

# Networking Labs

## Networking Lab - 8

### OBJECTIVE:

To configure the routers with a Dynamic Interior Gateway Routing Protocol (R.I.P.)

### PRE-REQUISITES:

Cisco packet tracer software installed.

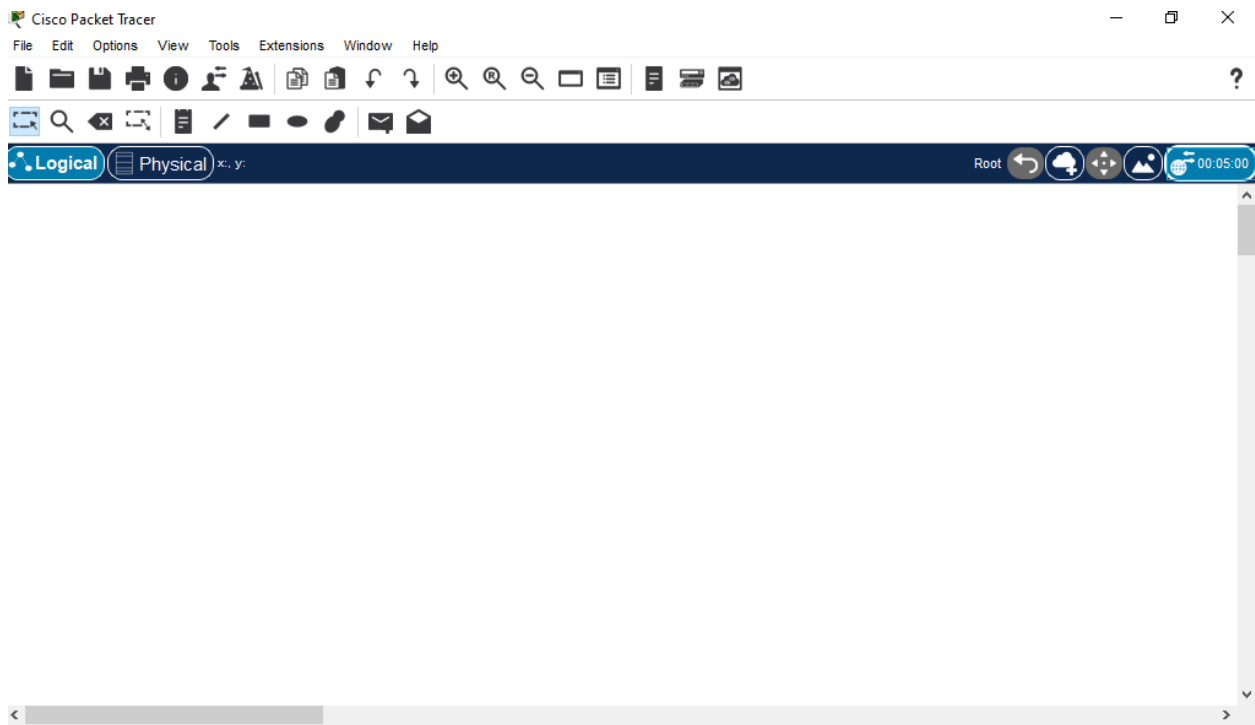
### STEPS:

- Start the packet tracer file included (Lab-7 Start), and have a look at the configuration.
- The IP addresses have been already inputted to the routers.
- Go to router 1 and update the RIP database in IP configuration.
- Repeat the process for router 2 and router 3.
- Check the connectivity using ping command in command prompt.
- Alternatively, use a PDU to check connectivity visually.

- Use "traceroute" command to track the path of the data flow between networks.

