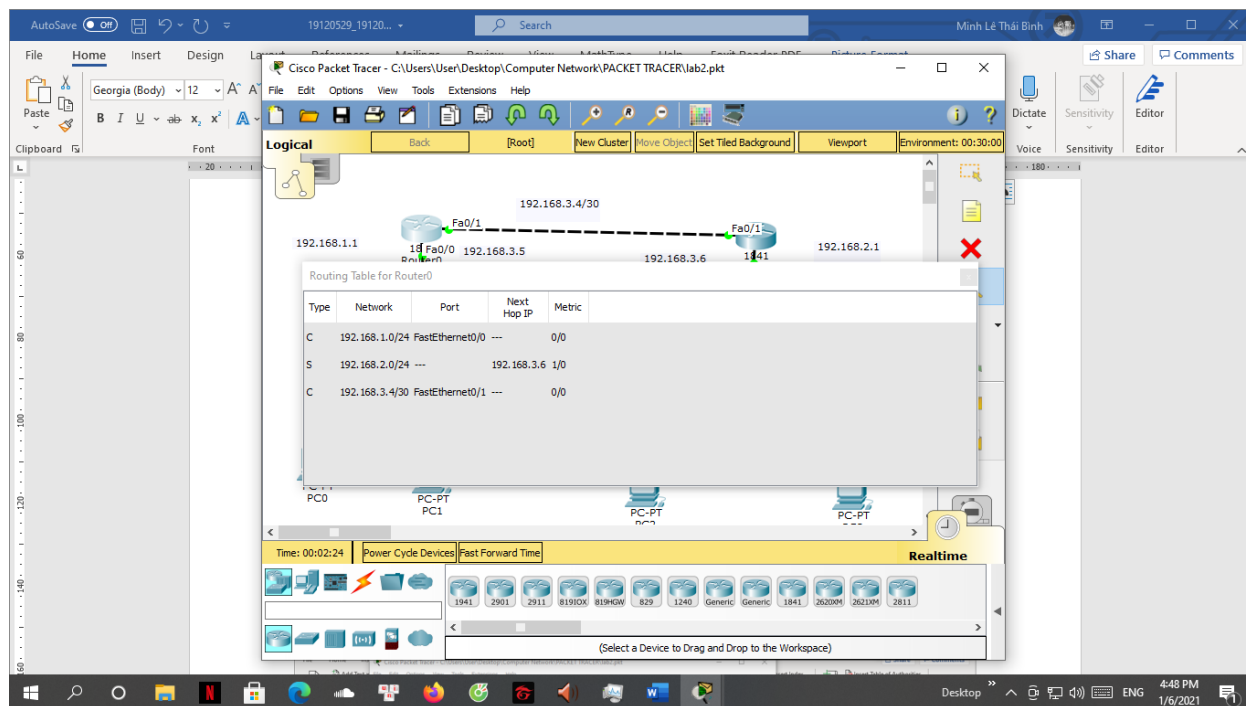
C:\>

```

[https://youtu.be/rea88t\\_ofk](https://youtu.be/rea88t_ofk)

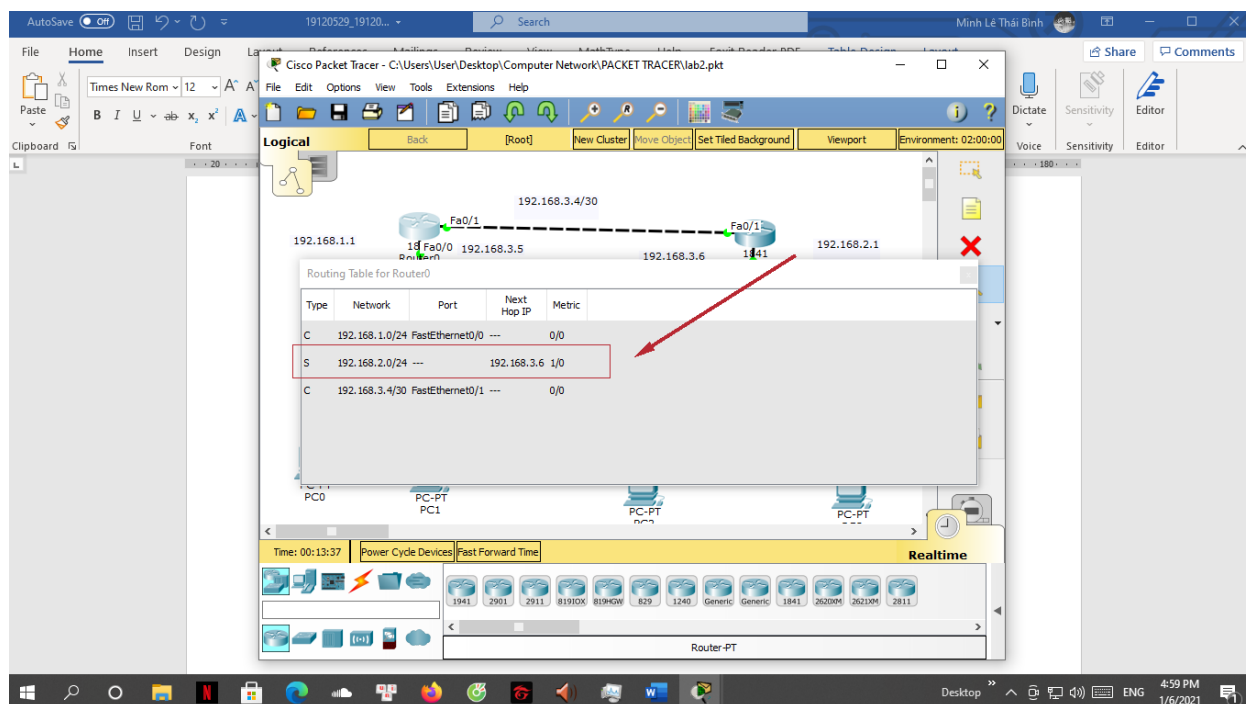
## 2. Routing Table:

The routing table of the router R0:

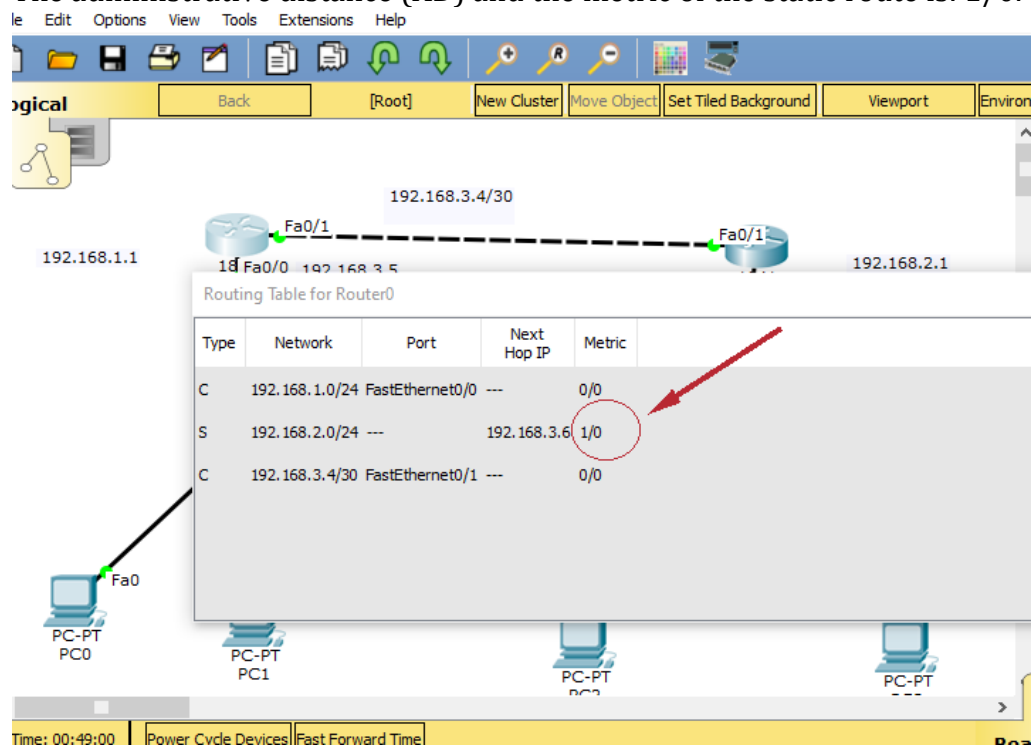


