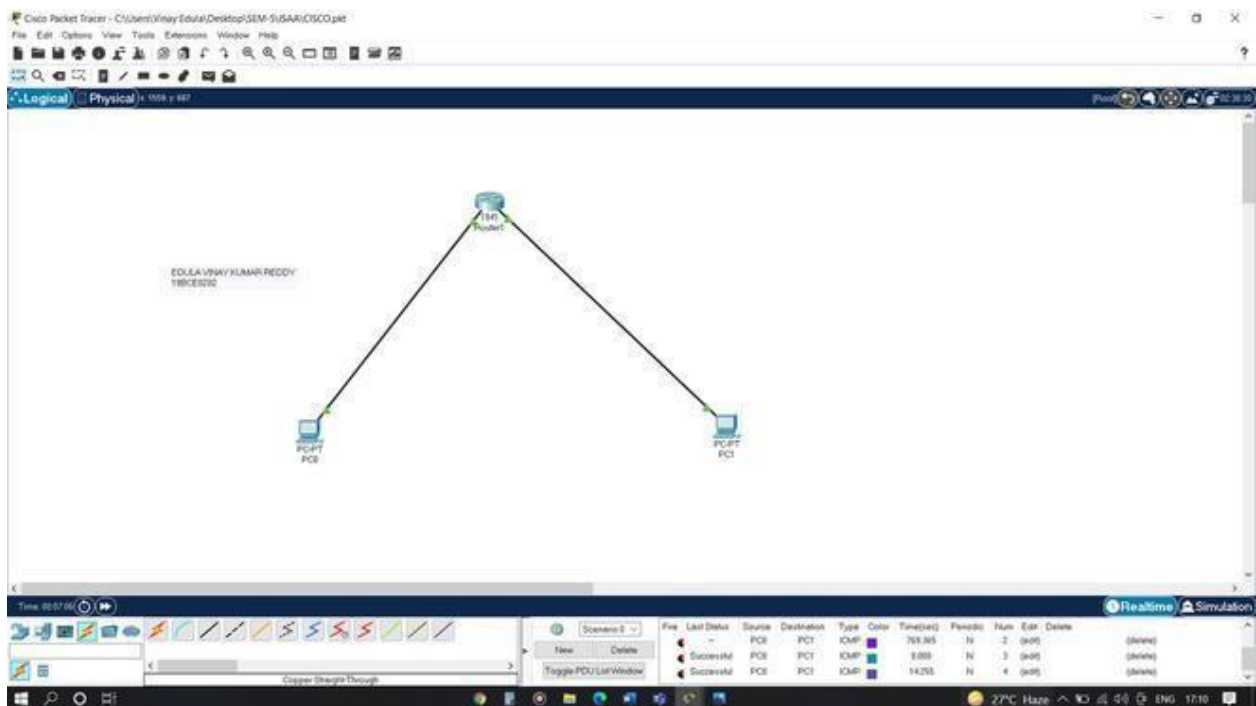


## Practical-10

### **AIM:-**

- a) Internetworking with routers in CISCO PACKET TRACER simulator.
- d) Design and configure a simple internetwork using a router.

In this network, a router and 2 PCs are used. Computers are connected with routers using a copper straight-through cable. After forming the network, to check network connectivity a simple PDU is transferred from PC0 to PC1.



### **Procedure:**

#### **Step-1(Configuring Router1):**

1. Select the router and Open CLI.
2. Press ENTER to start configuring Router1.
3. Type enable to activate the privileged mode.

#### **Router1 Command Line Interface:**

```
Router>enable
```

```
Router#config t
```

*Enter configuration commands, one per line. End with CNTL/Z.*

```
Router(config)#interface FastEthernet0/0
```

```
Router(config-if)#ip address 192.168.10.1 255.255.255.0
```

```
Router(config-if)#no shutdown
```

```
Router(config-if)#
```

```
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
```

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

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*Router(config-if)#ip address 192.168.20.1 255.255.255.0*

*Router(config-if)#no shutdown*

### **Step-2(Configuring PCs):**

1. Assign IP Addresses to every PC in the network.
2. Select the PC, Go to the desktop and select IP Configuration and assign an IP address, Default gateway, Subnet Mask
3. Assign the default gateway of PC0 as 192.168.10.1.
4. Assign the default gateway of PC1 as 192.168.20.1.

### **Step-3(Connecting PCs with Router):**

1. Connect FastEthernet0 port of PC0 with FastEthernet0/0 port of Router1 using a copper straight-through cable.
2. Connect FastEthernet0 port of PC1 with FastEthernet0/1 port of Router1 using a copper straight-through cable.

