

NETWORKING ASSIGNMENT-2

Cisco tracer lab assignments

Lab Report: Router & End Devices Connection

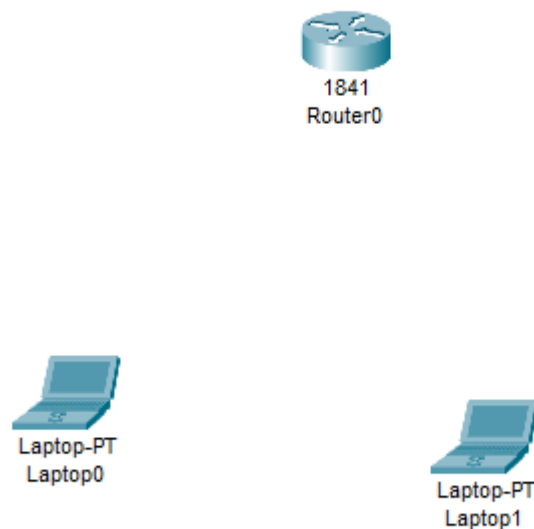
Objective:

To configure a network connection between a router and two laptops with static IP addressing.

1. Network Topology

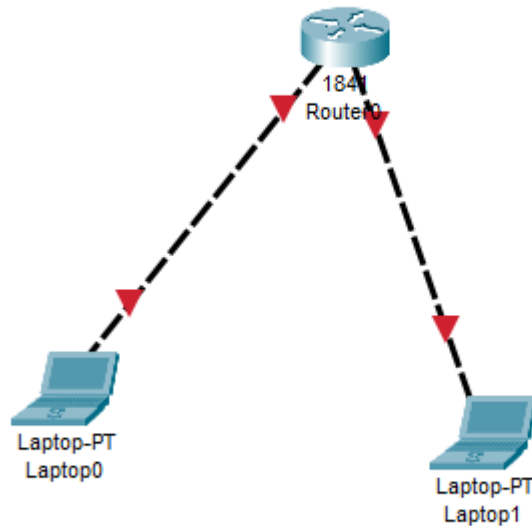
1. Setup Devices:

- Place **1 Router** and **2 Laptops** (Laptop1 and Laptop2) in the Cisco Packet Tracer workspace.



2. Connect Devices:

- Use **Copper Straight-Through Cables** to connect:
 - Laptop1 to **Router FastEthernet0/0**.
 - Laptop2 to **Router FastEthernet0/1**.



2. IP Address Assignment

Assign IP addresses to the router interfaces and laptops.

Device	Interface	IP Address	Subnet Mask
Router	FastEthernet0/0	192.167.1.1	255.255.255.0
Router	FastEthernet0/1	192.167.2.1	255.255.255.0
Laptop1		192.167.1.2	255.255.255.0
Laptop2		192.167.2.2	255.255.255.0

3. Router Configuration

1. Access the router CLI and assign IP addresses to interfaces:
 - Configure FastEthernet0/0:

```
Router> enable
Router# configure terminal
Router(config)# interface fastethernet0/0
Router(config-if)# ip address 192.167.1.1 255.255.25
5.0
Router(config-if)# no shutdown
Router(config-if)# exit
```

The screenshot shows the configuration interface for Router1. The 'Config' tab is selected, and the 'FastEthernet0/0' interface is chosen from the left-hand menu. The configuration details for FastEthernet0/0 are displayed on the right, including Port Status (On), Bandwidth (100 Mbps), Duplex (Full Duplex), MAC Address (00D0.BA6D.7301), IP Configuration (IP Address: 192.167.1.1, Subnet Mask: 255.255.255.0), and Tx Ring Limit (10). Below the configuration details, the 'Equivalent IOS Commands' section lists the commands used to configure the interface: Router(config-if)#exit, Router(config)#interface FastEthernet0/1, Router(config-if)#, Router(config-if)#exit, Router(config)#interface FastEthernet0/1, Router(config-if)#, Router(config-if)#exit, Router(config)#interface FastEthernet0/0, and Router(config-if)#. A 'Top' button is located at the bottom left of the interface.

