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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.

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Course: MCA 2C

Sub: Computer Networking
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PMC - 202

Ans. 1. Problem statement: There is an organization A with multiple departments.

Design a network for HR department and size of department is 10 users. Also show the communication b/w user number 1 and user no. 5. of the network.

Objective ⇒ We need to create a virtual LAN environment in Cisco packet tracer that will show communication b/w 2 users.

Steps to perform:

1. We will place nodes first for organization A, HR department and user 1 to user 10.
2. Add router and switch then connect them with cable.
3. Add 10 machines named PC 0 to PC 9 and connect all machine to switch.



Assign w/ IP Address to every machine.
CamScanner

5.) we had assigned IP address as

PC 0 - 192.168.1.1 to PC 4 - 192.168.1.4

6) Now there are 2 ways we can verify connection b/w two user.

i) By Pinging Other system IP.

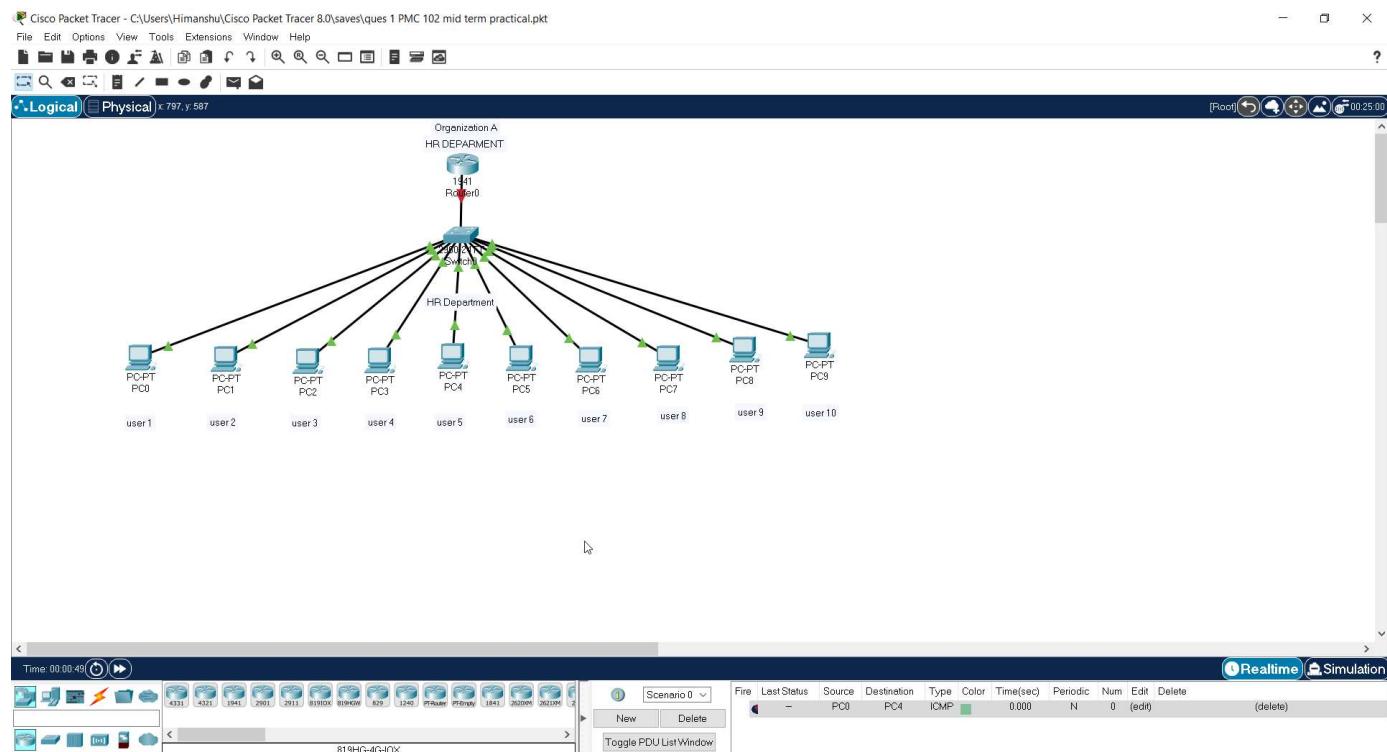
ii) By Sending PDU packet from 1 to other system.

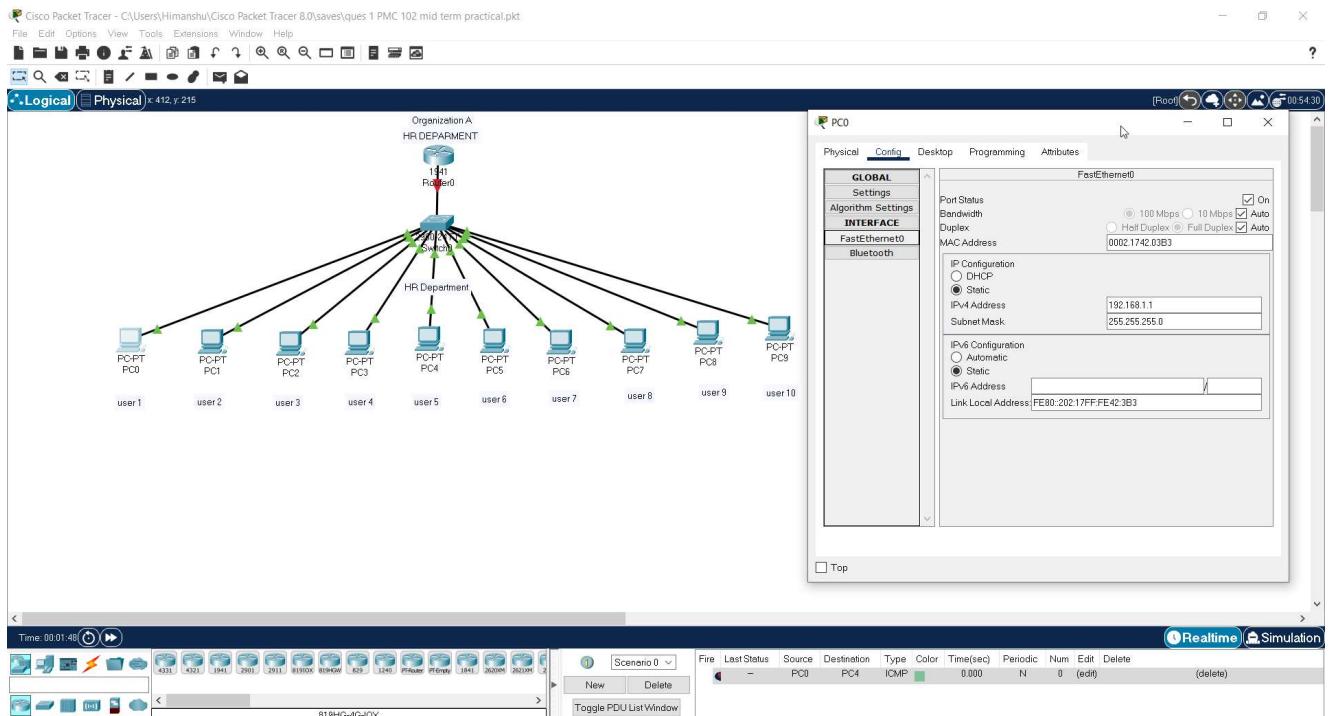
7). We can see that connection is successful and we can communicate b/w User 1 and User 5. of HR department.



