

Name:- Himanshu Chandola

Student ID:- 20711136 , University Roll no:- 2098005 , HLD Campus

Mid-Term-Practical-Exam-Computer-Networks-PMC-202

Q1:- There is an organization A with multiple departments. Design a network for the HR department and the size of the department is 10 users. Also, show the communication between user number 1 and user number 5 of the network.

Ans.

22 June 2021

Date _____
Page _____

1

Name:- Himanshu Chandola
Roll no:- 20711136 (Student ID)
2098005 (University Roll no)
HLD CAMPUS

mid Term Practical Exam
PMC 202
Computer Networks

Q.1 Problem statement :- There is an organization A with multiple departments . Design a network for the HR department and size of the department is 10 users . Also show the communications between user number 1 and user number 5 of the network.

Objective description : We need to create a virtual LAN environment in CISCO Packet Tracer that will show communication between 2 users .

Steps to Perform :-

1. We will place nodes first :-
Organization A, HR Department and
User 1 to User 10
2. Add router and switch and connect
them with cable.
3. Add 10 machines named PC 0 to
PC 9 and connect all machine
to switch.
4. Assign IP address to every machine
5. We had assigned IP as follows:-
PC 0 - 192.168.1.1
PC 4 - 192.168.1.5

I am assigning only 2 IP's because
we need to show communication
between user 1 and user 5

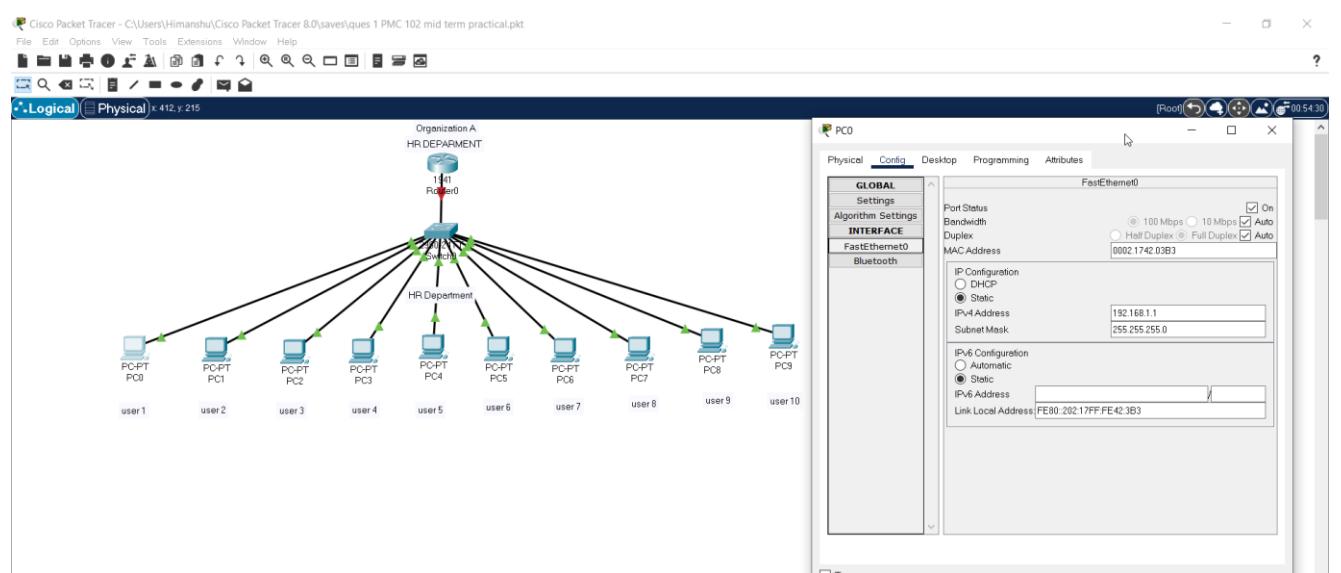
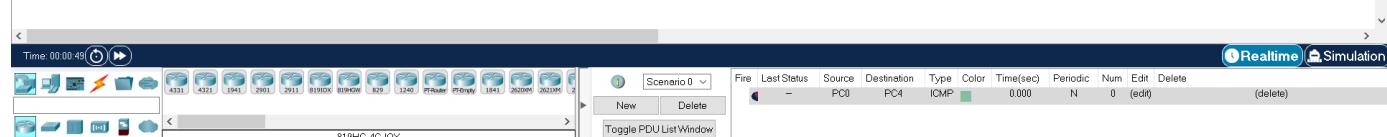
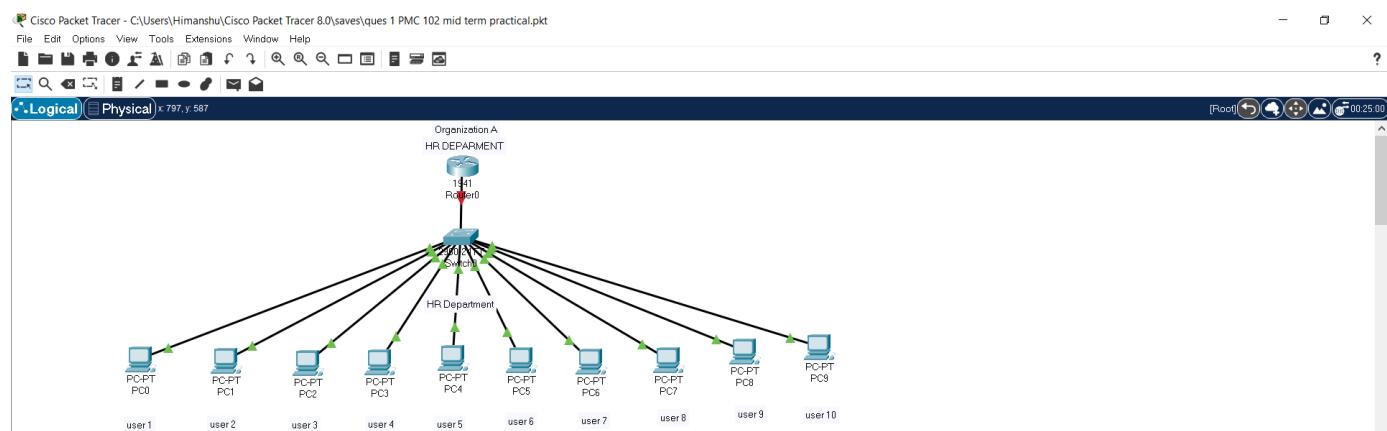
6. Now there are 2 ways to verify the connection between 2 users

- a) By pinging other system IP
- b) By sending PDU packet from 1 system to another

