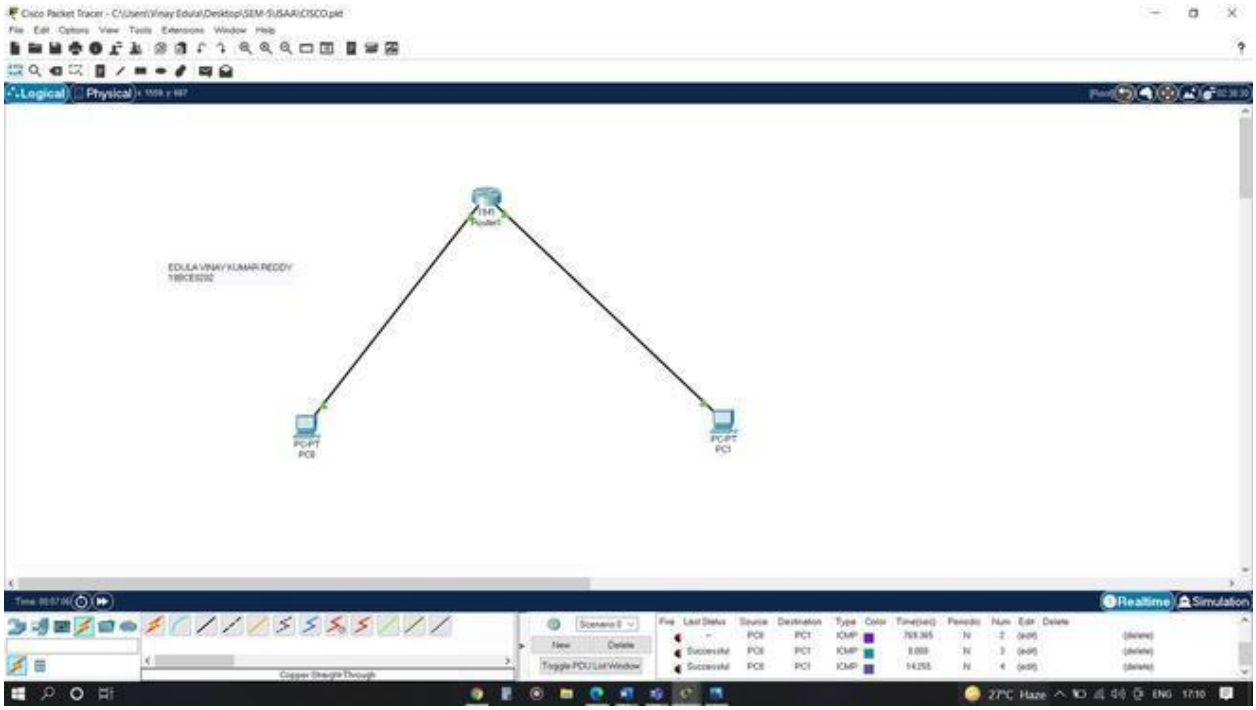
## Practical-10

**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*

*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 |

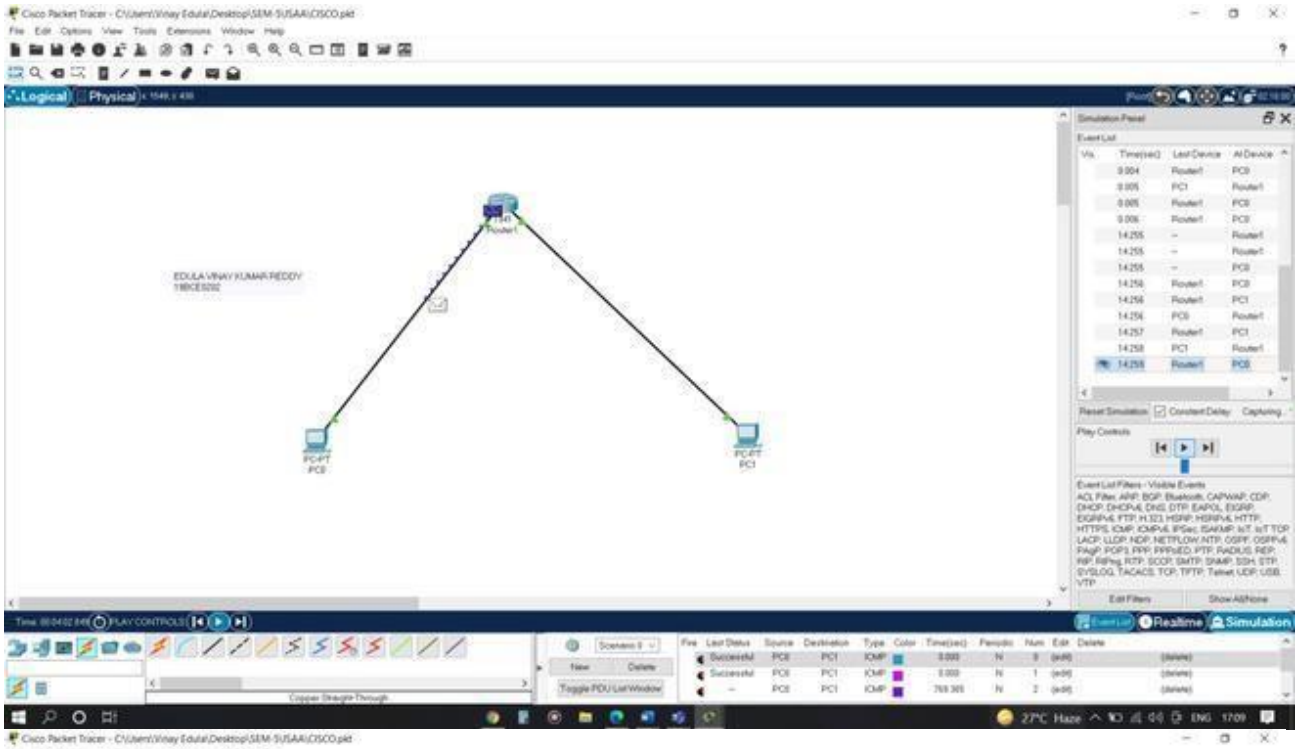