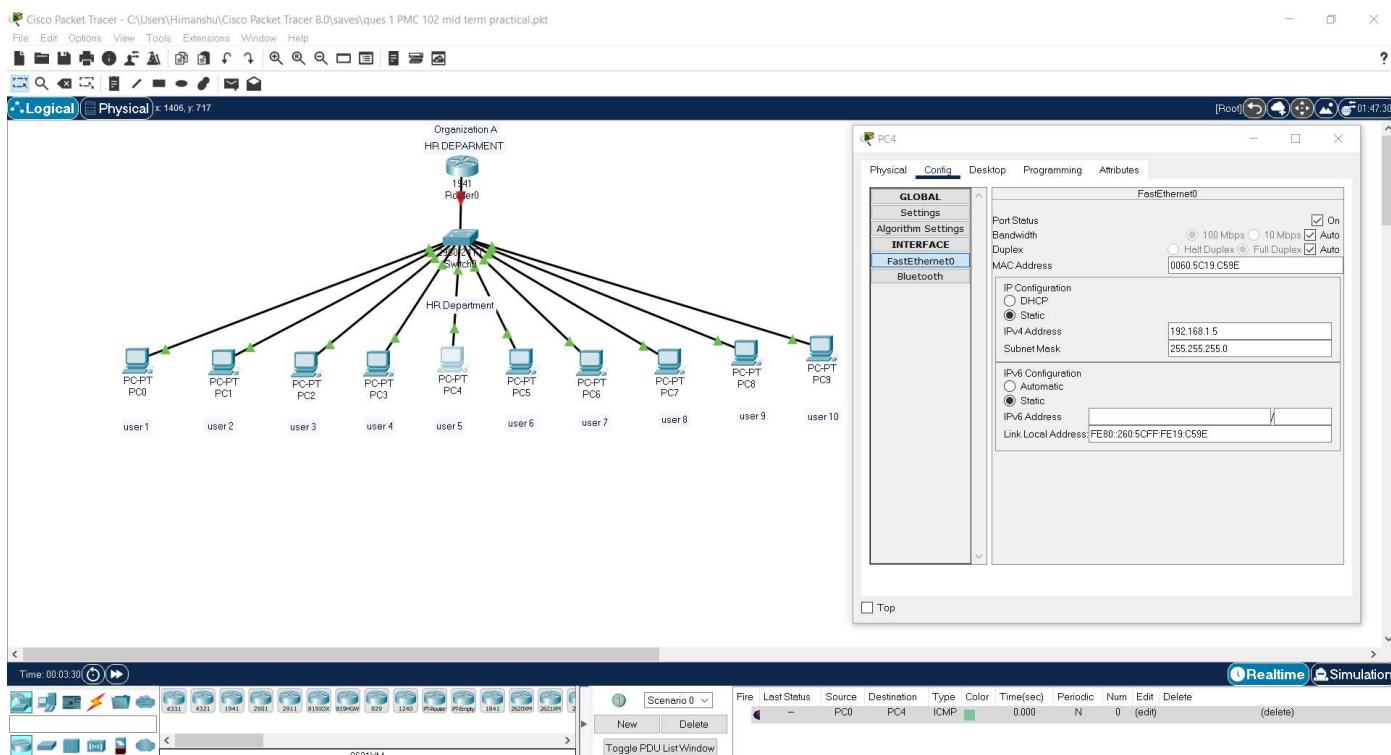
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Output Screenshots from Packet Tracer Q1