Router1

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

FastEthernet0/0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 00D0.BA6D.7301

IP Configuration

IP Address 192.167.1.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

☐ Top

- Configure FastEthernet0/1:

```
Router(config)# interface fastethernet0/1
Router(config-if)# ip address 192.167.2.1 255.255.25
5.0
Router(config-if)# no shutdown
Router(config-if)# exit
```

Router1

Physical **Config** CLI Attributes

GLOBAL

- Settings
- Algorithm Settings
- ROUTING**
- Static
- RIP
- SWITCHING**
- VLAN Database
- INTERFACE**
- FastEthernet0/0
- FastEthernet0/1**

FastEthernet0/1

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 00D0.BA6D.7302

IP Configuration

IP Address 192.167.2.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

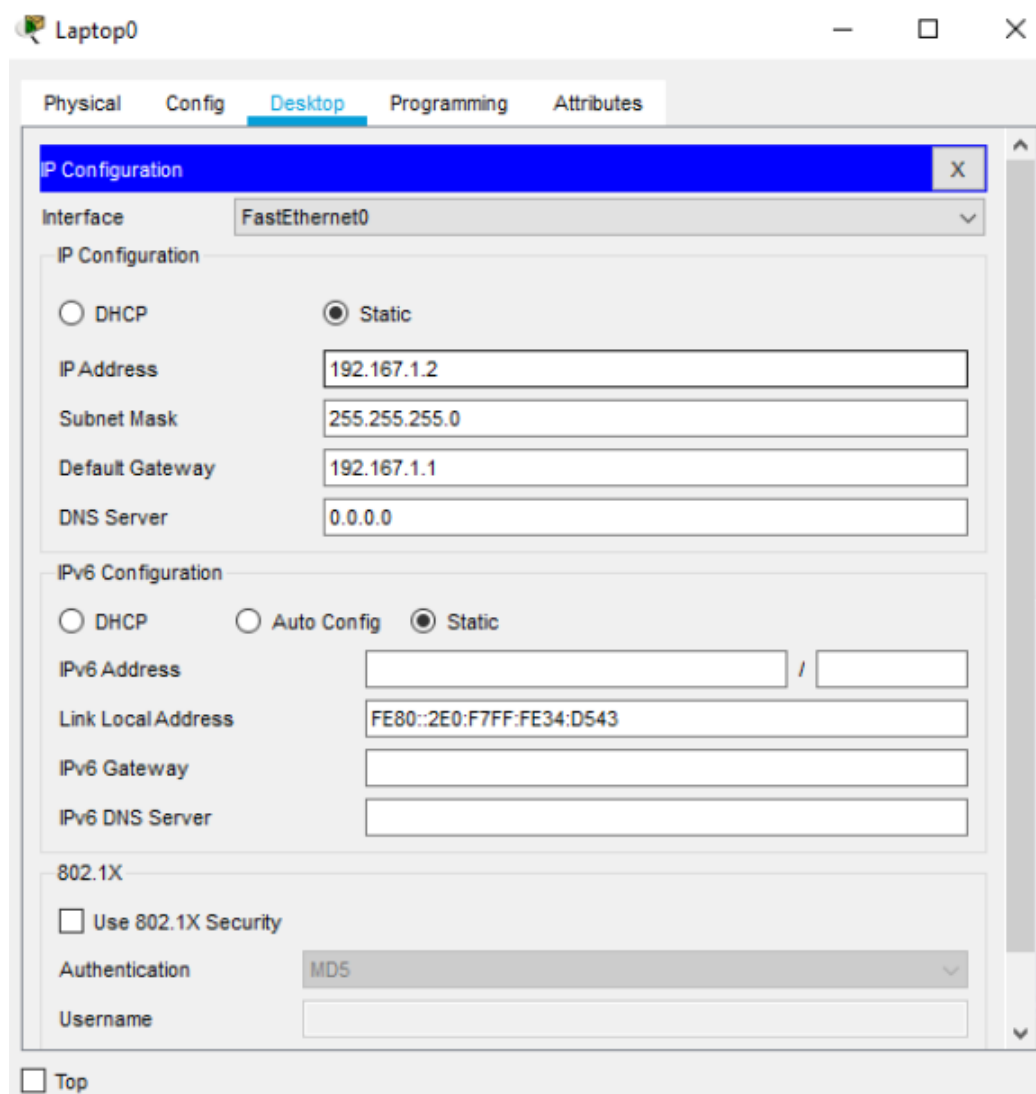
```
Router(config)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
```