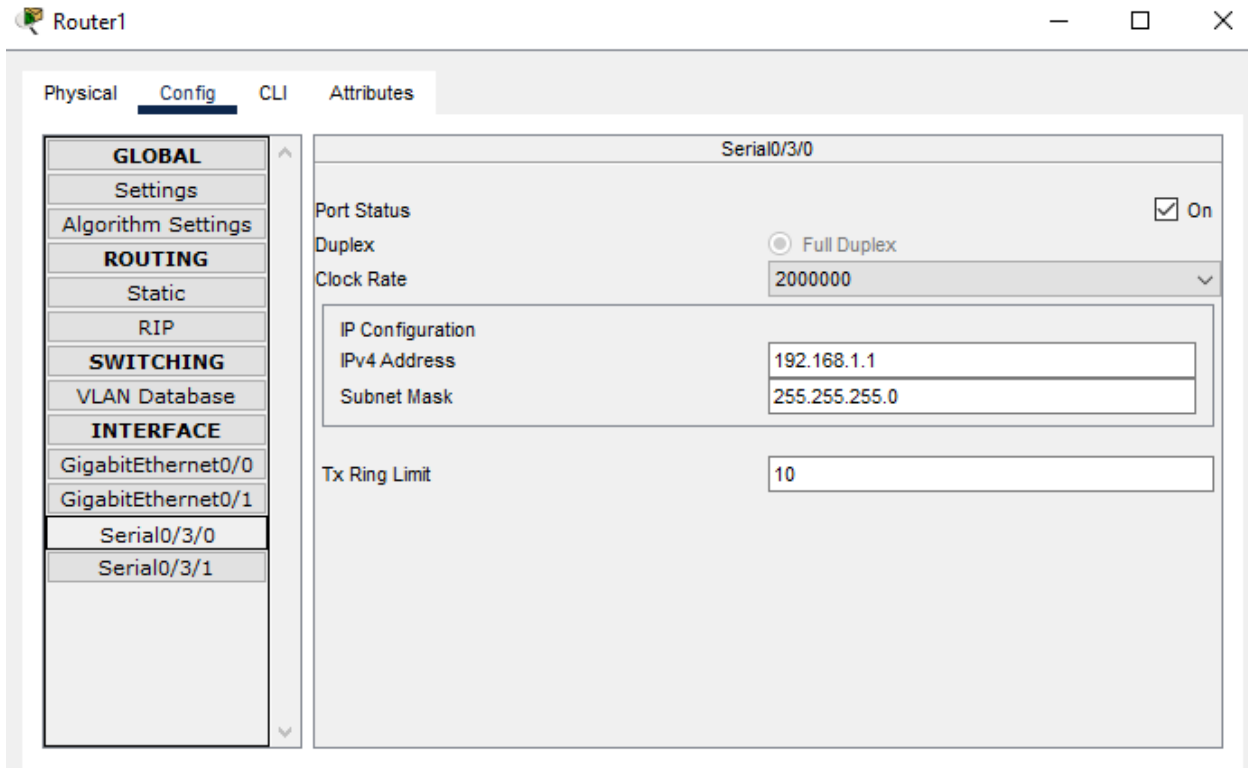
## Step1:-

Start the packet tracer file included (Lab-7 Start), and have a look at the configuration.



## Step2:-

The IP addresses have been already inputted to the routers



The screenshot shows the configuration window for Router1. The 'Config' tab is selected, and the 'Serial0/3/0' interface is chosen from the left-hand menu. The configuration details for this interface are as follows:

| Serial0/3/0      |  |
|------------------|--|
| Port Status      | <input checked="" type="checkbox"/> On |
| Duplex           | <input type="radio"/> Full Duplex      |
| Clock Rate       | 2000000                                |
| IP Configuration |  |
| IPv4 Address     | 192.168.1.1                            |
| Subnet Mask      | 255.255.255.0                          |
| Tx Ring Limit    | 10                                     |

**Step3:-** Go to router 1 and update the RIP database in IP configuration.

The screenshot shows the configuration window for Router1 in Cisco Packet Tracer. The window has tabs for Physical, Config, CLI, and Attributes. The Config tab is active. On the left, there is a tree view with categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), SWITCHING (VLAN Database), and INTERFACE (GigabitEthernet0/0, GigabitEthernet0/1, Serial0/3/0, Serial0/3/1). The GigabitEthernet0/0 interface is selected. The main area shows the configuration for this interface. The Port Status is checked (On). Bandwidth is set to 100 Mbps. Duplex is set to Full Duplex. MAC Address is 00E0.F7AA.A001. The IP Configuration section shows IPv4 Address as 192.168.2.1 and Subnet Mask as 255.255.255.0. The Tx Ring Limit is set to 10.