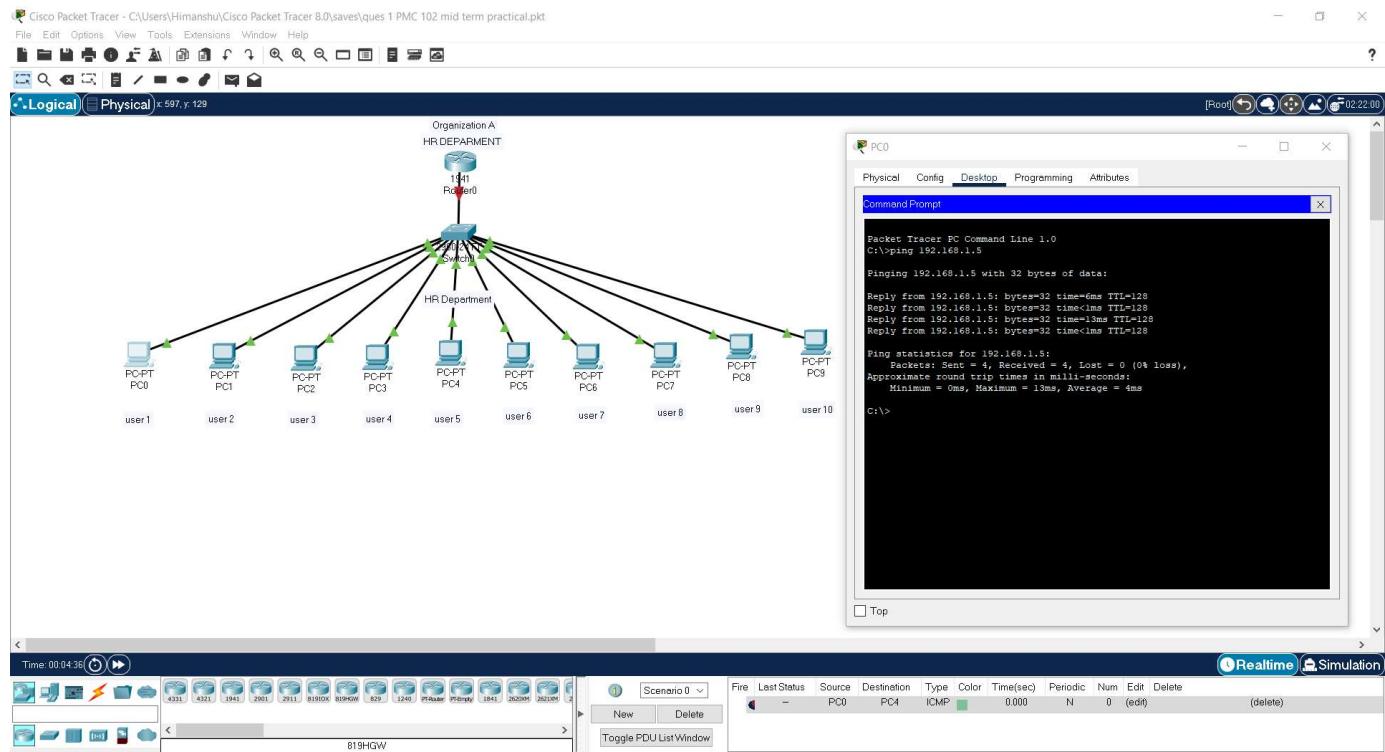




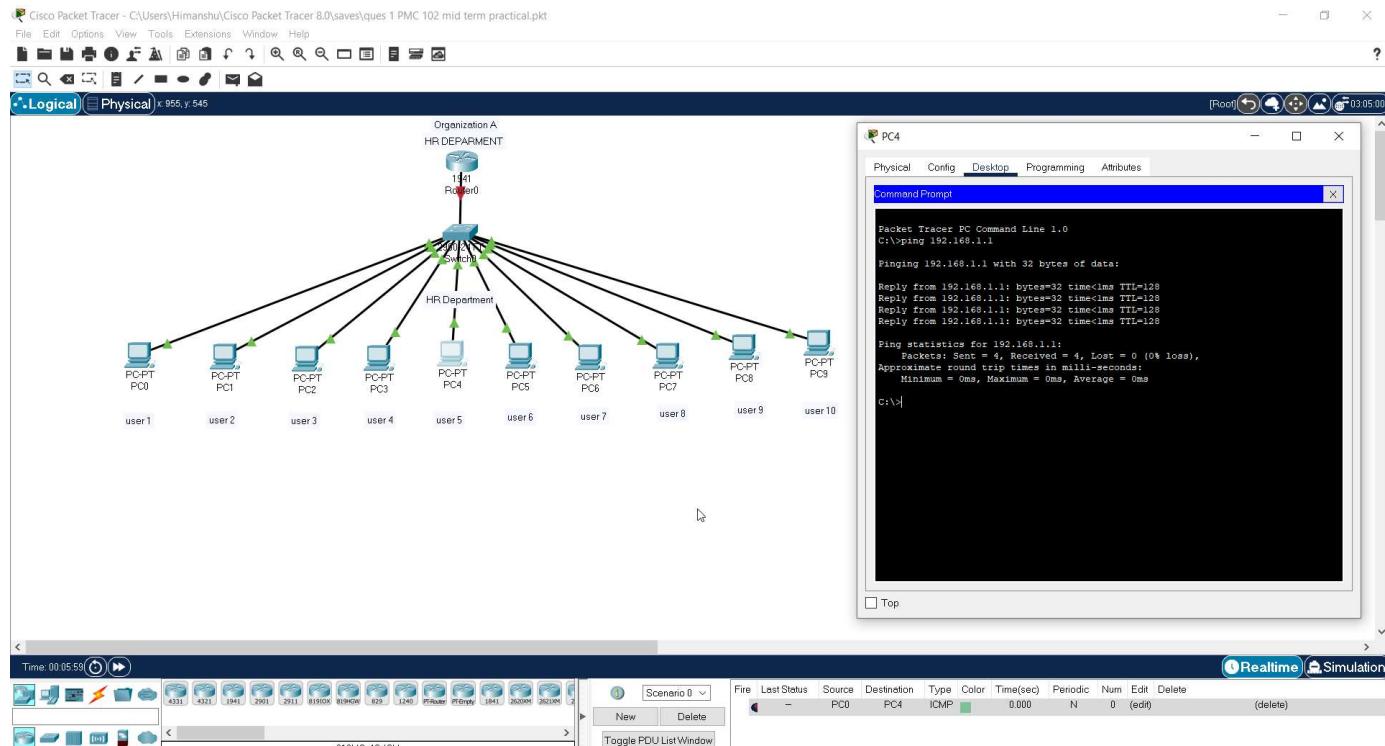
IP assigned to User 1



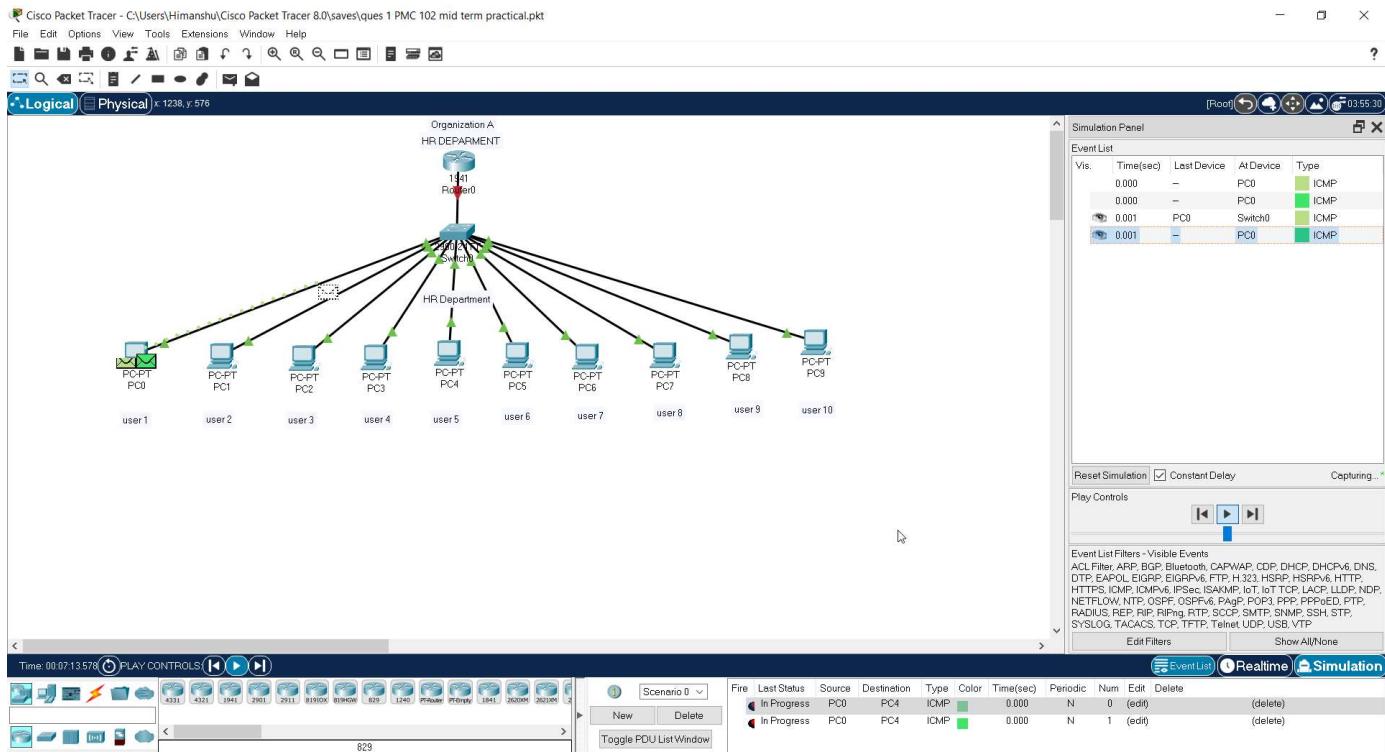
IP Assigned to User 5



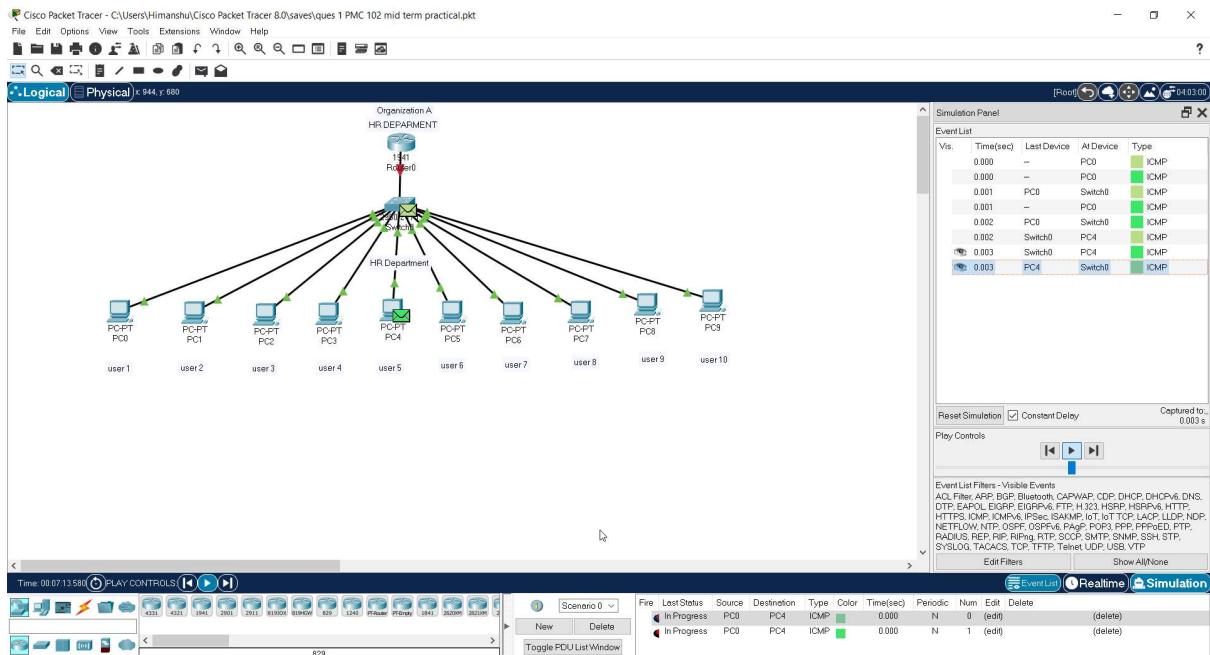