## 3. Static Route – AD – The metric of the static route:

The line which is configured by static route in the routing table of the router R0 is:

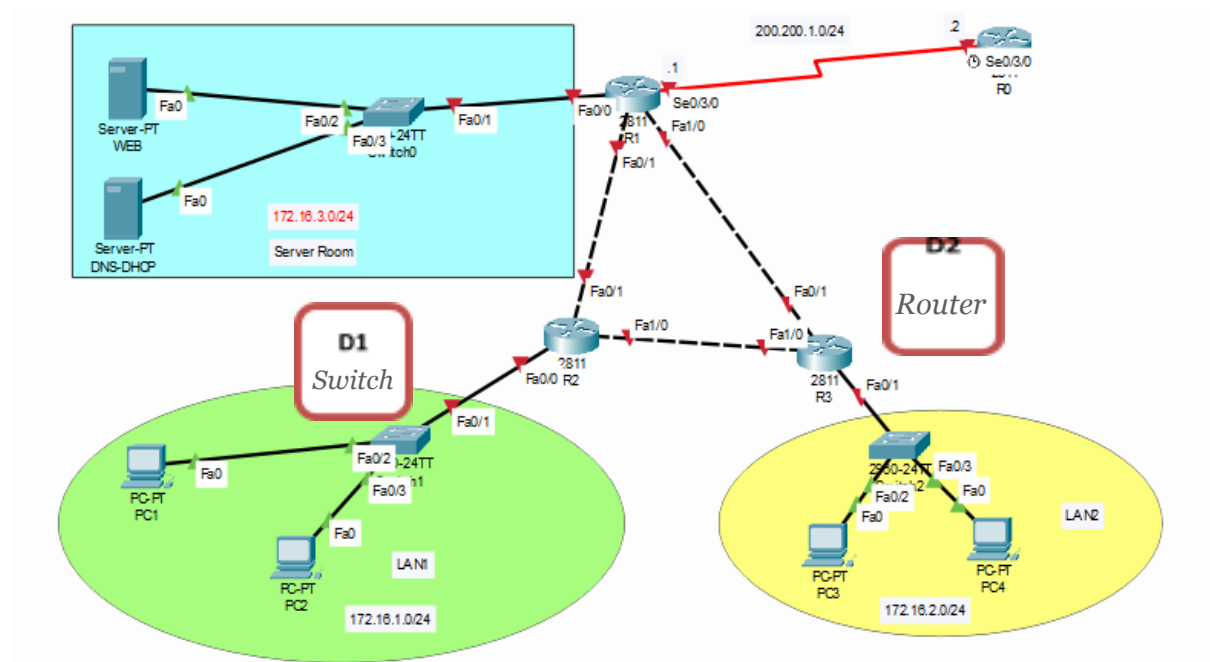


The administrative distance (AD) and the metric of the static route is: 1/0.