### **Router Configuration Table:**

Device Name	IP address FastEthernet0 /0	Subnet Mask	IP Address FastEthernet0/1	Subnet Mask
Router1	192.168.10.1	255.255.255.0	192.168.20.1	255.255.255.0

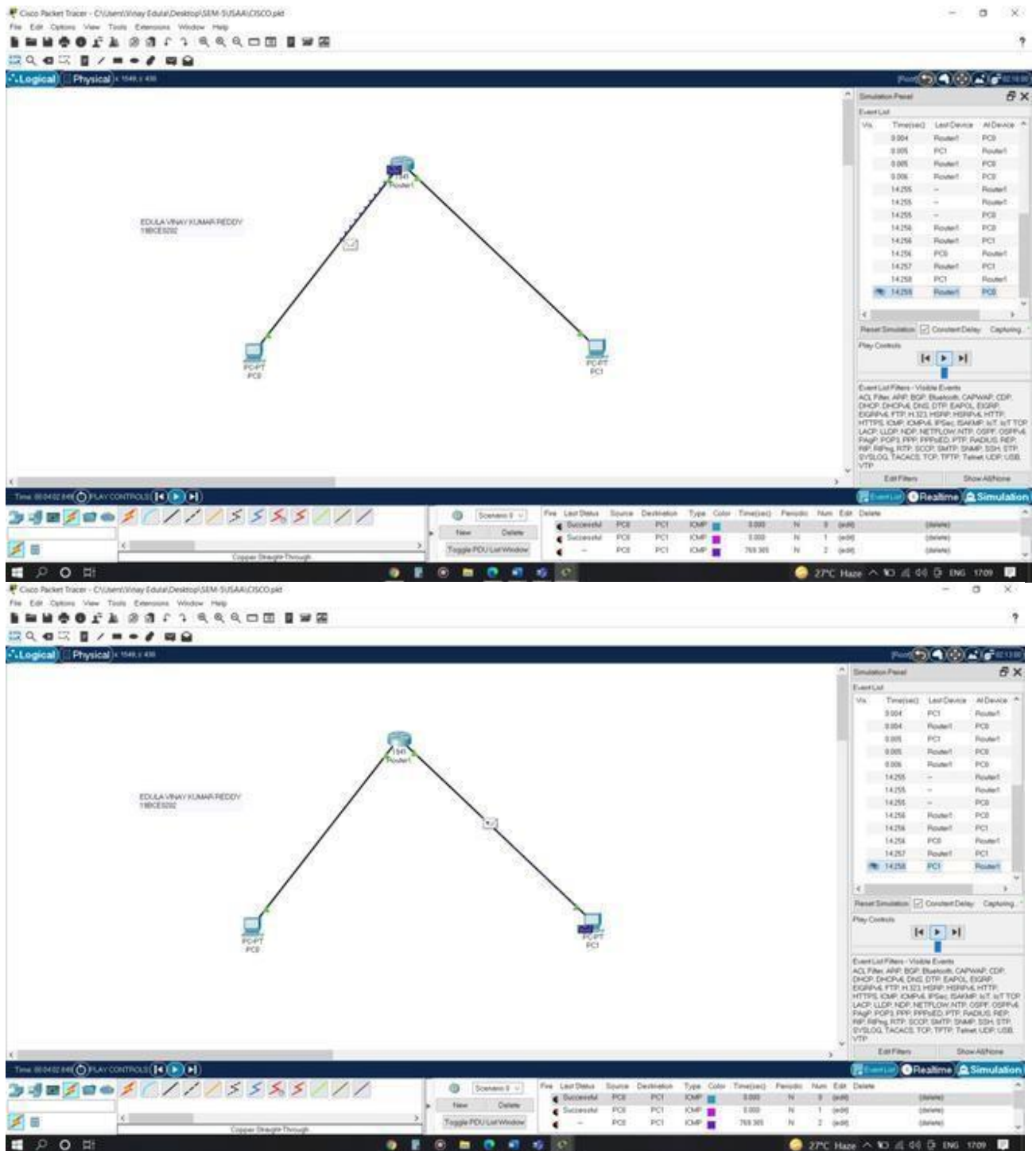
### **PC Configuration Table:**

Device Name	IP address	Subnet Mask	Gateway
PC 0	192.168.10.2	255.255.255.0	192.168.10.1
PC 1	192.168.20.2	255.255.255.0	192.168.20.1

### **Designed Network topology:**

Simulation of Designed Network Topology:

### **Sending a PDU From PC0 to PC1:**



**Acknowledgment From PC1 to PC0:**

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The image displays two screenshots of the Cisco Packet Tracer software interface, showing a network simulation. The top screenshot shows a network topology with a central router (R1) connected to two PCs (PC1 and PC2). The bottom screenshot shows the same network topology, but with a different configuration. Both screenshots include a Simulation Panel on the right and a Packet List at the bottom.

**Top Screenshot:**

- Simulation Panel:** Shows a list of events. The first event is at 0.004 seconds, involving Router1 and PC1. The last event is at 14.252 seconds, involving Router1 and PC1.
- Packet List:** Shows a list of packets. The first packet is at 0.000 seconds, involving PC1 and PC1. The last packet is at 769.305 seconds, involving PC1 and PC1.

**Bottom Screenshot:**

- Simulation Panel:** Shows a list of events. The first event is at 0.004 seconds, involving Router1 and PC2. The last event is at 14.252 seconds, involving Router1 and PC2.
- Packet List:** Shows a list of packets. The first packet is at 0.000 seconds, involving PC1 and PC1. The last packet is at 769.305 seconds, involving PC1 and PC1.