Pinging User 1 to User 5. Successful



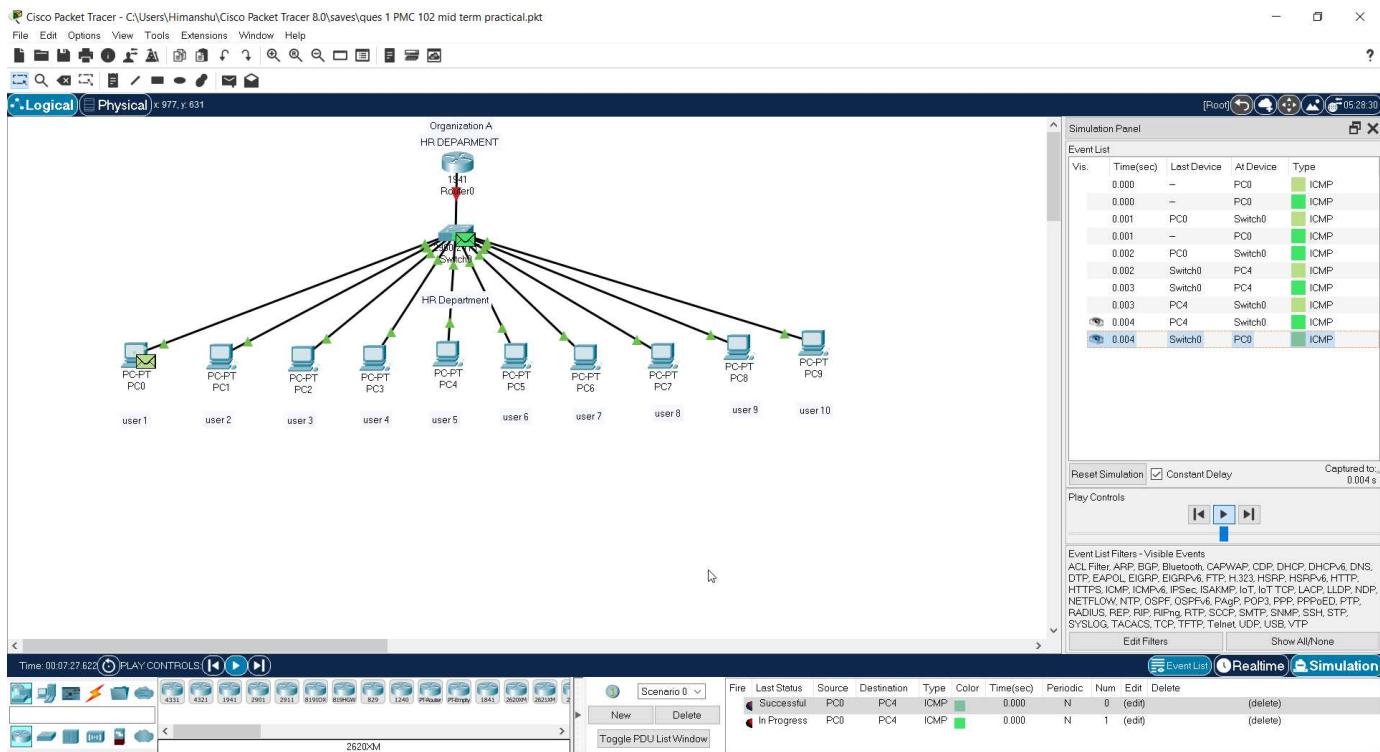
Pinging User 5 to User 1. Successful



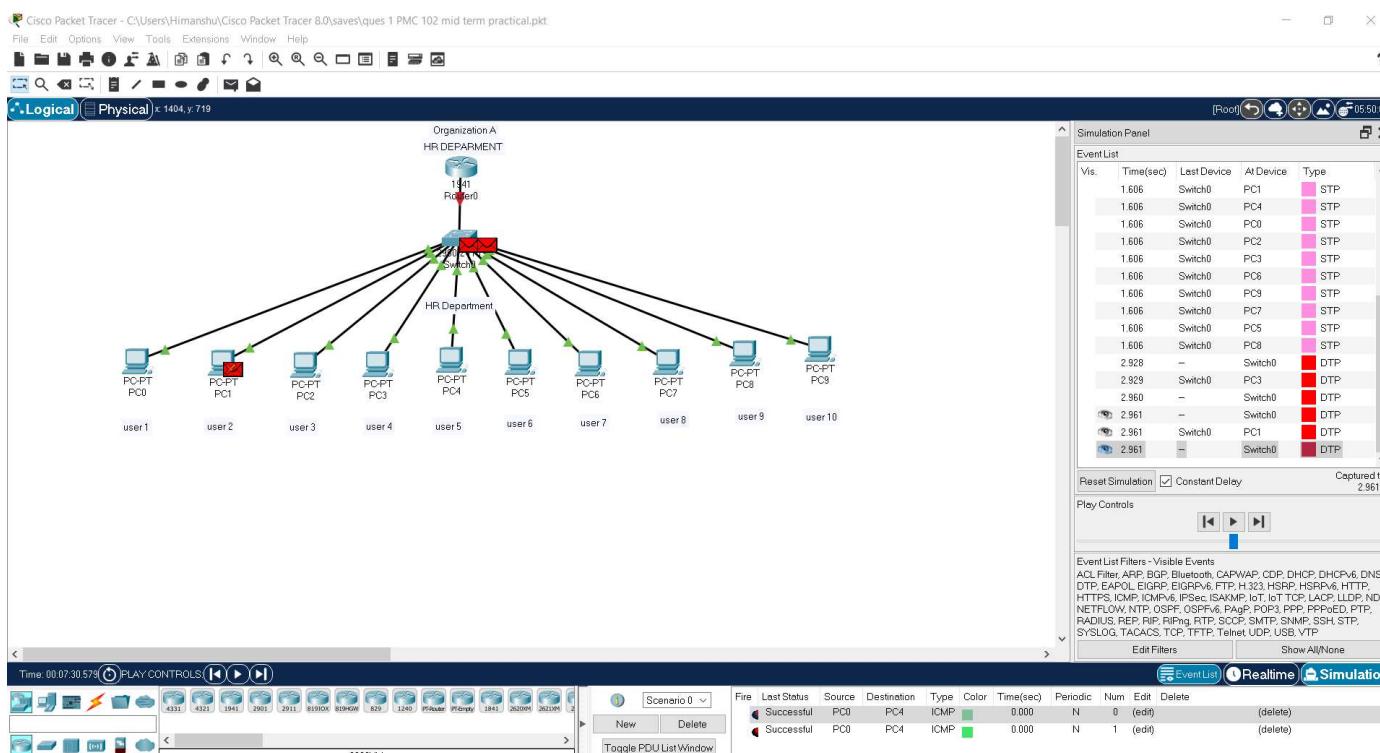
Sending PDU from User 1 to User 5 In simulation Mode