**PC Configuration Table:**

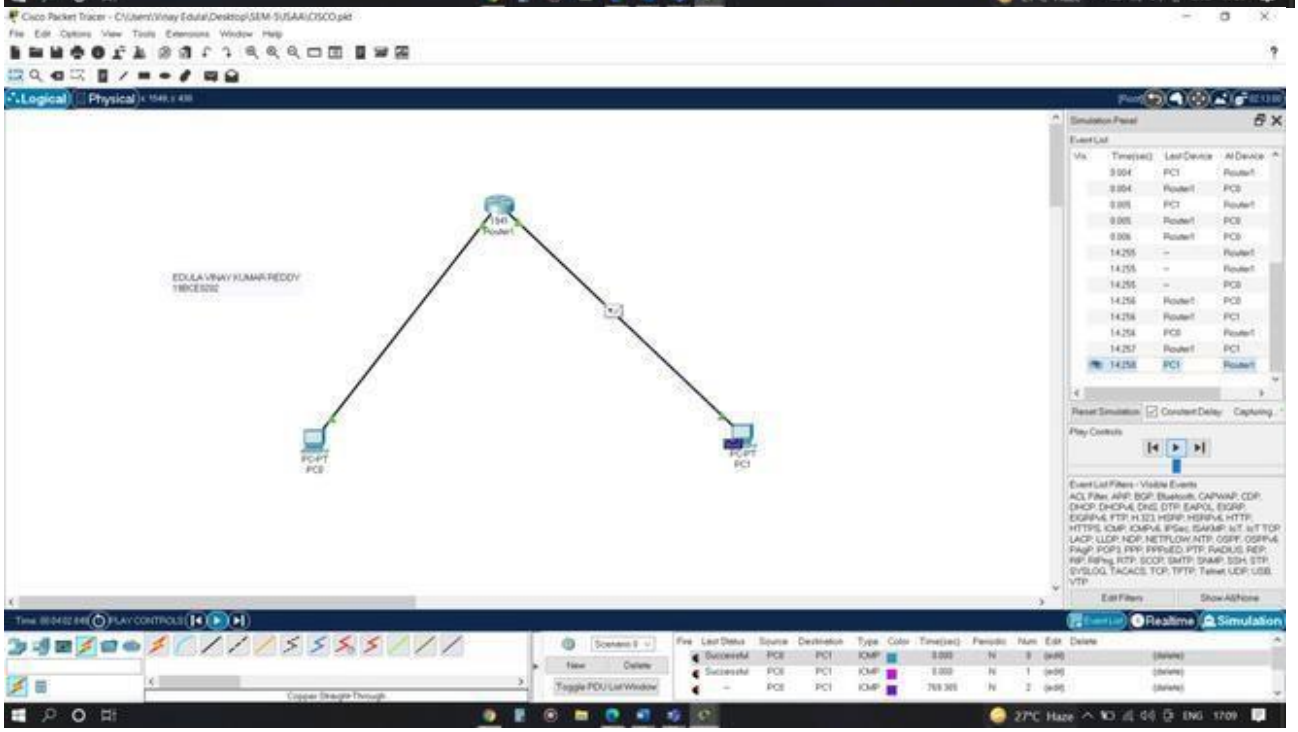
| Device Name | IP address | Subnet Mask | Gateway |
|---|---|---|---|
| PC 0 | 192.168.10.2 | 255.255.255.0 | 192.168.10.1 |
| PC 1 | 192.168.20.2 | 255.255.255.0 | 192.168.20.1 |