### III/ Implement the basic building network topology:

#### 1. Fill Device Table:

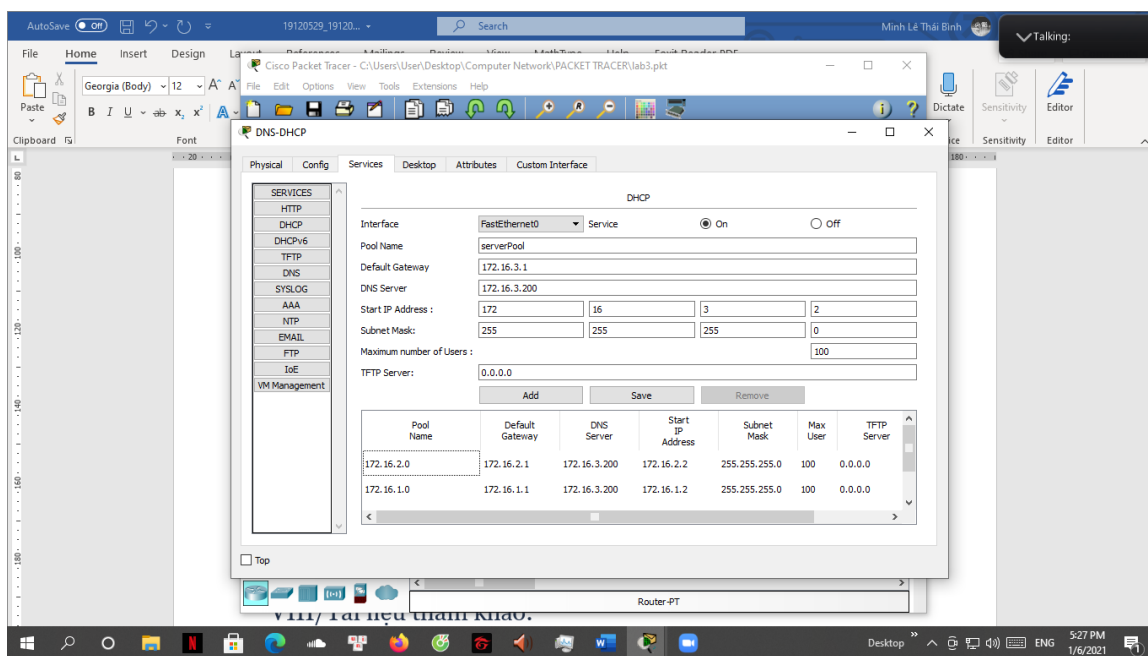


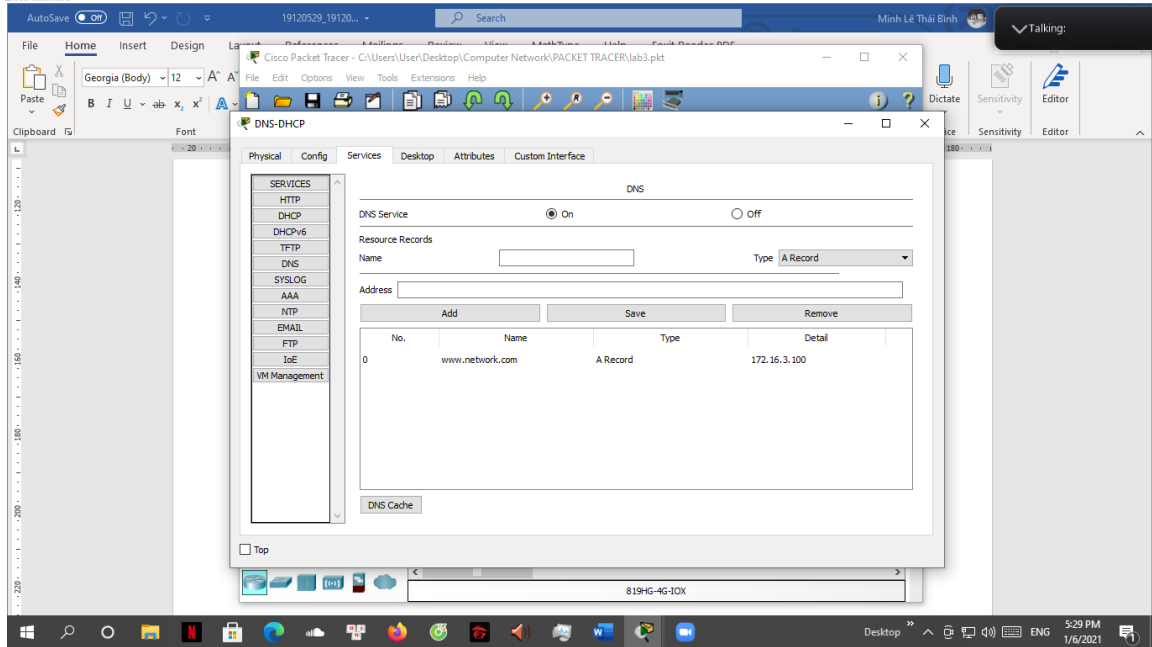


Device Name	Interface	IP address	Device Type
R0	S0/3/0	200.200.1.2/24	Router
R1	F0/0	172.16.3.1/24	Router
	F0/1	192.168.1.1/30	
	F1/0	192.168.2.1/30	