Packet Received by User 5 which was sent from user 1



Packet sent back to user 1 from user 5



Question 2

Ans. 2. Problem statement.

There are two organization in a city named GEU & GENO. design a network b/w SOC department of GEU & GENO. Also show the communication b/w User 1 of GEU & User 2 of GENO.

Objective: we will create a LAN environment in Cisco packet tracer that will connect 2 user of diff. department and connection will be established.

Steps to perform.

i) we will place Notes first:- for

- > Two organization named GEU & GENO.
- > SOC department
- > User 1 and User 2.

ii) we will place two router & 2 switch.

Router 0 , Router 1
switch 0 , switch 1.

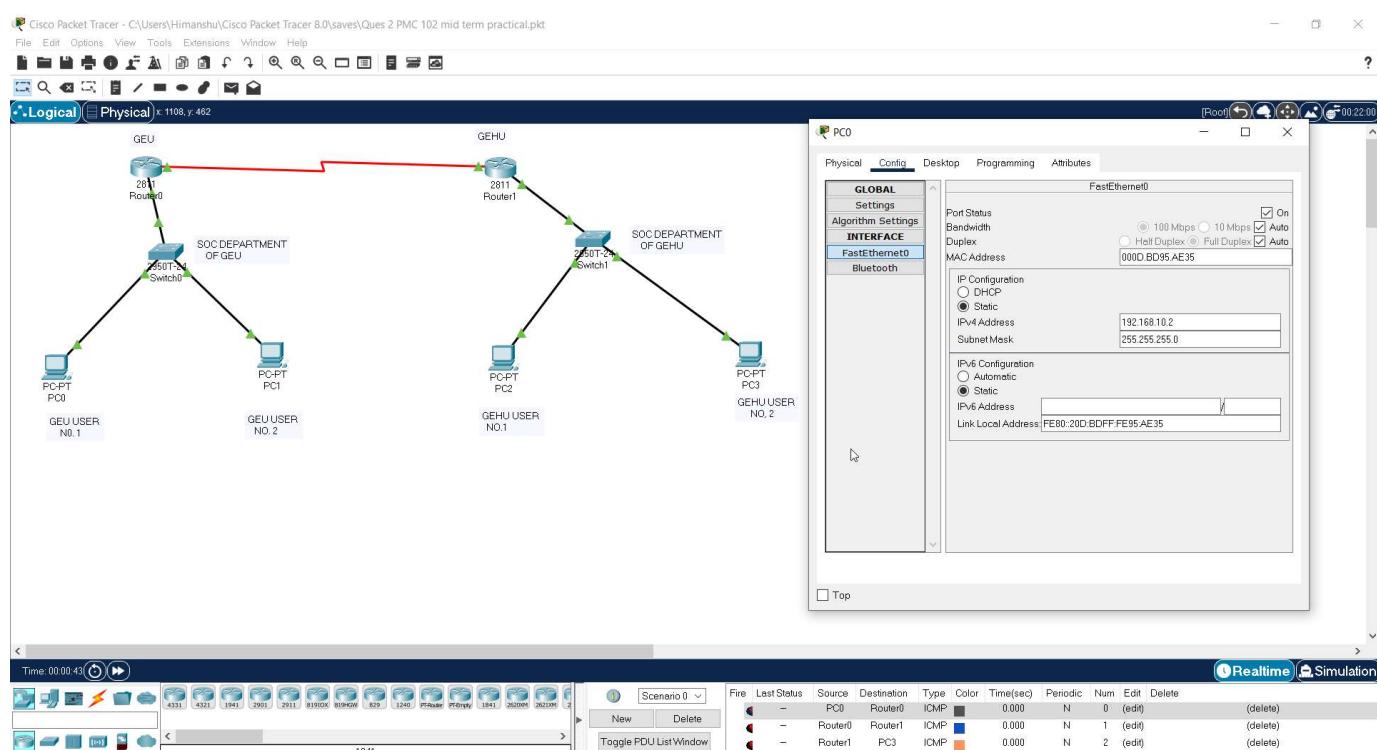
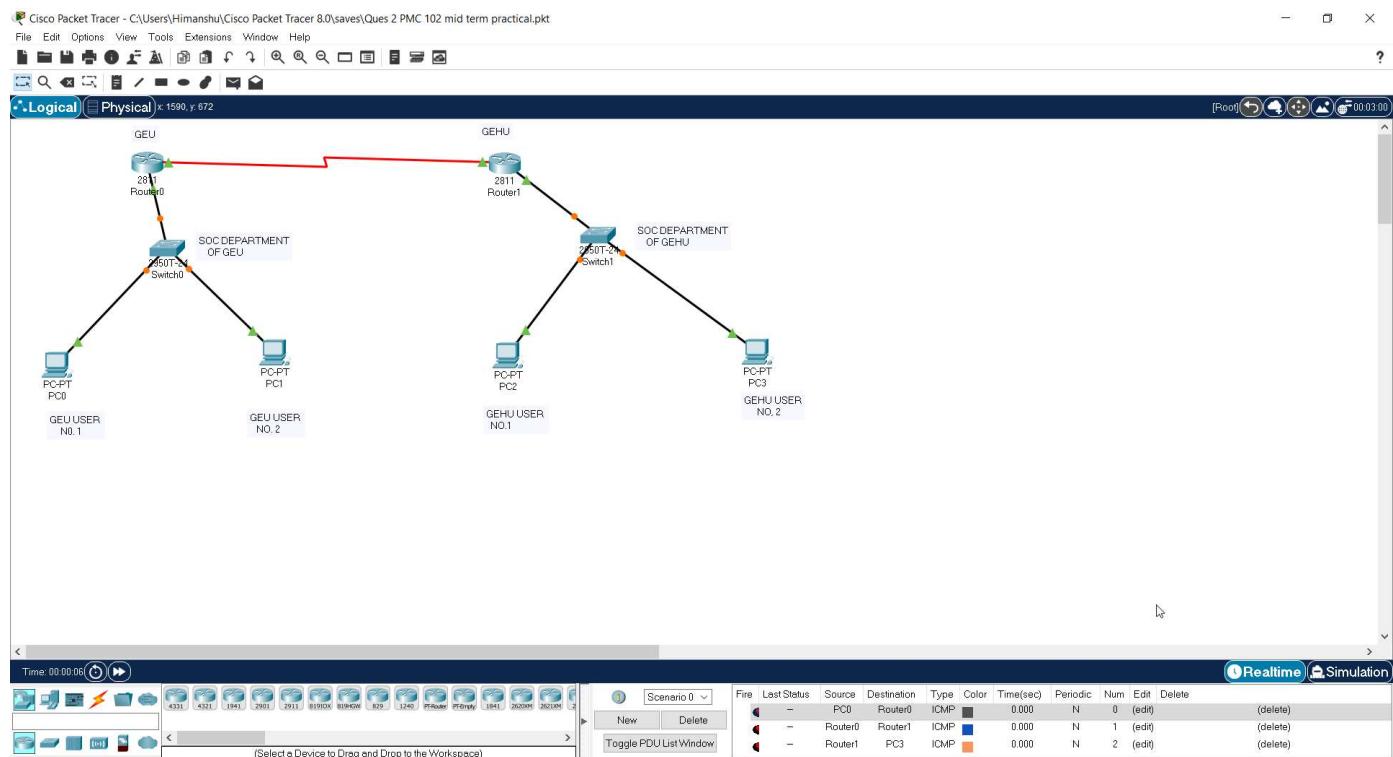