**Designed Network topology:**

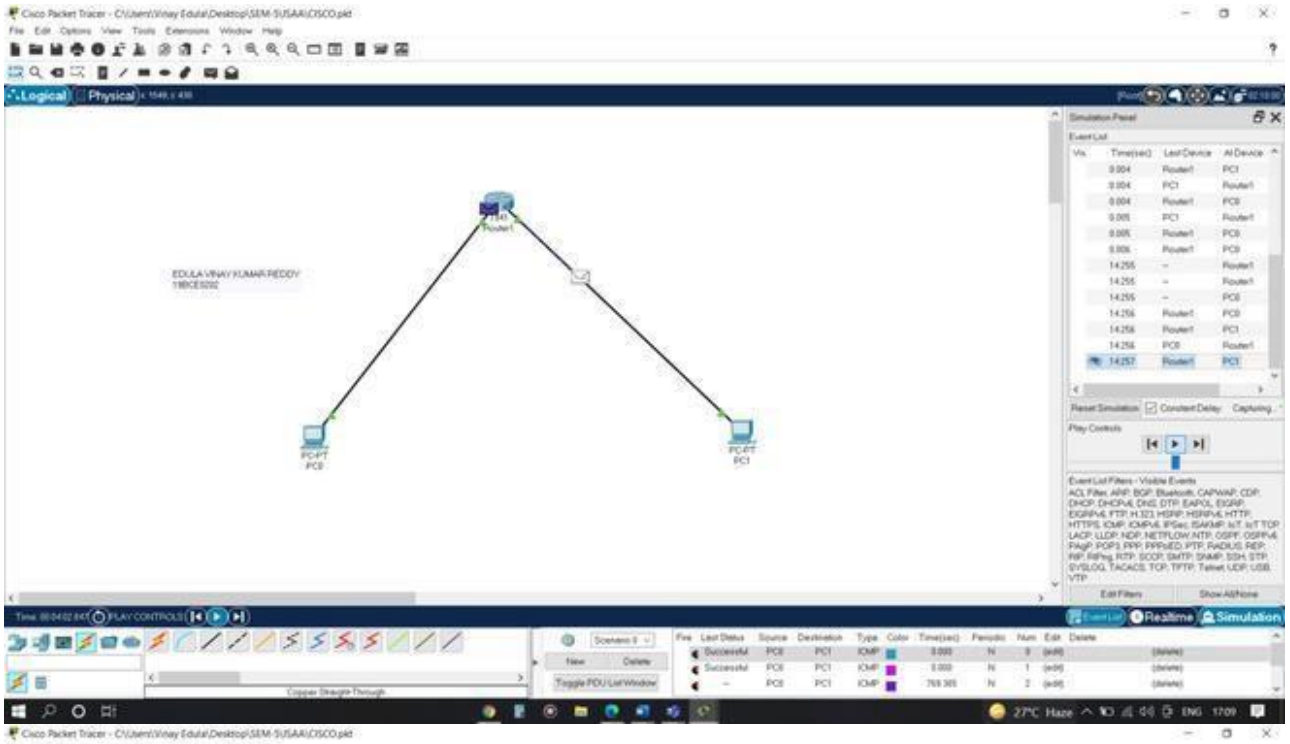
Simulation of Designed Network Topology:

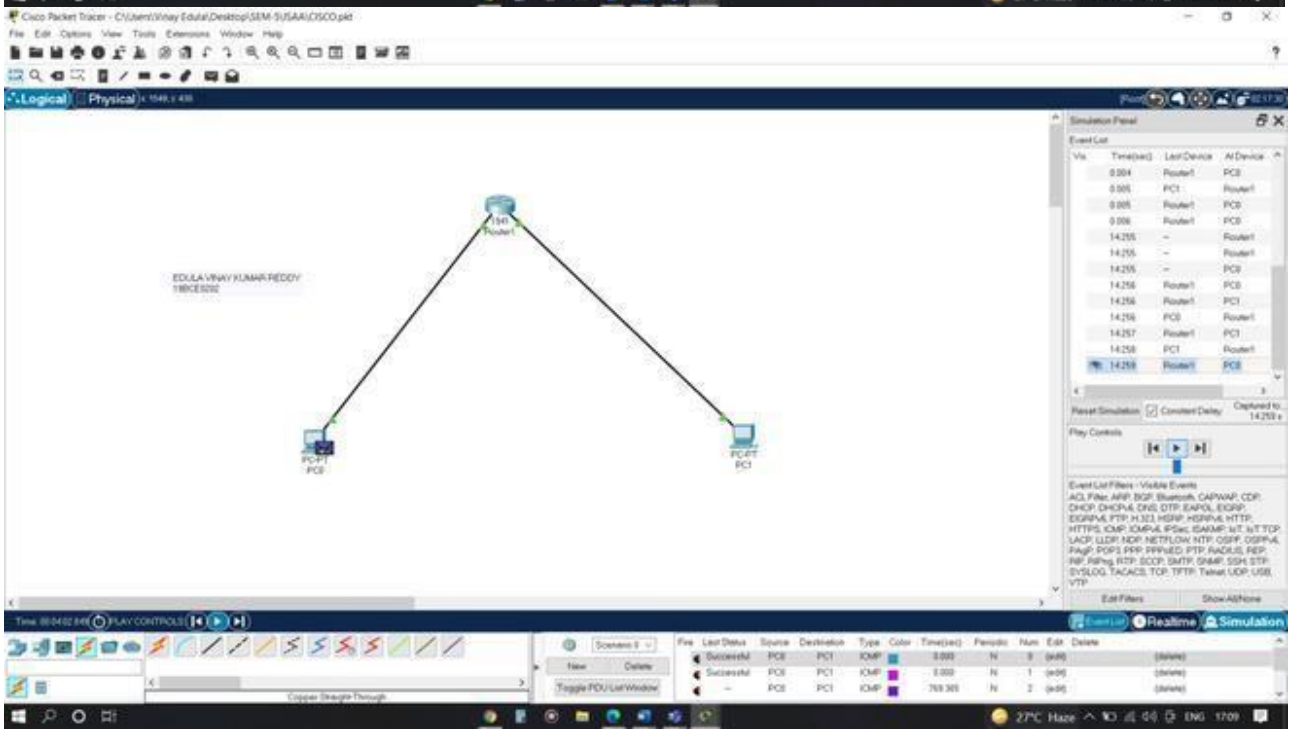
**Sending a PDU From PC0 to PC1:**





**Acknowledgment From PC1 to PC0:**


Logical
Physical
EDULA VINAY KUMAR REDDY
Router1
PC-PT
PC0
PC-PT
PC1
Realtime
Simulation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