	S0/3/0	200.200.1.1/24	
R2	F0/0	172.16.1.1/24	Router
	F0/1	192.168.1.2/30	
	F1/0	192.168.3.1/30	
D2	F0/1	192.168.2.2/30	Router
	F0/0	172.16.2.1/24	
	F1/0	192.168.3.2/30	
D1			Switch
WEB server		172.16.3.100	
DNS-DHCP server		172.16.3.200	
PC1			
PC2			
PC3			
PC4			

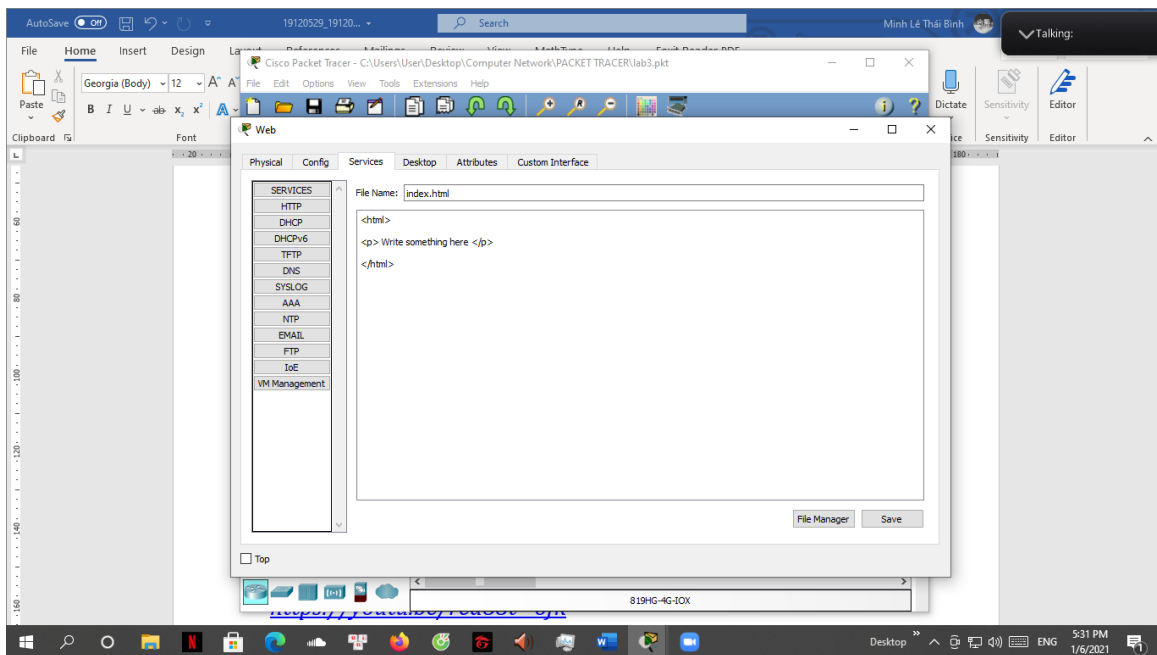
## 2. Configure DNS server and Web server:

### A. DNS Server



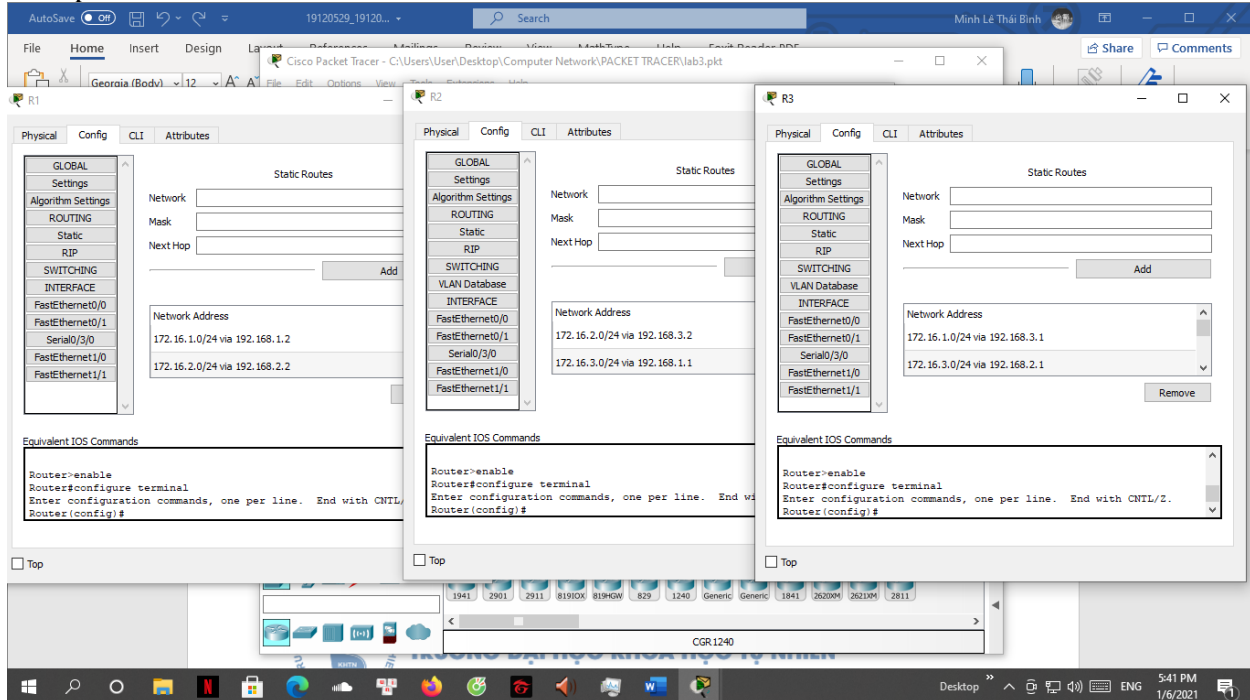


## B. Web Server

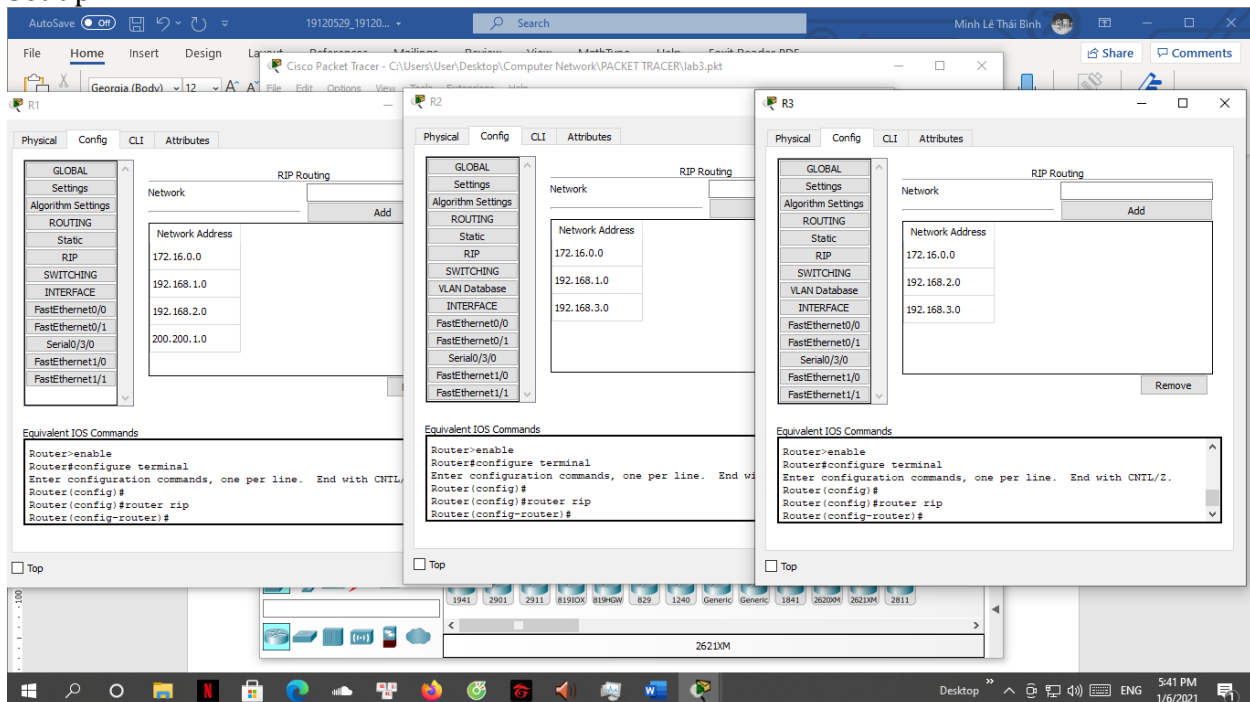


3. Configure static routing for all routers so that all subnets can talk to