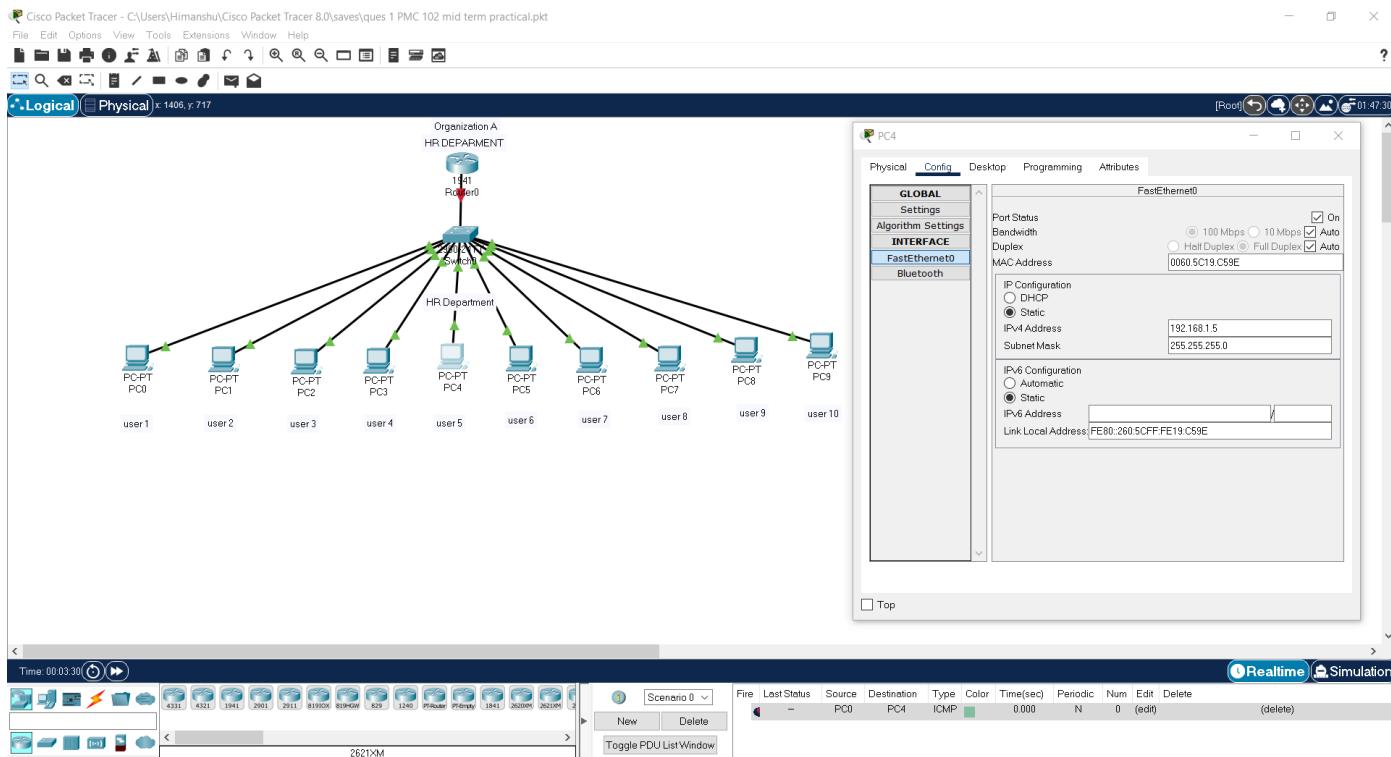
We had performed both as shown in the screenshots below :-

7. We can see the connection is successful and we are able to communicate between user 1 and user 5 of HR Department.

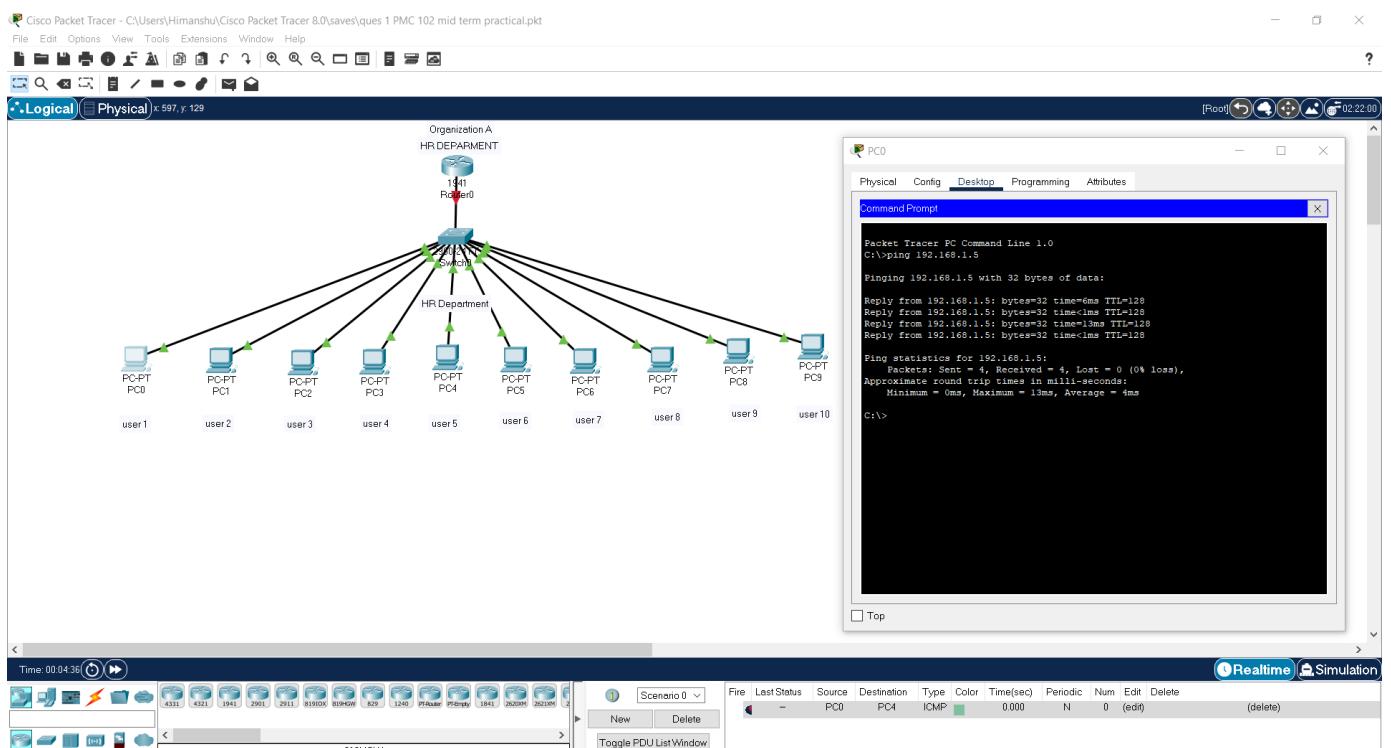
Output Screenshots from Packet Tracer Q1