☐ Top

4. Laptop Configuration

1. Open Laptop1:

- Go to **Config > FastEthernet0**.
- Assign:
 - **IP Address:** 192.167.1.2
 - **Subnet Mask:** 255.255.255.0
 - **Default Gateway:** 192.167.1.1



The screenshot shows the configuration window for Laptop0 in Cisco Packet Tracer. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is selected, and the IP Configuration window is open. The interface is set to FastEthernet0. The IP Configuration section has the Static radio button selected. The IP Address is 192.167.1.2, Subnet Mask is 255.255.255.0, Default Gateway is 192.167.1.1, and DNS Server is 0.0.0.0. The IPv6 Configuration section has the Static radio button selected, and the Link Local Address is FE80::2E0:F7FF:FE34:D543. The 802.1X section has the Use 802.1X Security checkbox unchecked, Authentication set to MDS, and Username empty. A Top button is at the bottom left.

Laptop0

Physical Config **Desktop** Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IP Address 192.167.1.2

Subnet Mask 255.255.255.0

Default Gateway 192.167.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:F7FF:FE34:D543

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

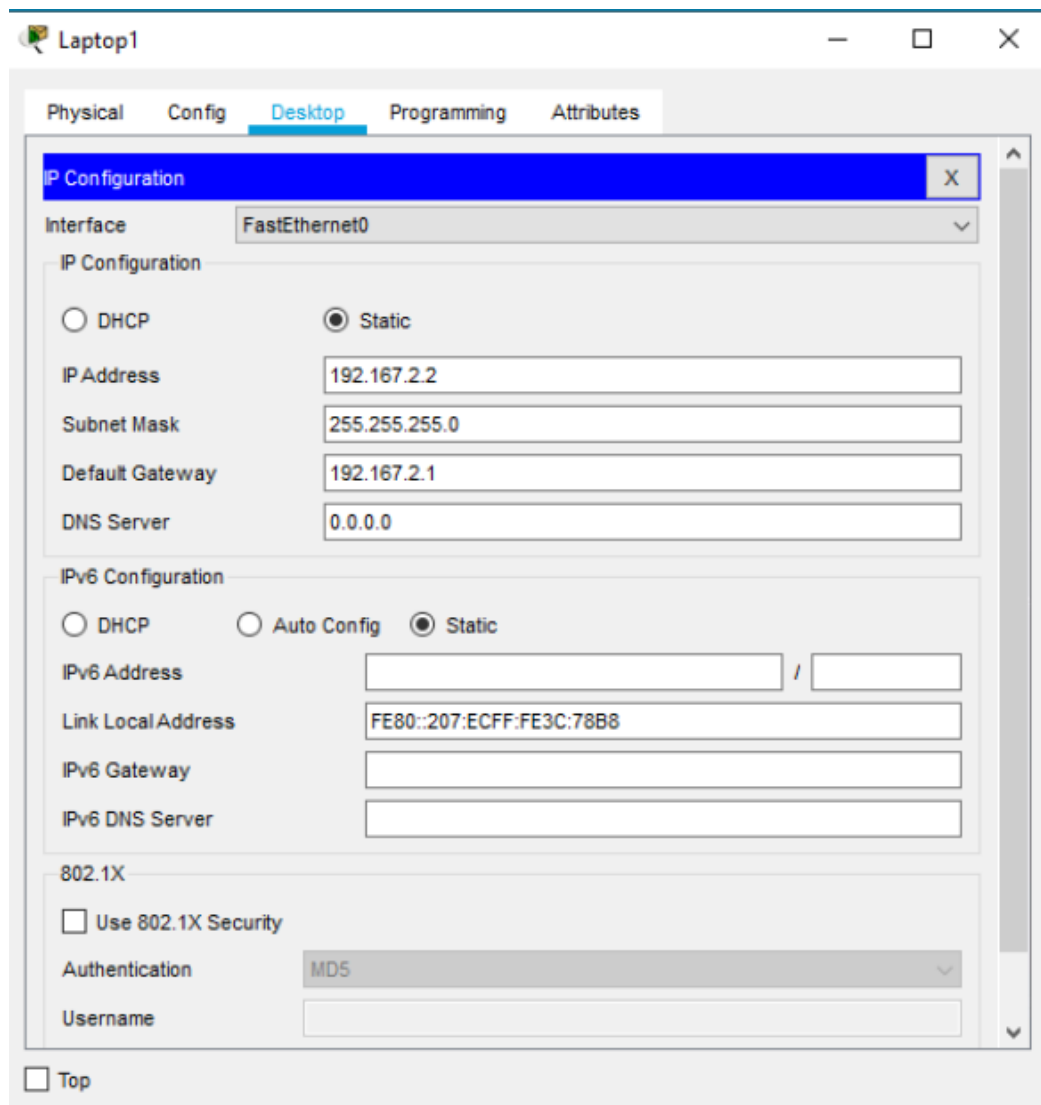
Authentication MDS

Username

☐ Top

2. Open **Laptop2**:

- Go to **Config > FastEthernet0**.
- Assign:
 - **IP Address**: 192.167.2.2
 - **Subnet Mask**: 255.255.255.0
 - **Default Gateway**: 192.167.2.1



The screenshot shows the configuration window for 'Laptop1' in Cisco Packet Tracer. The 'Desktop' tab is selected, and the 'IP Configuration' window is open for the 'FastEthernet0' interface. The configuration is set to 'Static' with the following values:

Field	Value
Interface	FastEthernet0
IP Configuration	Static
IP Address	192.167.2.2
Subnet Mask	255.255.255.0
Default Gateway	192.167.2.1
DNS Server	0.0.0.0

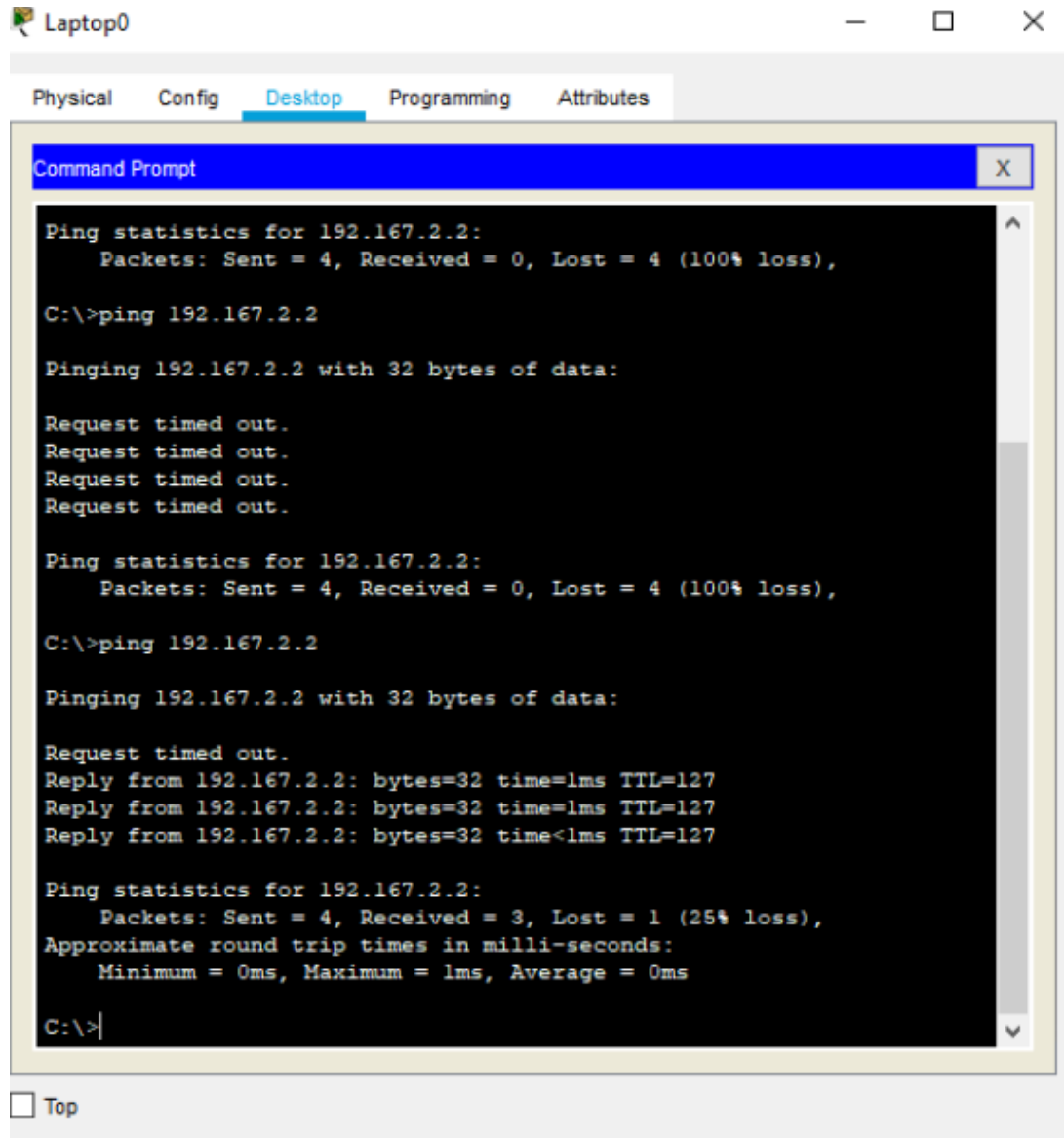
Below the IP Configuration section, the IPv6 Configuration section is visible, set to 'Static' with a Link Local Address of FE80::207:ECFF:FE3C:78B8. The 802.1X section is also visible with 'Use 802.1X Security' unchecked and 'Authentication' set to MD5.