each other. Configure DHCP server to assign IP addresses to PCs:

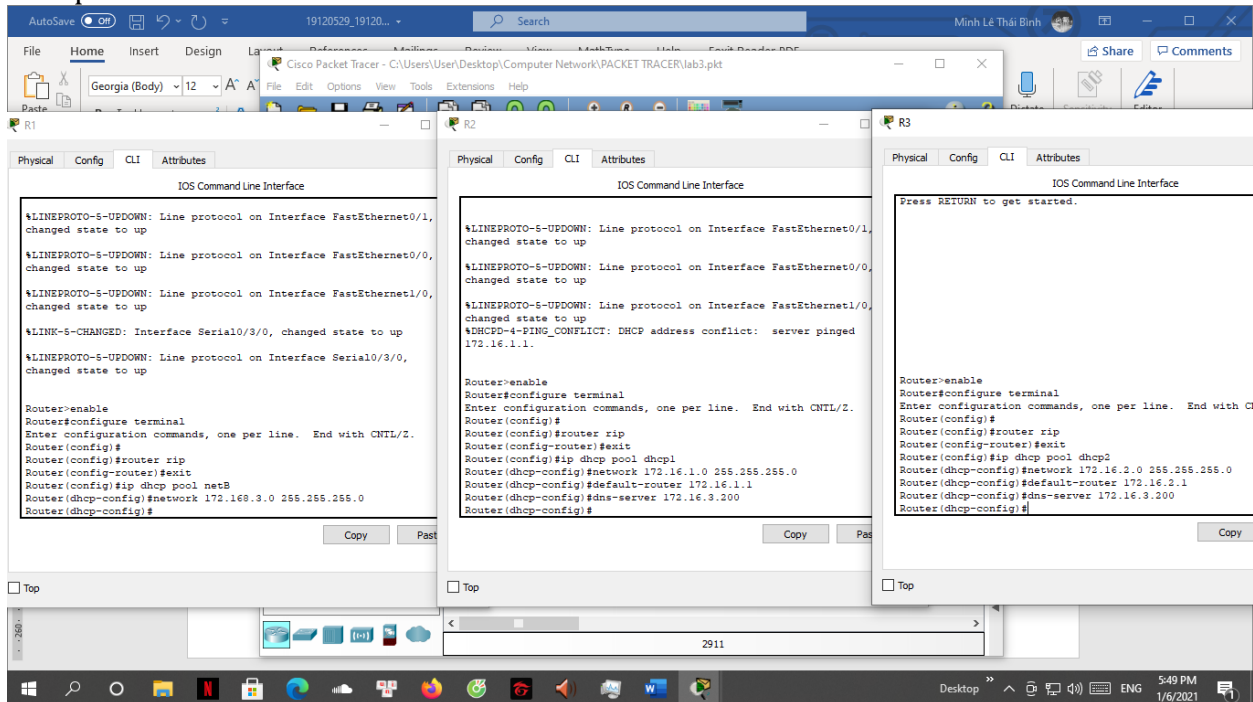
Set up Static:



Set up RIP:

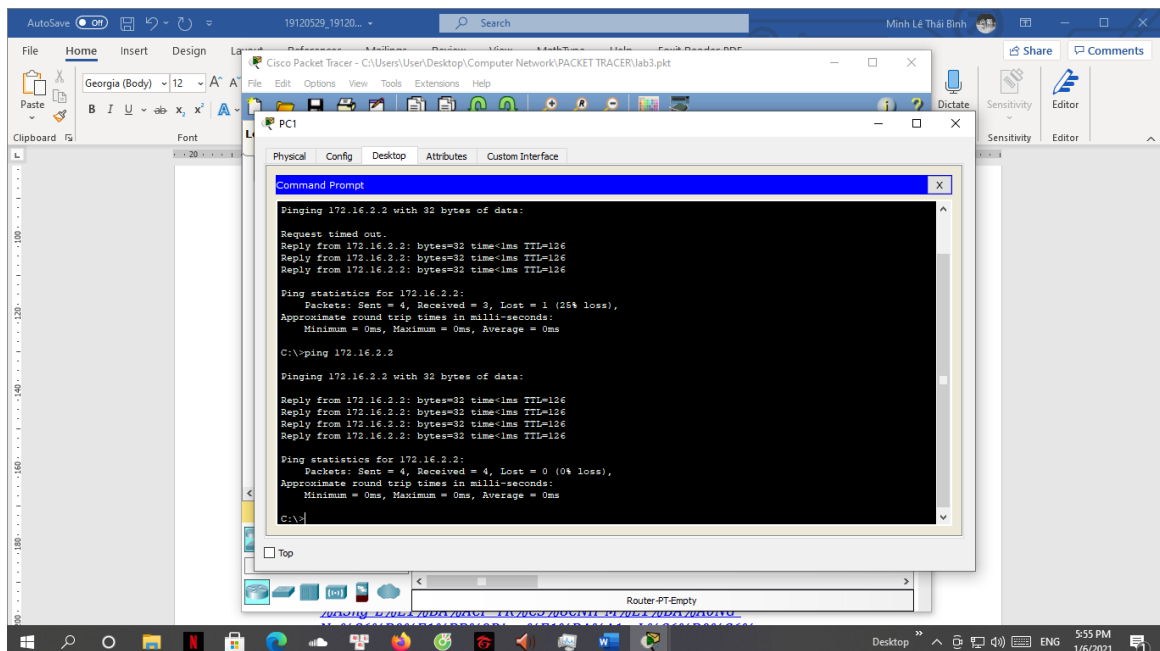


## Set up DHCP:

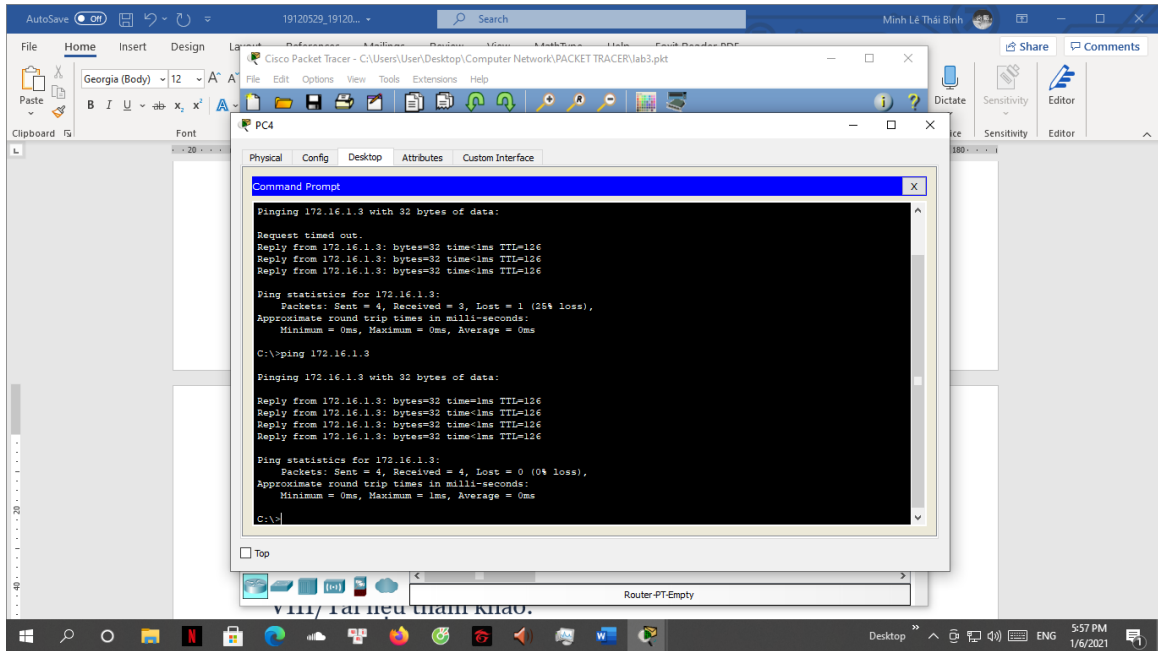


## 4. Ping result:

- PC1 -> PC3