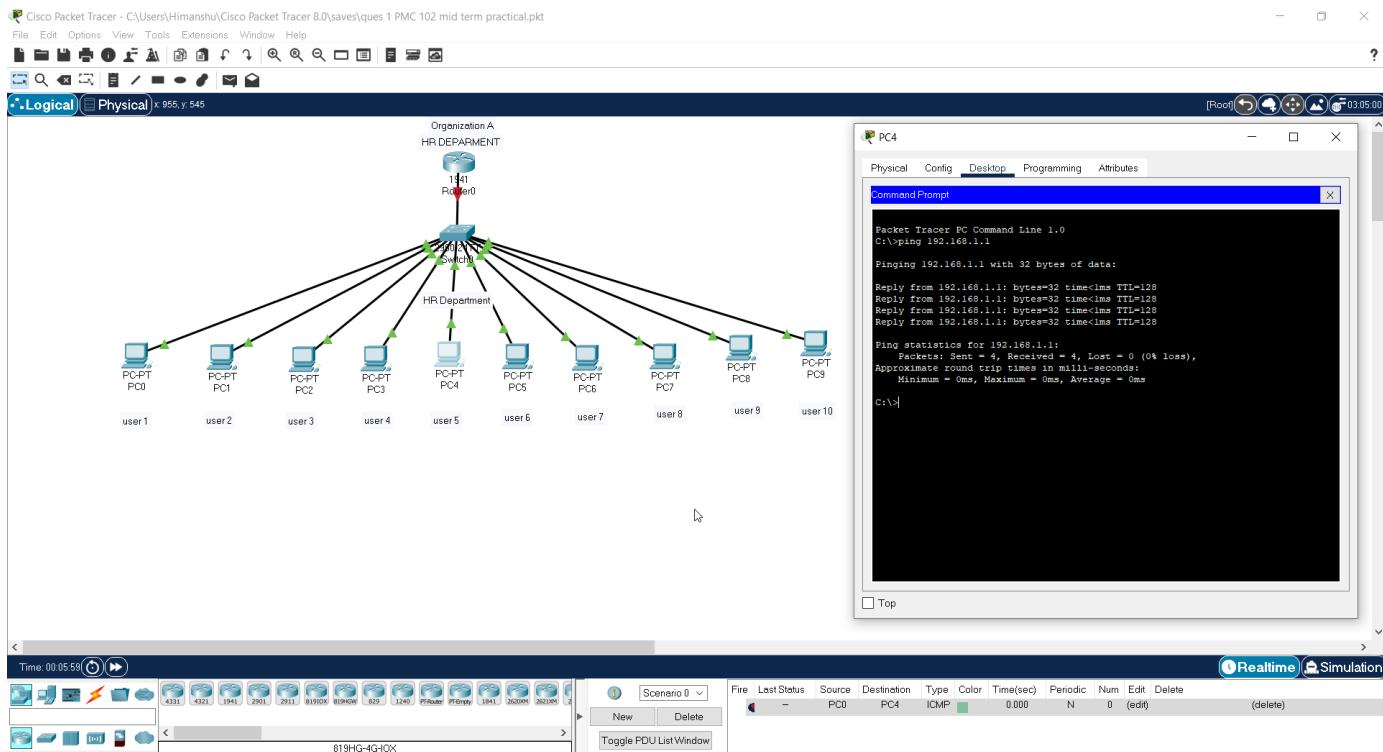
IP assigned to User 1



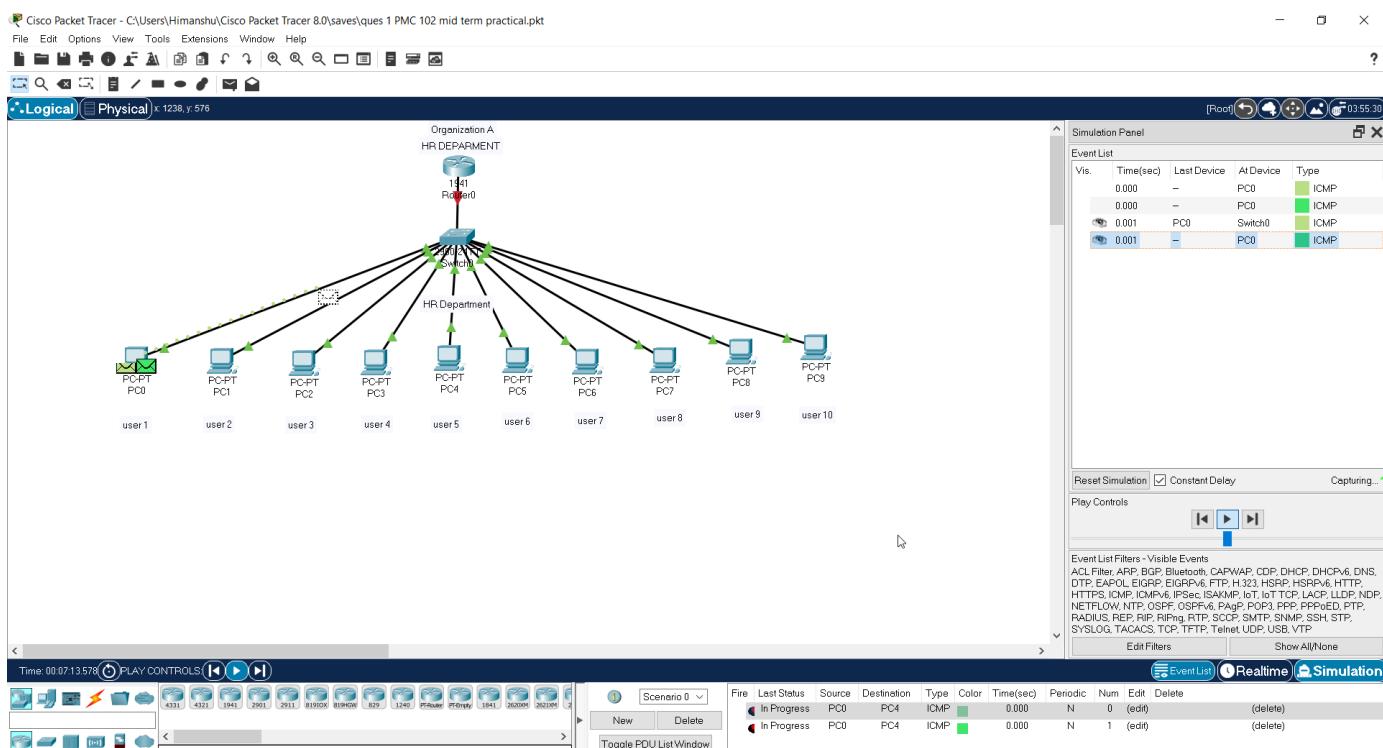
IP Assigned to User 5



Pinging User 1 to User 5. Successful



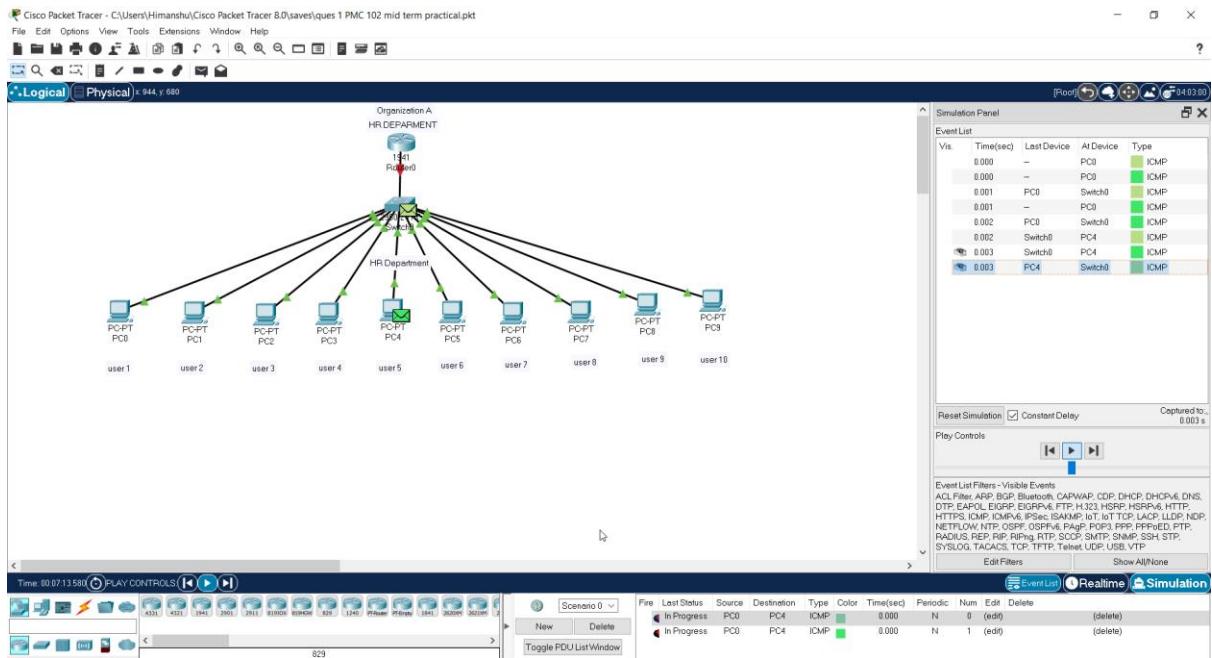
Pinging User 5 to User 1. Successful



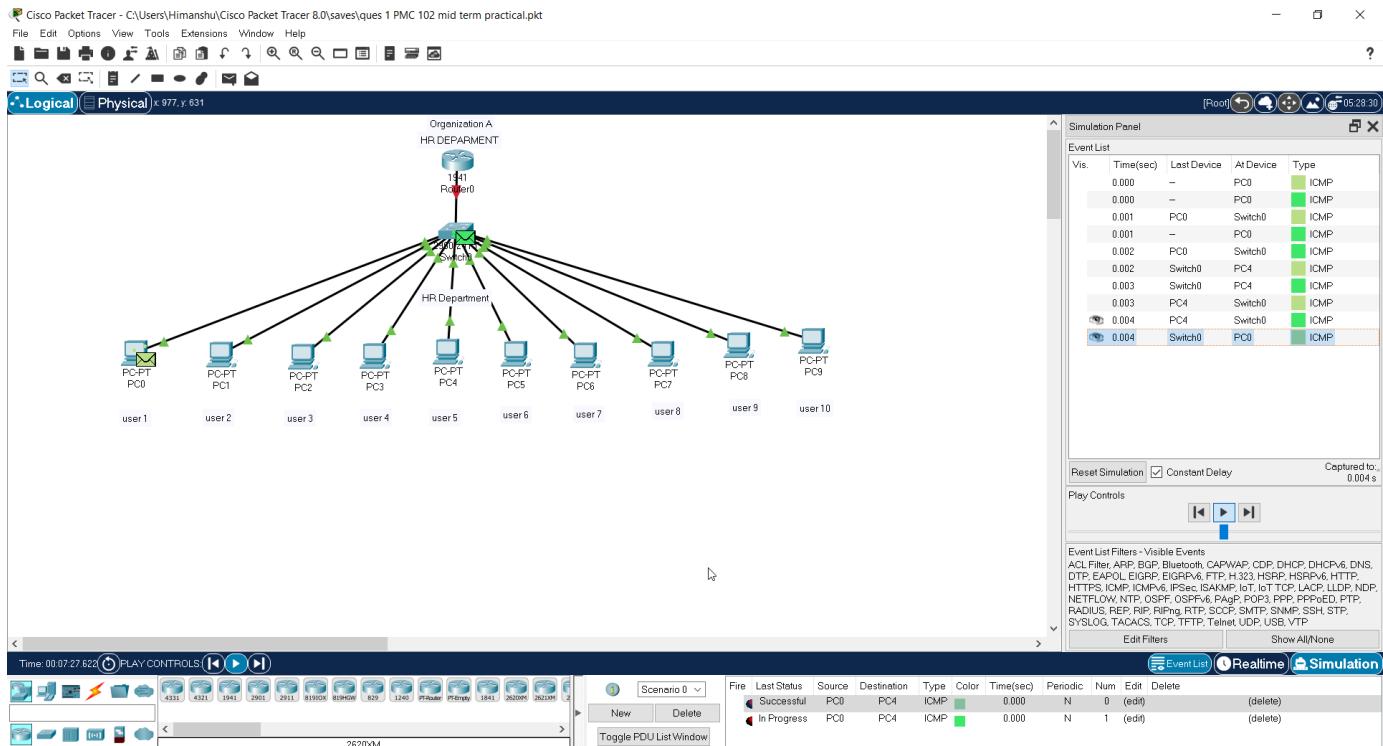
Sending PDU from User 1 to User 5 In simulation Mode

Show All/None

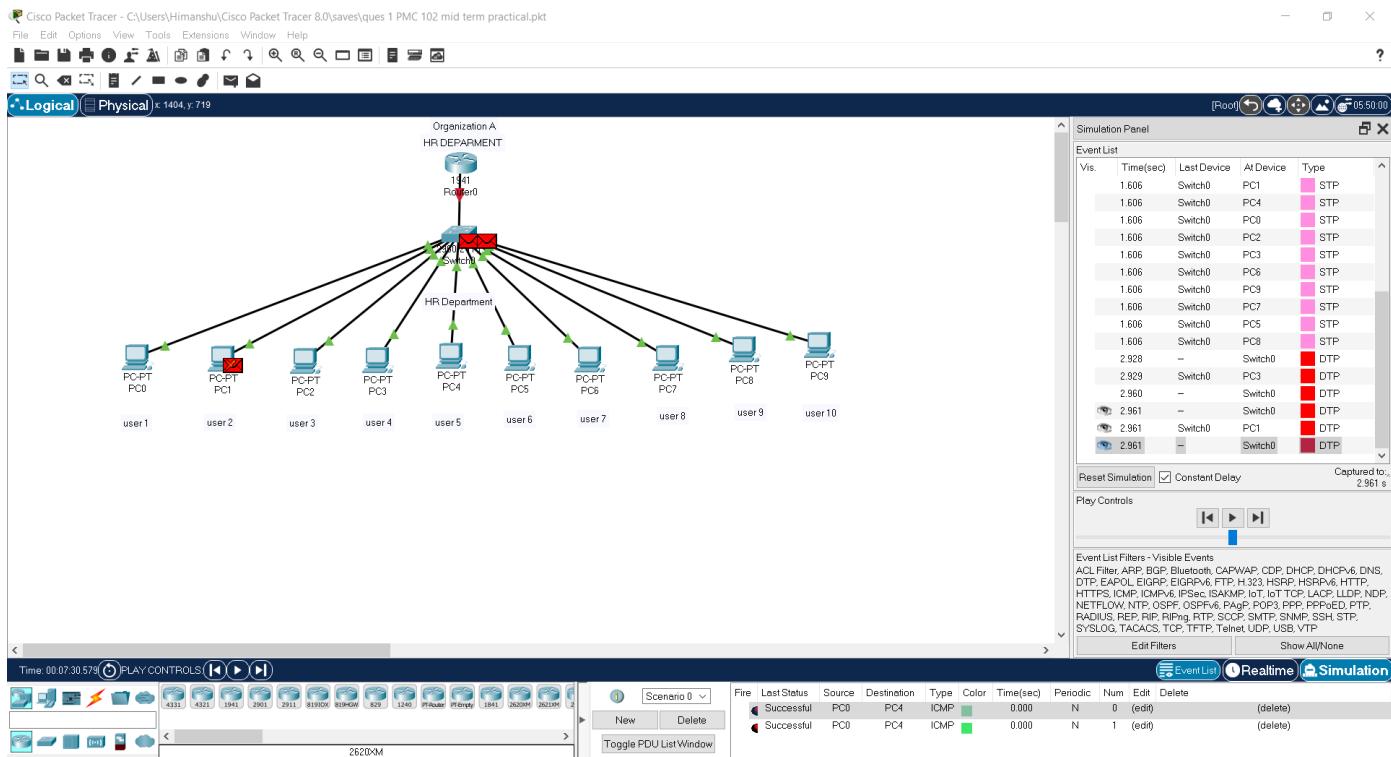
Edit Filters



Packet Received by User 5 which was sent from user 1



Packet sent back to user 1 from user 5



Here we can see Successful Message at right bottom corner.

Hence Connection is established and working.

Question 2

2. There are two organizations in a city named GEU and GEHU, design a network between the SOC department of GEU and GEHU. Also, show the communication between user number 1 of GEU and user number 2 of GEHU.