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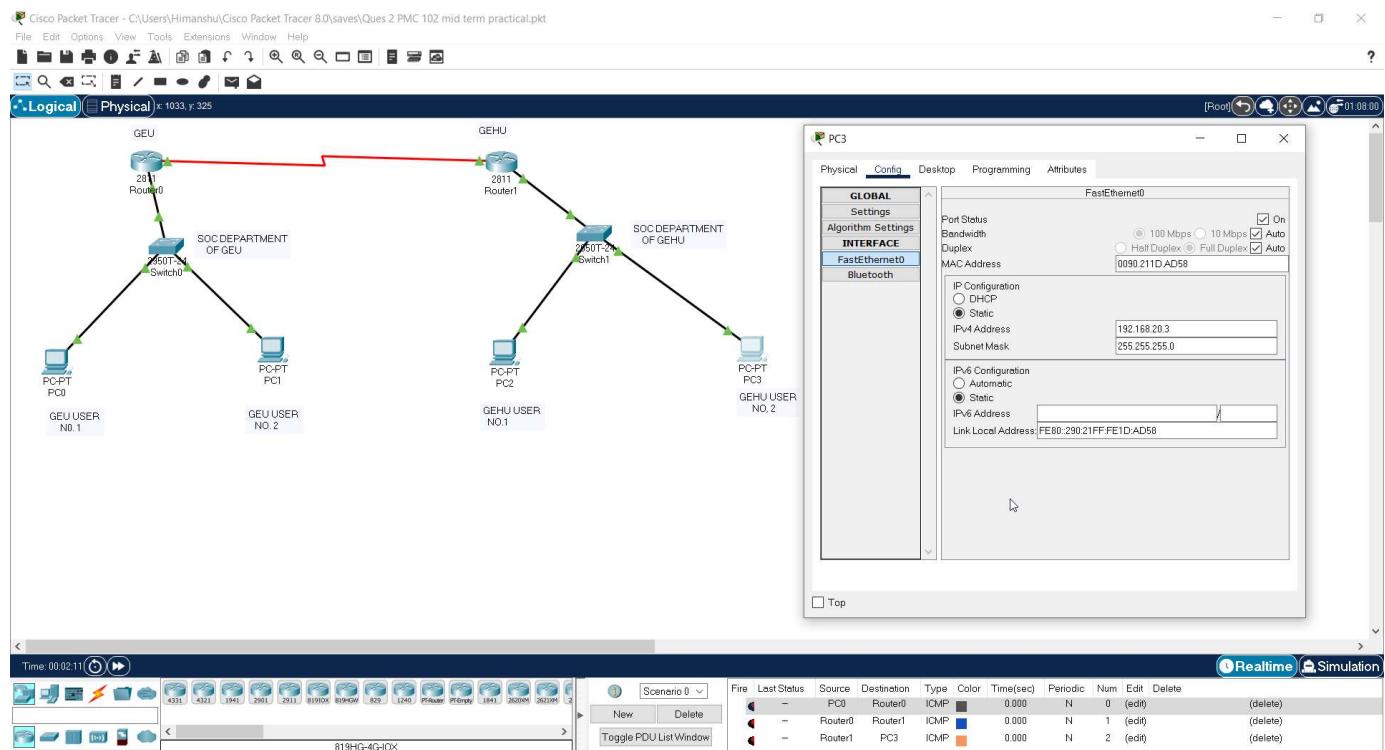
- iii) Connect both router and serial DTE wire.
- iv) Connect switch & router with normal wire.
- v) Add Q system & 2 users in each organization named User no.1 & User no.2.
- vi) Assign IP Address to ~~both~~ all 4 system in both department.
- vii) Now there are two ways to verify communication b/w two user.
 - Pinging user 1's IP from user 2.
 - Sending PDU packet from user 1 to user 2.
- viii). We can now see User 1 and user 2 connected.



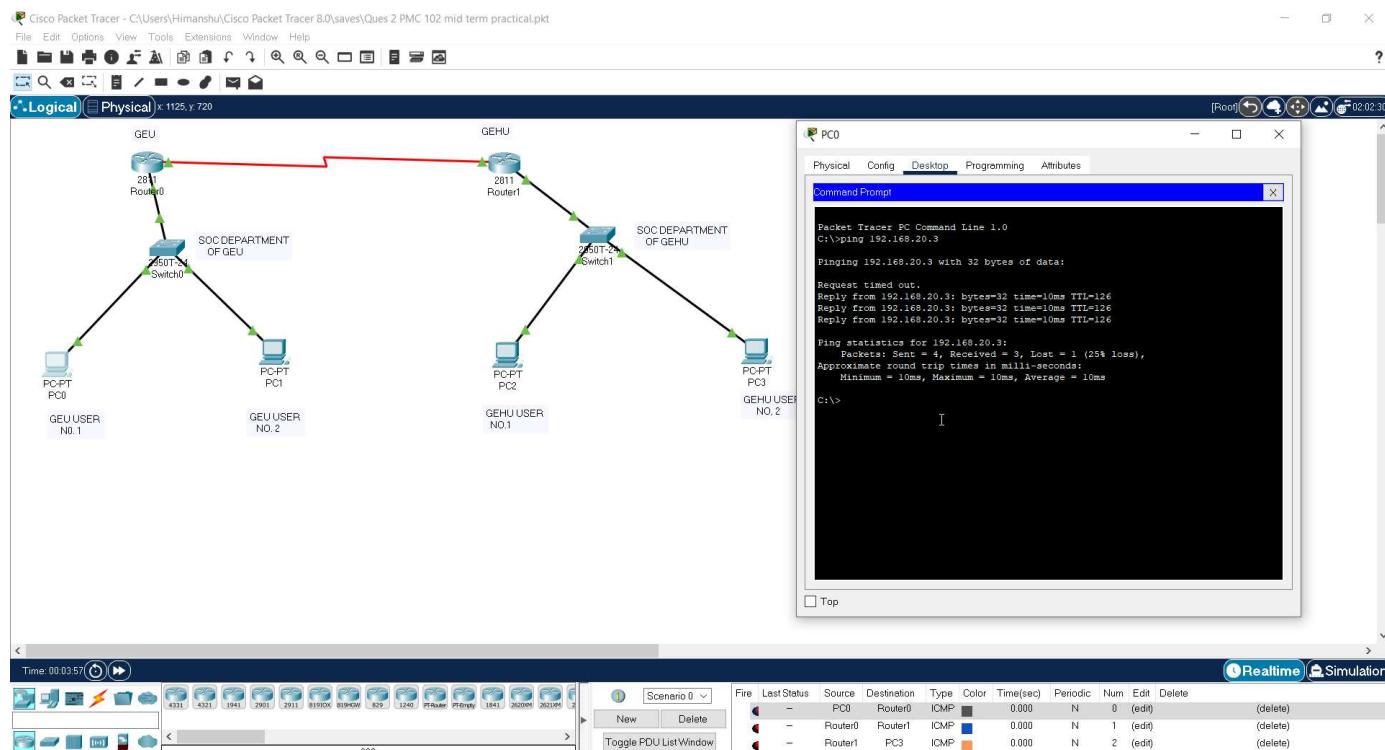
Output Screenshots from Packet Tracer Q2