| GigabitEthernet0/0 |  |
|--------------------|--|
| Port Status        | <input checked="" type="checkbox"/> On   |
| Bandwidth          | <input type="radio"/> 1000 Mbps <input checked="" type="radio"/> 100 Mbps <input type="radio"/> 10 Mbps <input checked="" type="checkbox"/> Auto |
| Duplex             | <input type="radio"/> Half Duplex <input checked="" type="radio"/> Full Duplex <input checked="" type="checkbox"/> Auto                          |
| MAC Address        | 00E0.F7AA.A001   |
| IP Configuration   |  |
| IPv4 Address       | 192.168.2.1  |
| Subnet Mask        | 255.255.255.0  |
| Tx Ring Limit      | 10   |

**Step4:-** Repeat the process for router 2 and router 3.

Router2

Physical **Config** CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

GigabitEthernet0/0

GigabitEthernet0/1

Serial0/3/0

Serial0/3/1

**GigabitEthernet0/0**

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0050.0F36.1701

IP Configuration

IPv4 Address 192.168.3.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

## Router3:- ip configure

Router3

Physical **Config** CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

GigabitEthernet0/0

GigabitEthernet0/1

Serial0/3/0

Serial0/3/1

**GigabitEthernet0/0**

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0003.E4AC.2301

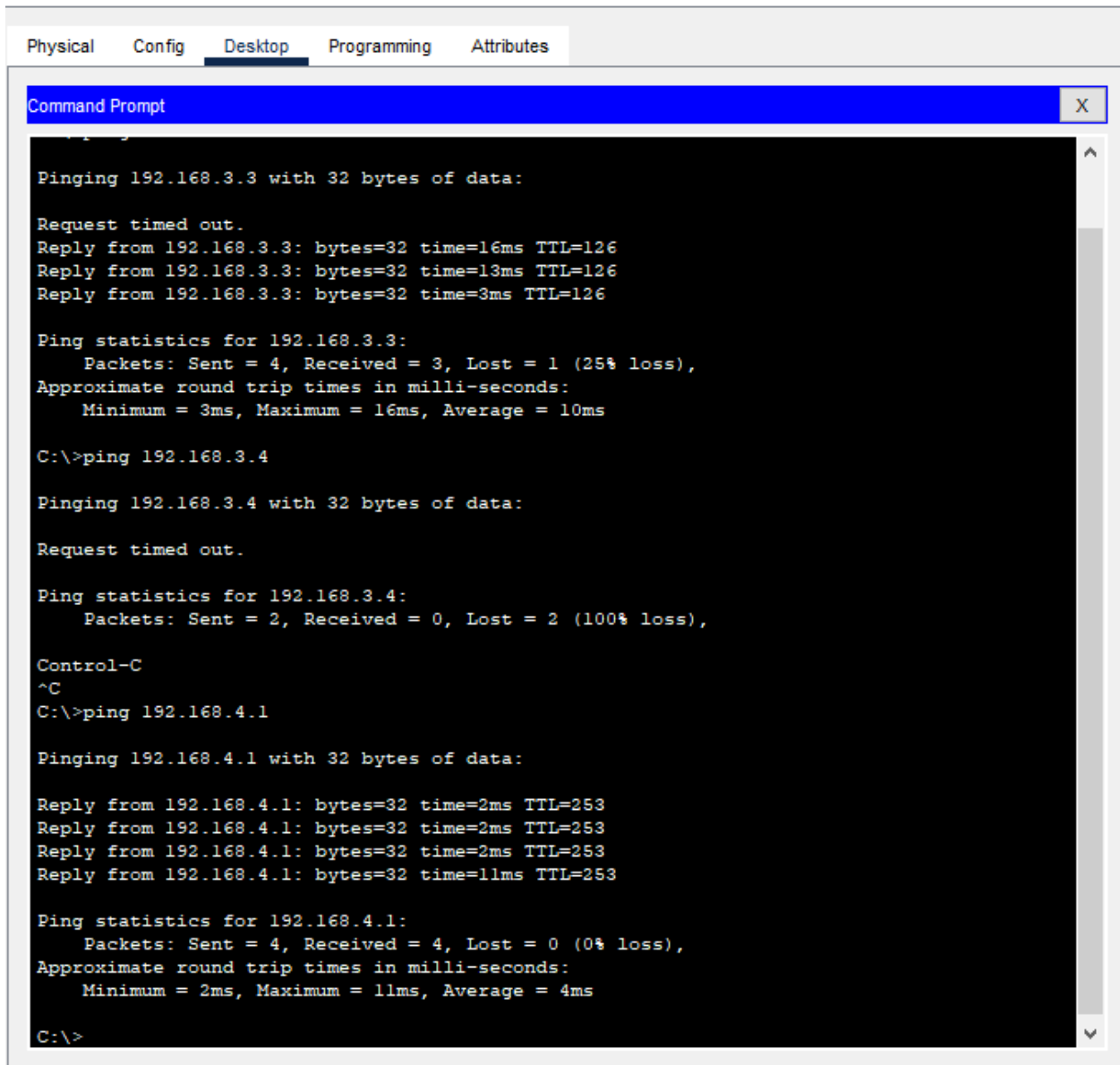
IP Configuration

IPv4 Address 192.168.4.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

**Step4:-** Check the connectivity using ping command in command prompt.



The screenshot shows a Windows Command Prompt window with the title bar 'Command Prompt' and a close button 'X'. The window contains the following text:

```
Pinging 192.168.3.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.3.3: bytes=32 time=16ms TTL=126
Reply from 192.168.3.3: bytes=32 time=13ms TTL=126
Reply from 192.168.3.3: bytes=32 time=3ms TTL=126