Q.2 Problem Statement :- There are two organizations in a city named QEU and GEHU design a network between the SOC department of QEU and GEHU. Also show the communication between user number 1 of QEU and user number 2 of GEHU.

Objective Description: We will create a virtual LAN environment in Cisco Packet Tracer that will connect 2 user of different departments and connection will be established.

Steps to Perform :-

- a) We will place notes first:-
 - 2 organizations named QEU and GEHU
 - SOC Departments
 - User 1 and User 2

- b) We will place 2 routers and 2 switches.
Router 0, Router 1
switch 0, switch 1
- c) Connect both routers with serial DTE wire.
- d) Connect switch and routers with normal wire.
- e) Add 2 systems or 2 users in each organizations named user no 1 and user no 2.
- f) Assign IP addresses to all 4 systems in both departments.
- g) We has assigned following IP addresses to 2 system.

IP of GEU User 1 :- 192.168.10.2

IP of GEHU User 2 :- 192.168.20.3

h) Now again there are 2 ways to verify communication between 2 users.

→ Pinging other user IP

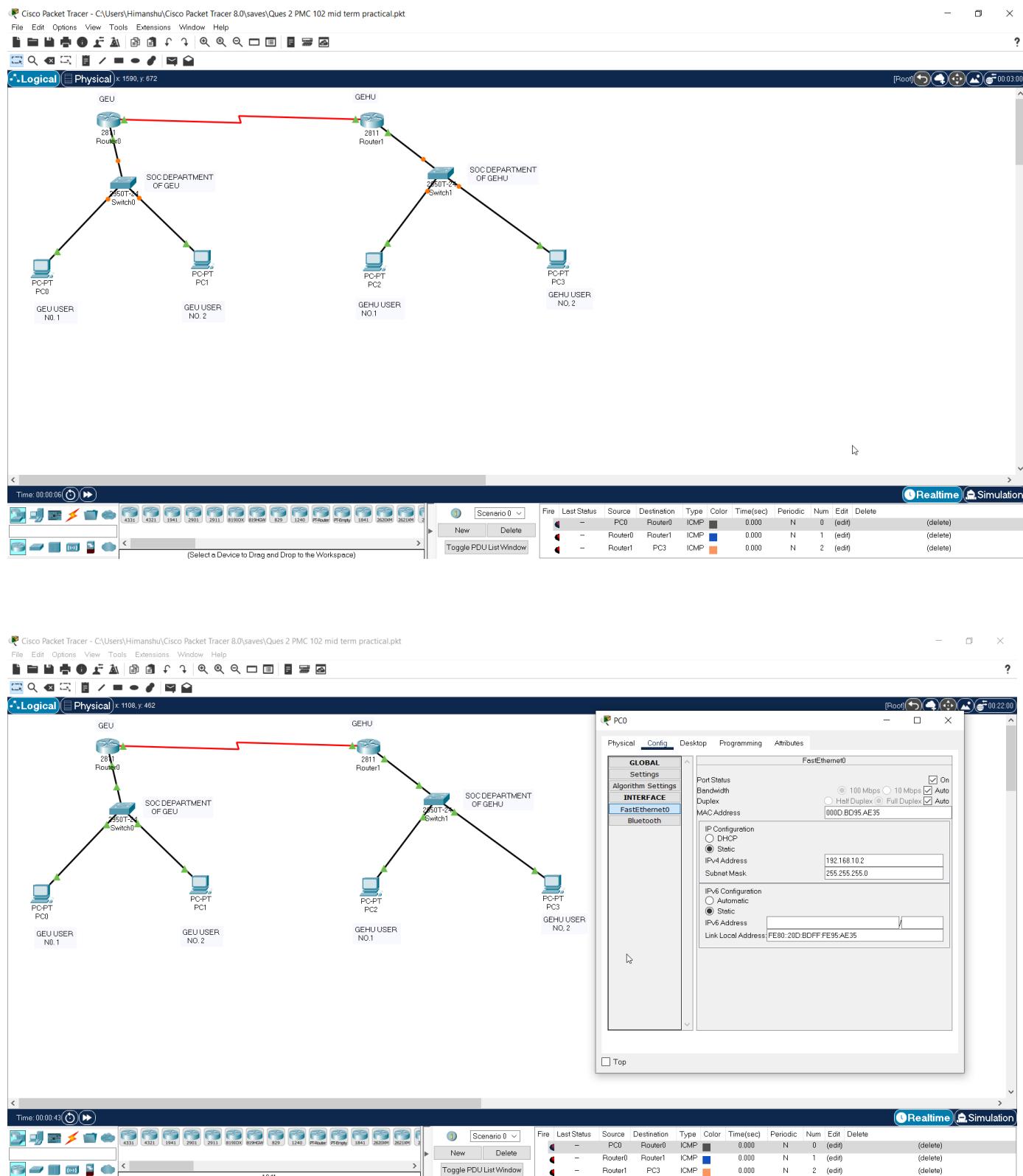
→ Sending PDU Packet from user 1 to user 2

i) We can see now user 1 and user 2 connected. We are able to communicate between them via various methods.

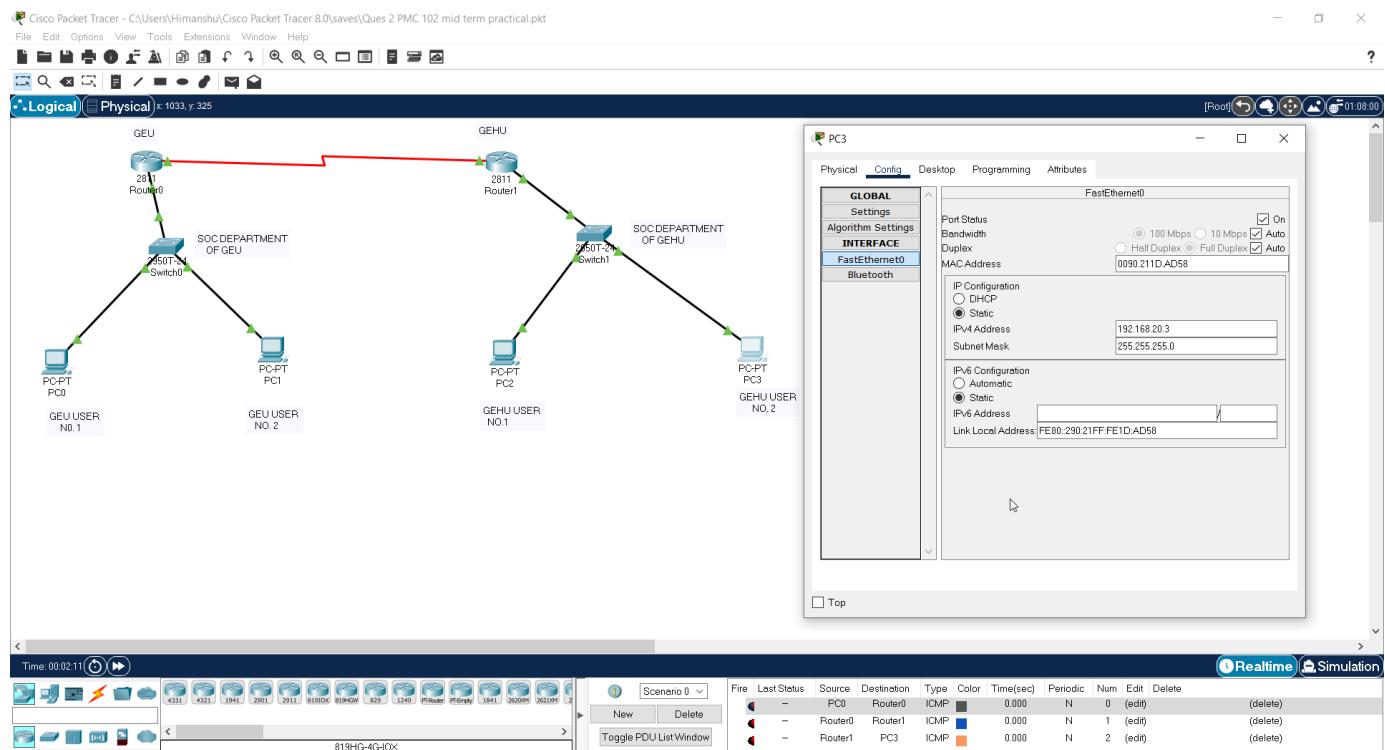
Himanshu
Chandola

HLD Campus.