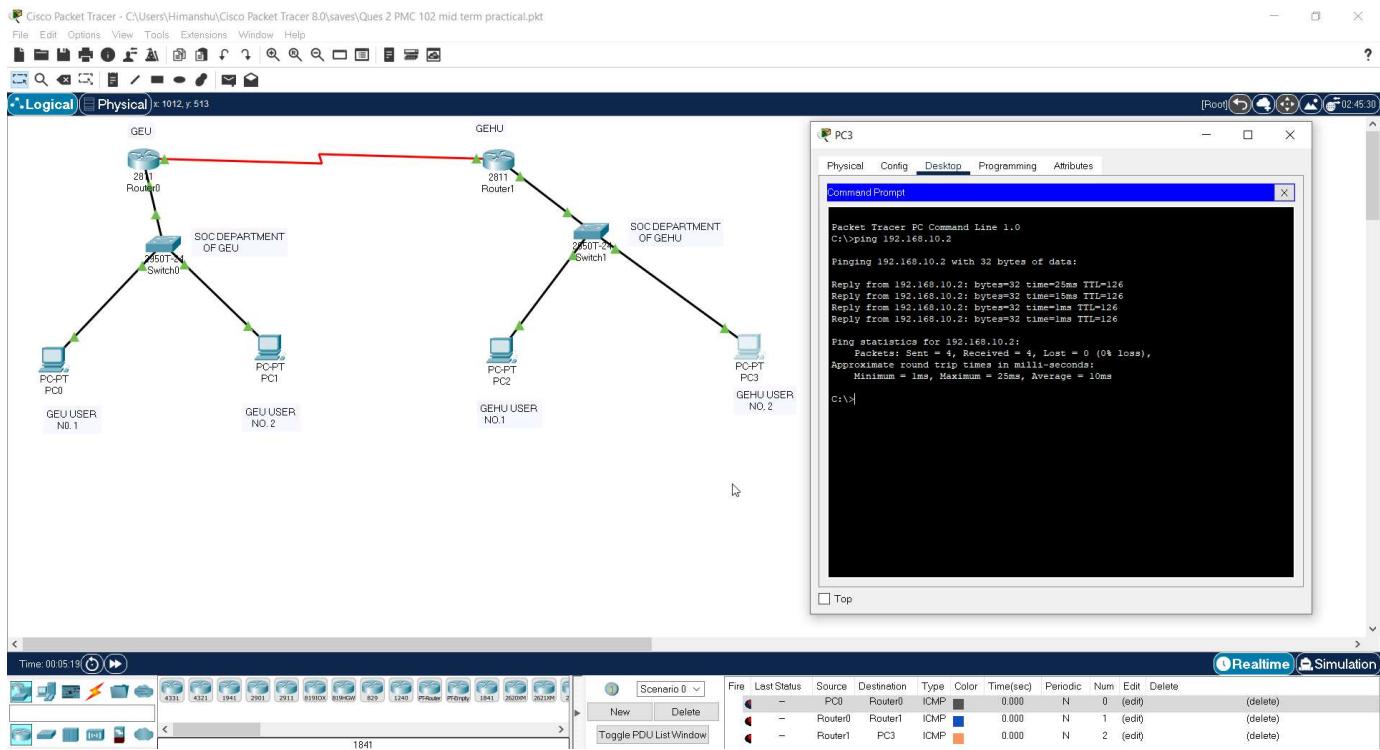
IP assigned to User 1 of GEU. 192.168.10.2



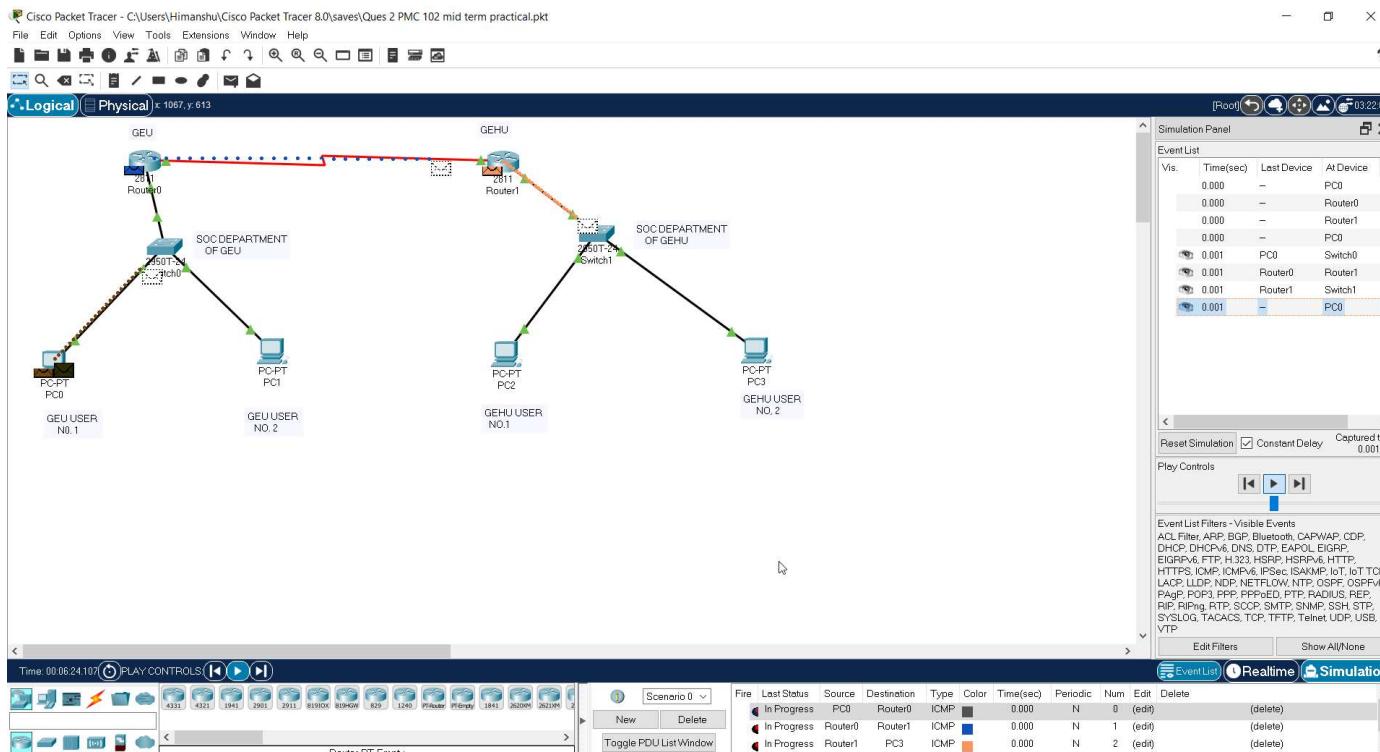
IP assigned to User 2 of GEHU. 192.168.20.3