5. Verify Connectivity

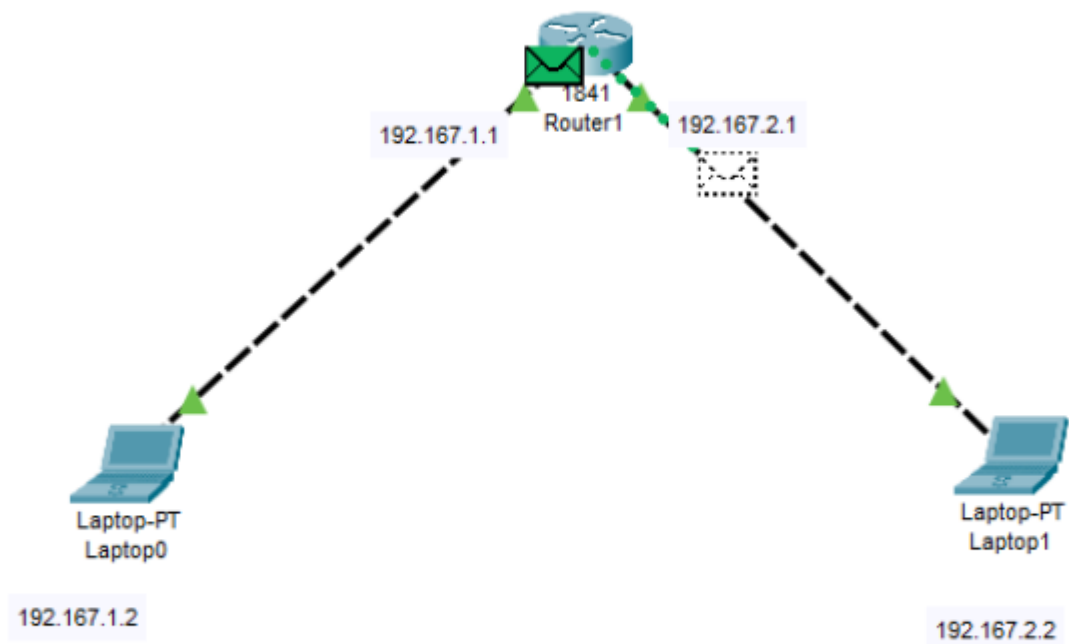
1. Perform **Ping Tests**:

- From Laptop1 (192.167.1.2) to Laptop2 (192.167.2.2).
- Open the Command Prompt on Laptop1 and type:

```
ping 192.167.2.2
```



6. Final Look



Conclusion

The router successfully connects and routes traffic between the two laptops, confirming proper static routing and IP configuration.

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