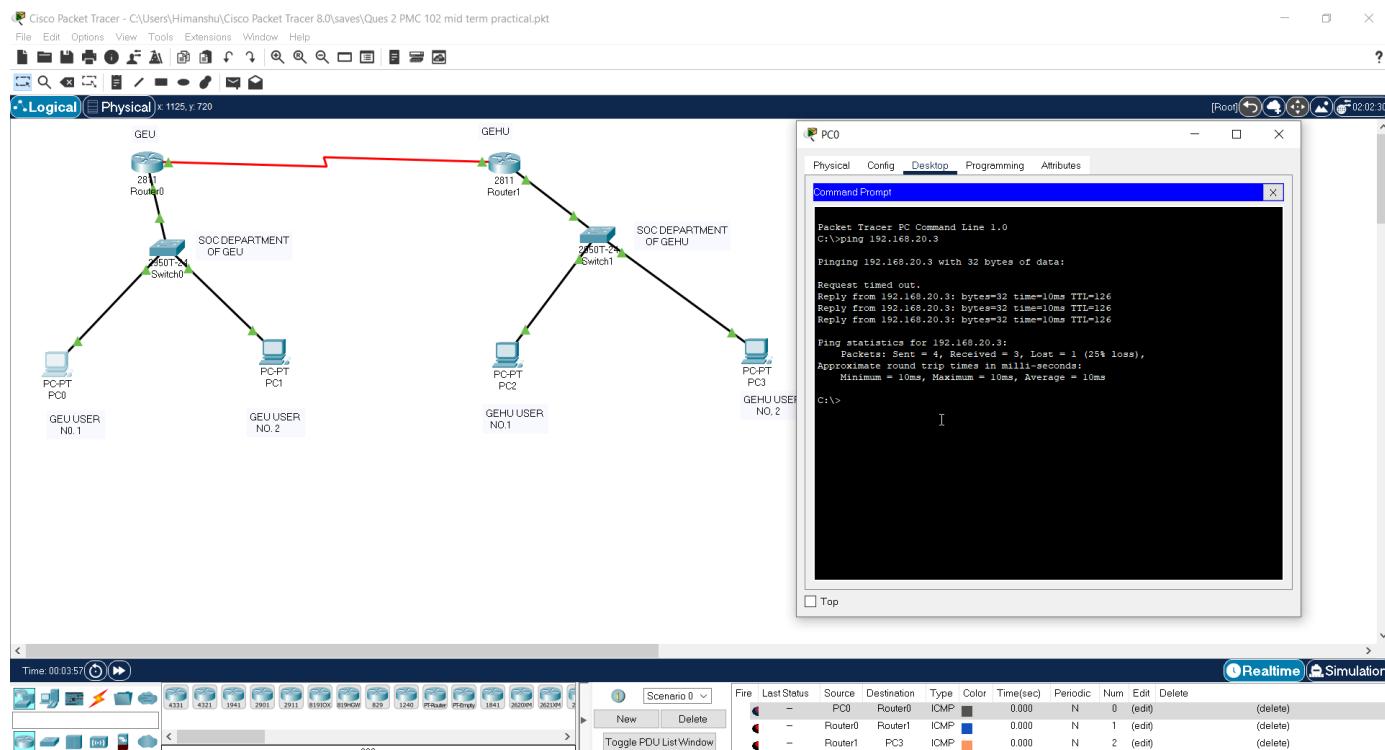
Output Screenshots from Packet Tracer Q2



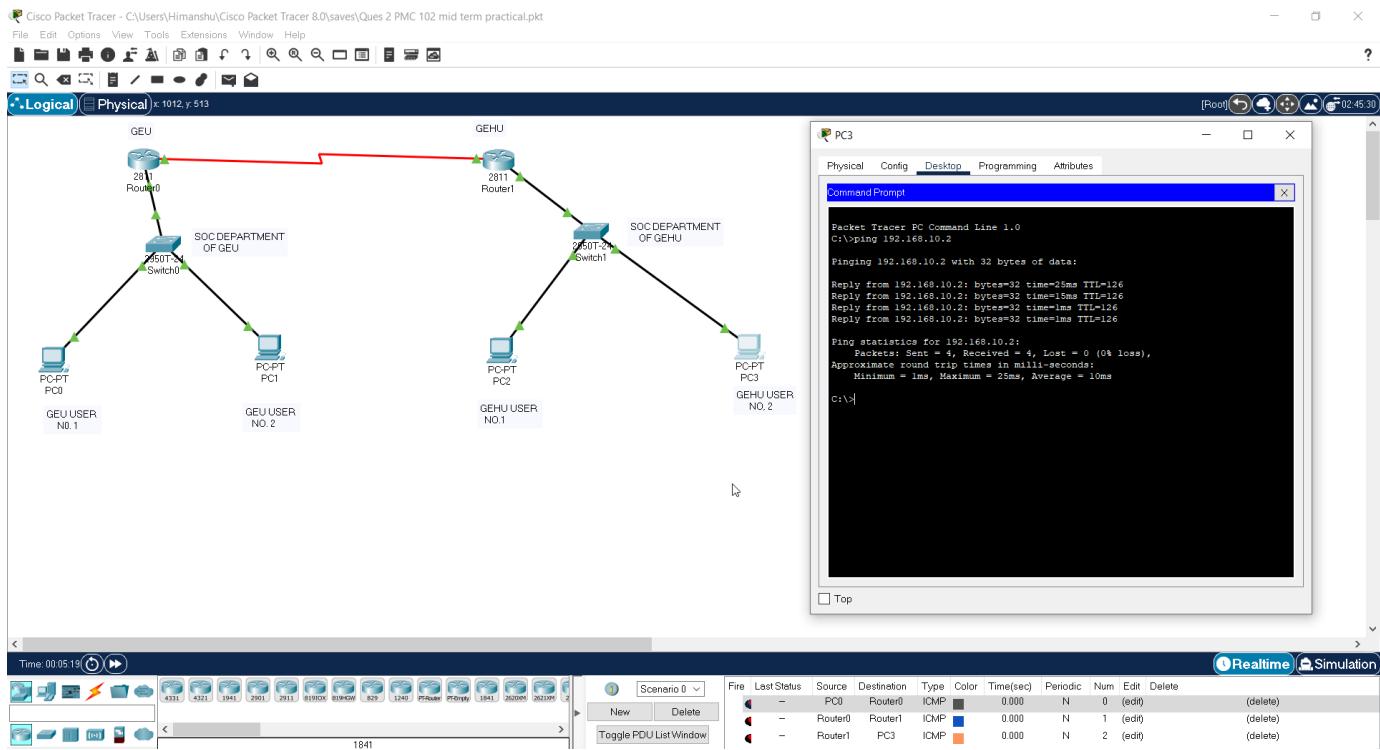
IP assigned to User 1 of GEU. 192.168.10.2