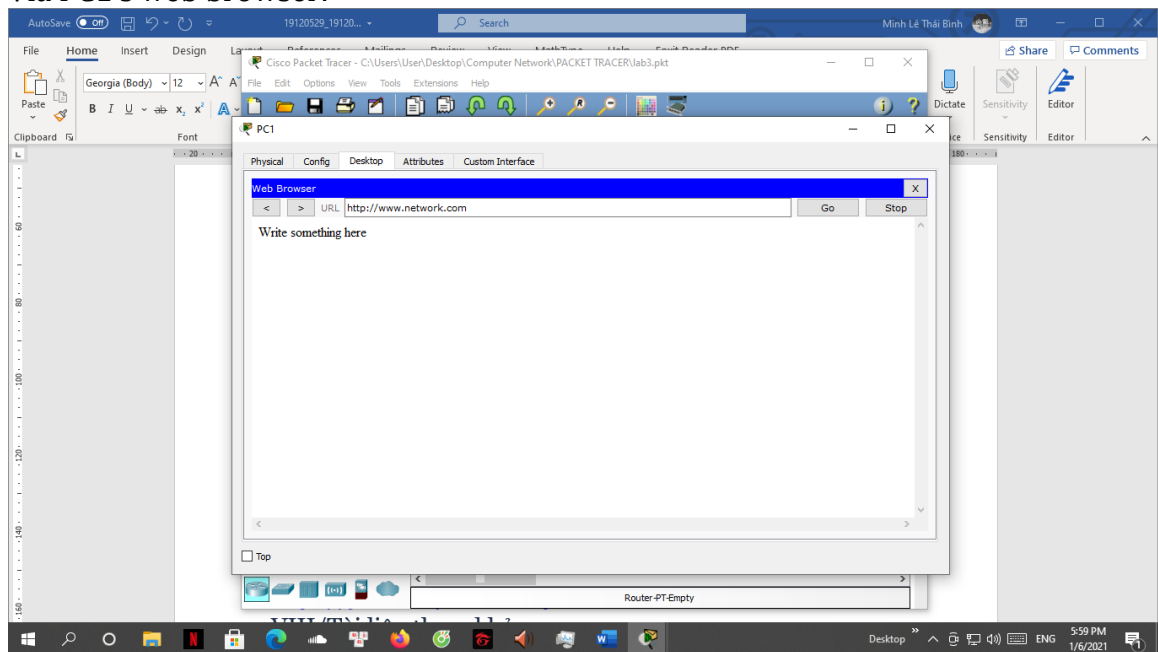


- PC4 -> PC2

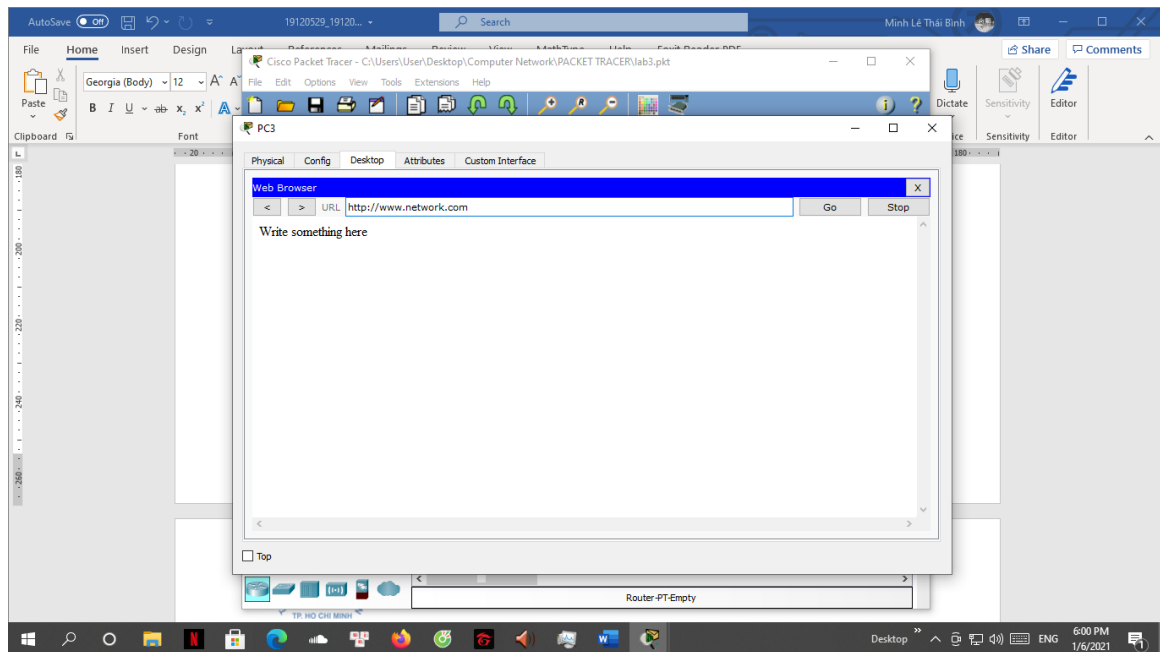


## 5. Access web page:

- Via PC1's web browser:



- Via PC3's web browser:



## VII/Link demo:

This is Demo Video which is uploaded by us via Youtube:

<https://youtu.be/agxGwjiQ1Ak>

## VIII/References:

During doing this project, we are referred from these documents:

1. **The Packet Tracer's manuals and the documents provided on Moodle.**
2. **<https://www.cisco.com/c/en/us/support/docs/ip/enhanced-interior-gateway-routing-protocol-eigrp/8651-21.html>**