Ping statistics for 192.168.3.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 16ms, Average = 10ms

C:\>ping 192.168.3.4

Pinging 192.168.3.4 with 32 bytes of data:

Request timed out.

Ping statistics for 192.168.3.4:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>ping 192.168.4.1

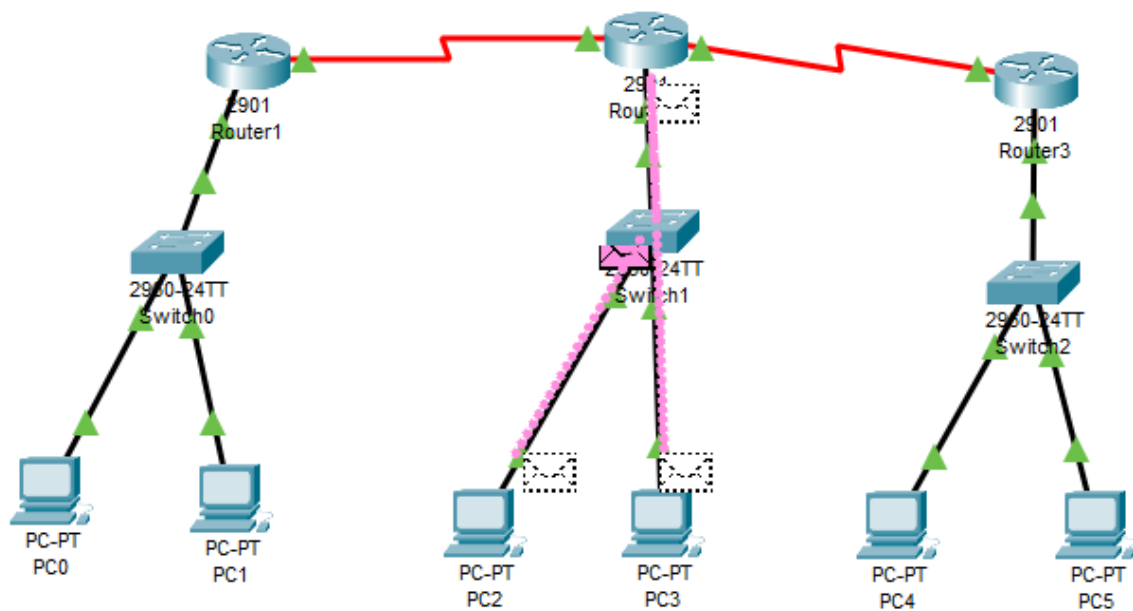
Pinging 192.168.4.1 with 32 bytes of data:

Reply from 192.168.4.1: bytes=32 time=2ms TTL=253
Reply from 192.168.4.1: bytes=32 time=2ms TTL=253
Reply from 192.168.4.1: bytes=32 time=2ms TTL=253
Reply from 192.168.4.1: bytes=32 time=11ms TTL=253

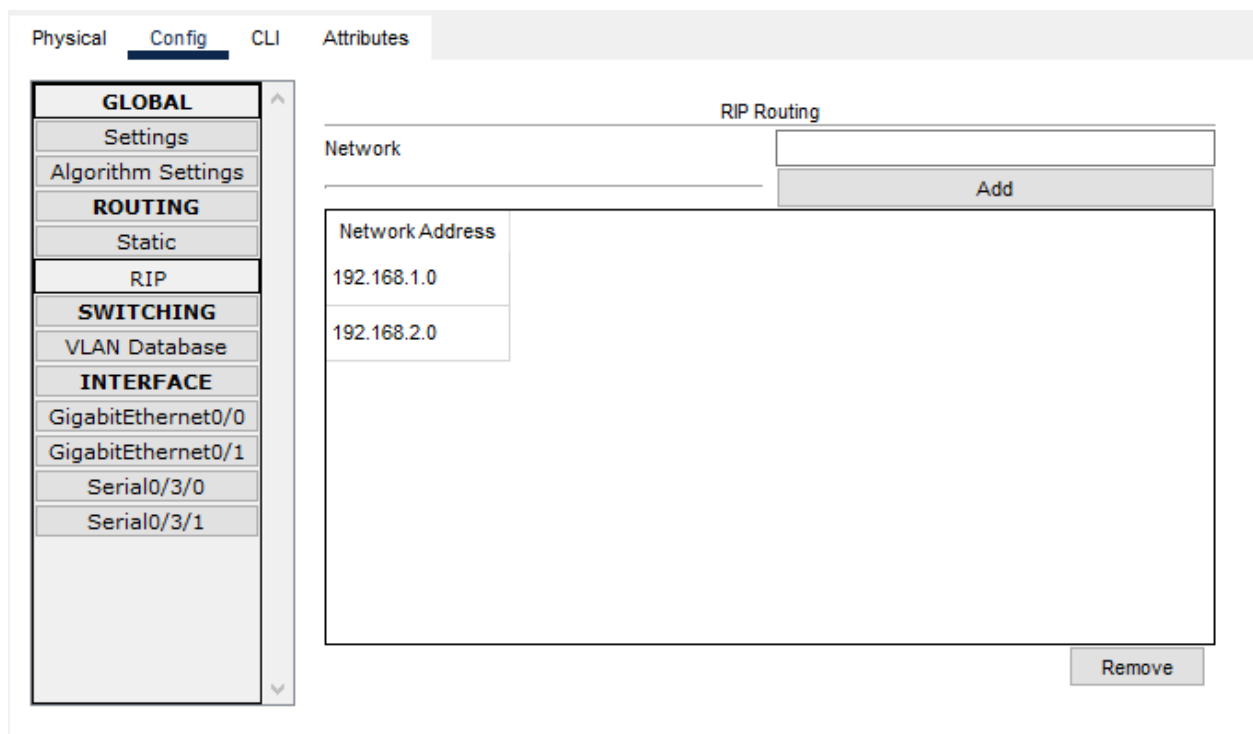
Ping statistics for 192.168.4.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 11ms, Average = 4ms

C:\>
```

**Step5:-** Alternatively, use a PDU to check connectivity visually.



**Step6:-** Use "traceroute" command to track the path of the data flow between networks.



## FINSH:-

To configure the routers with a Dynamic Interior Gateway Routing Protocol (R.I.P.)