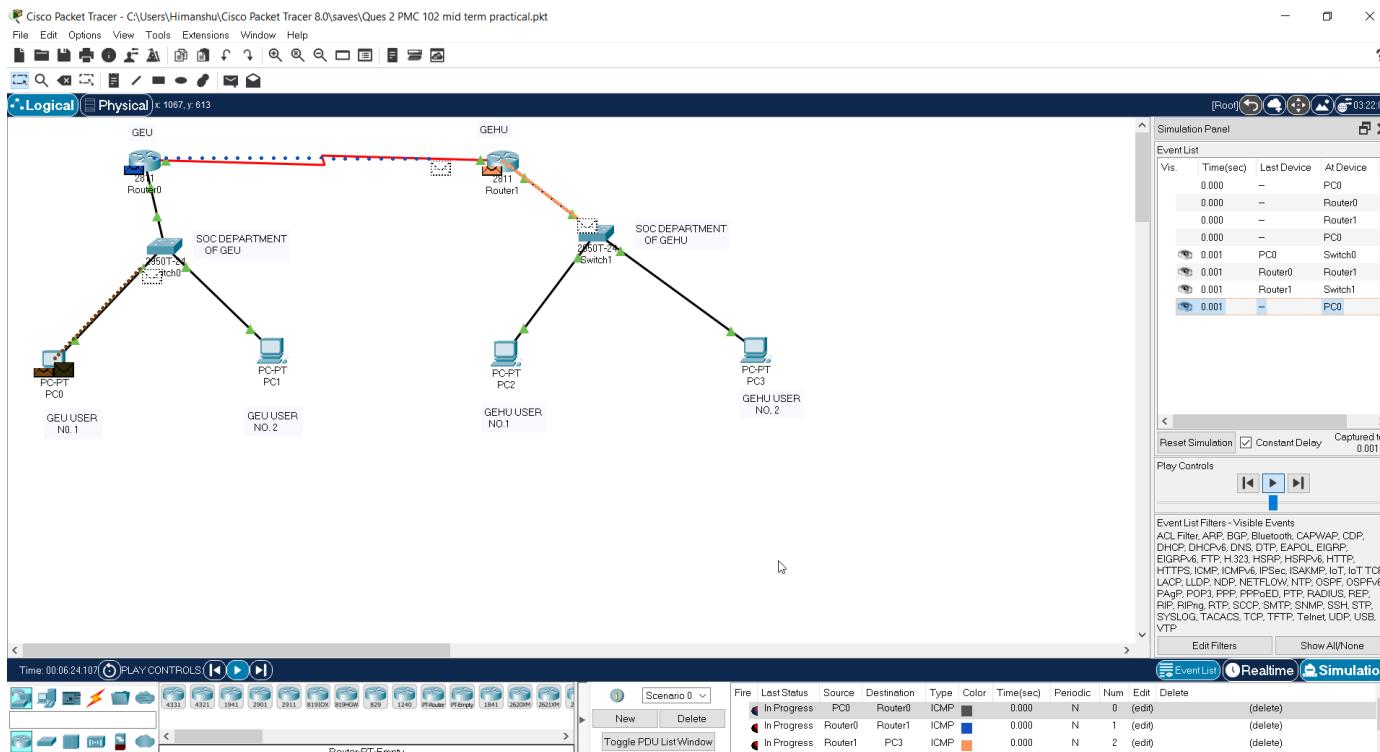
IP assigned to User 2 of GEHU. 192.168.20.3



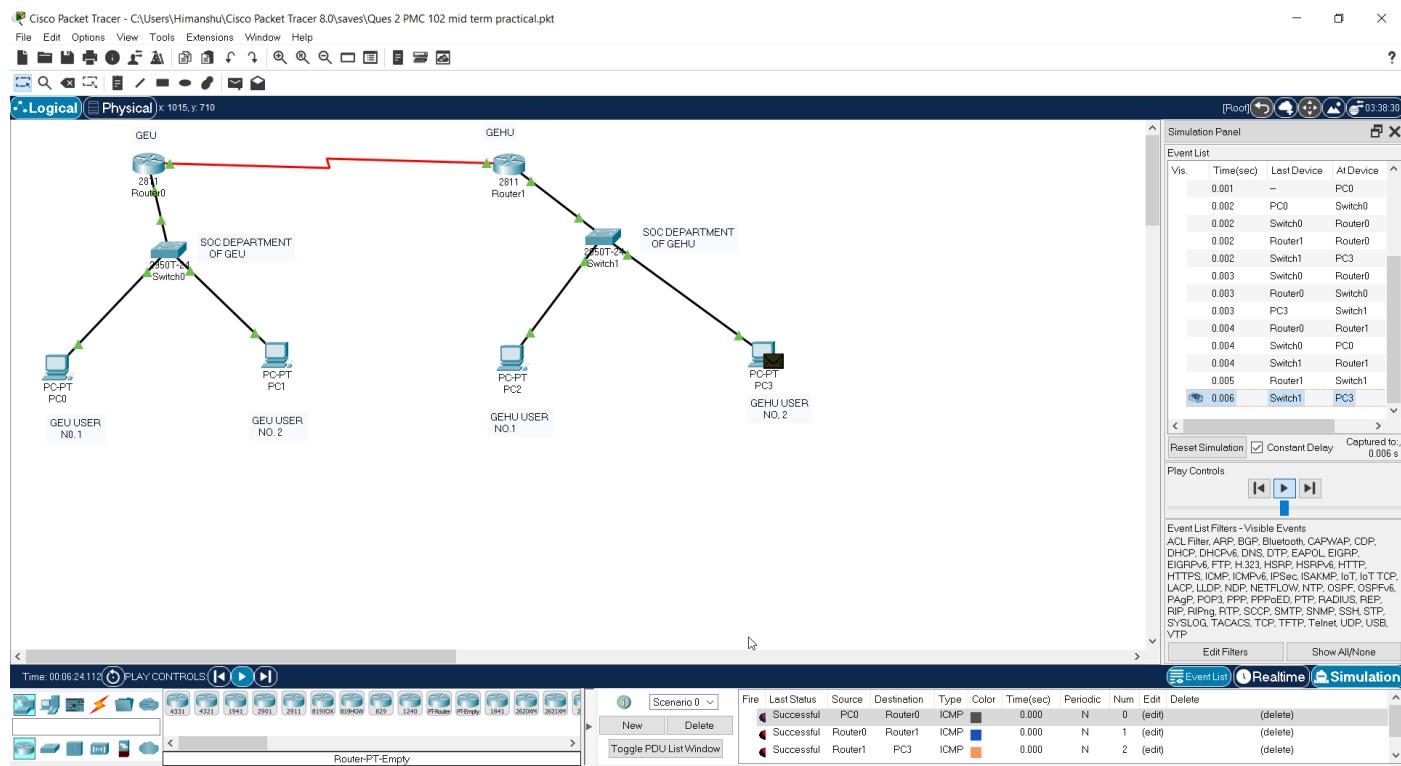
Pinging User 2 of Gehu from User 1 of GEU



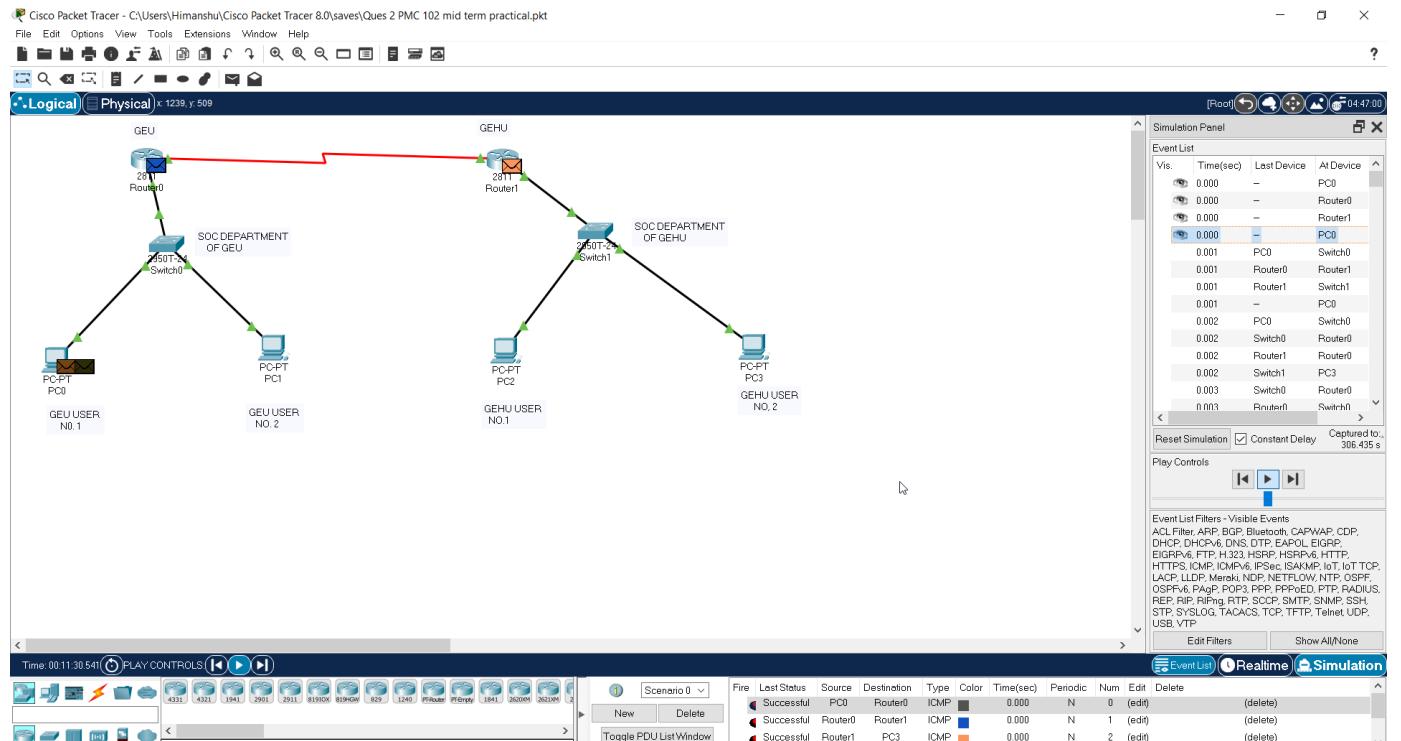
Pinging user 1 of Geu from user 2 of GEHU



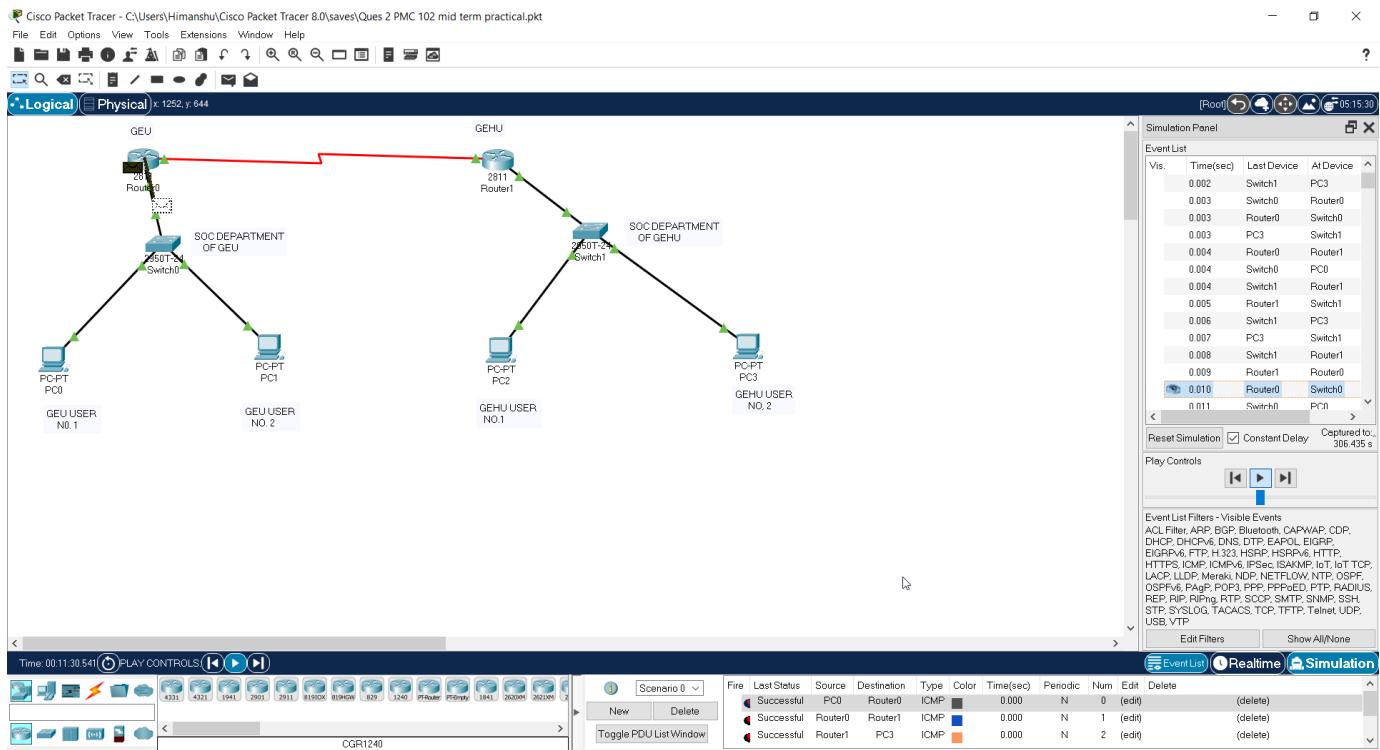
PDU being sent to User 2 of GEHU from User 1 of GEU



PDU Received by User 2 of GEHU from User 1 of GEU



PDU received back by user 1 of GEU from User 2 of GEHU



Successfully established connection there from User 1 of GEU to user 2 of GEHU. Check Successful message at right bottom corner.

Event List											Realtime	Simulation
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete		
Successful	PC0	Router0	ICMP	■	0.000	N	0	(edit)		(delete)		
Successful	Router0	Router1	ICMP	■	0.000	N	1	(edit)		(delete)		
Successful	Router1	PC3	ICMP	■	0.000	N	2	(edit)		(delete)		

PC 0 (GEU user 1) to PC 3 (GEHU user 2)

Event List											Realtime	Simulation
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete		
Successful	PC0	PC3	ICMP	■	0.000	N	3	(edit)		(delete)		
Successful	PC0	PC3	ICMP	■	6.431	N	4	(edit)		(delete)		
Successful	PC3	PC0	ICMP	■	306.435	N	5	(edit)		(delete)		

PC 3 to PC0

Successfully connection established in both ways.

Submitted by:- Himanshu Chandola (HLD Campus) , STD ID:- 20711136