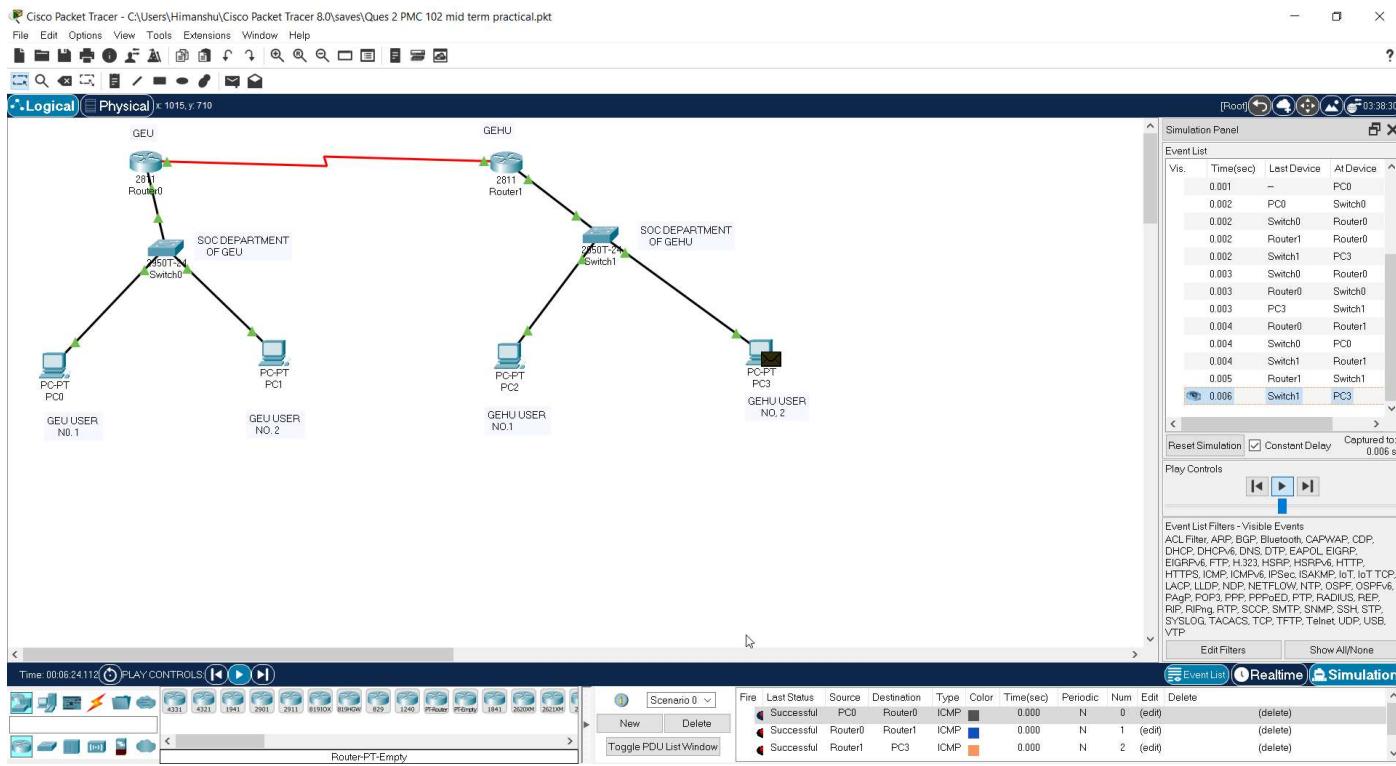
Pinging User 2 of Gehu from User 1 of GEU



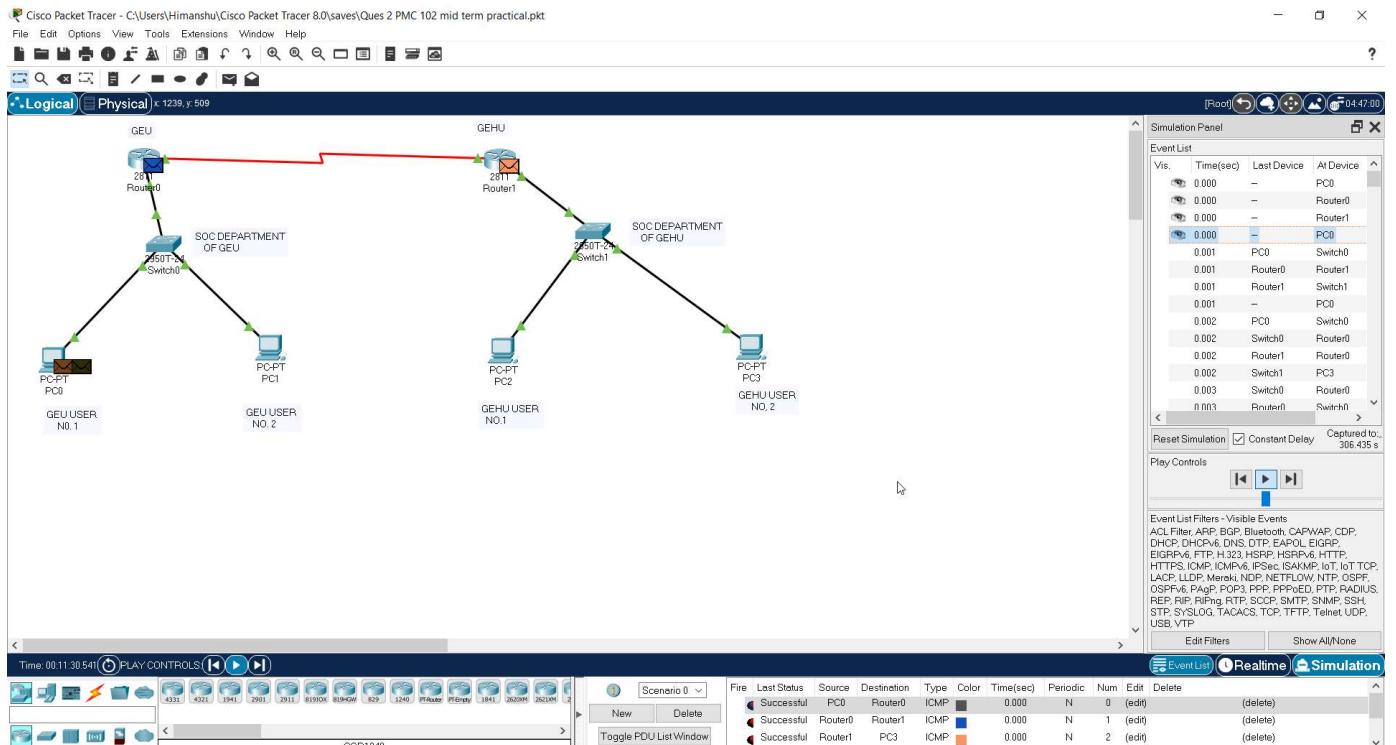
Pinging user 1 of Geu from user 2 of GEHU



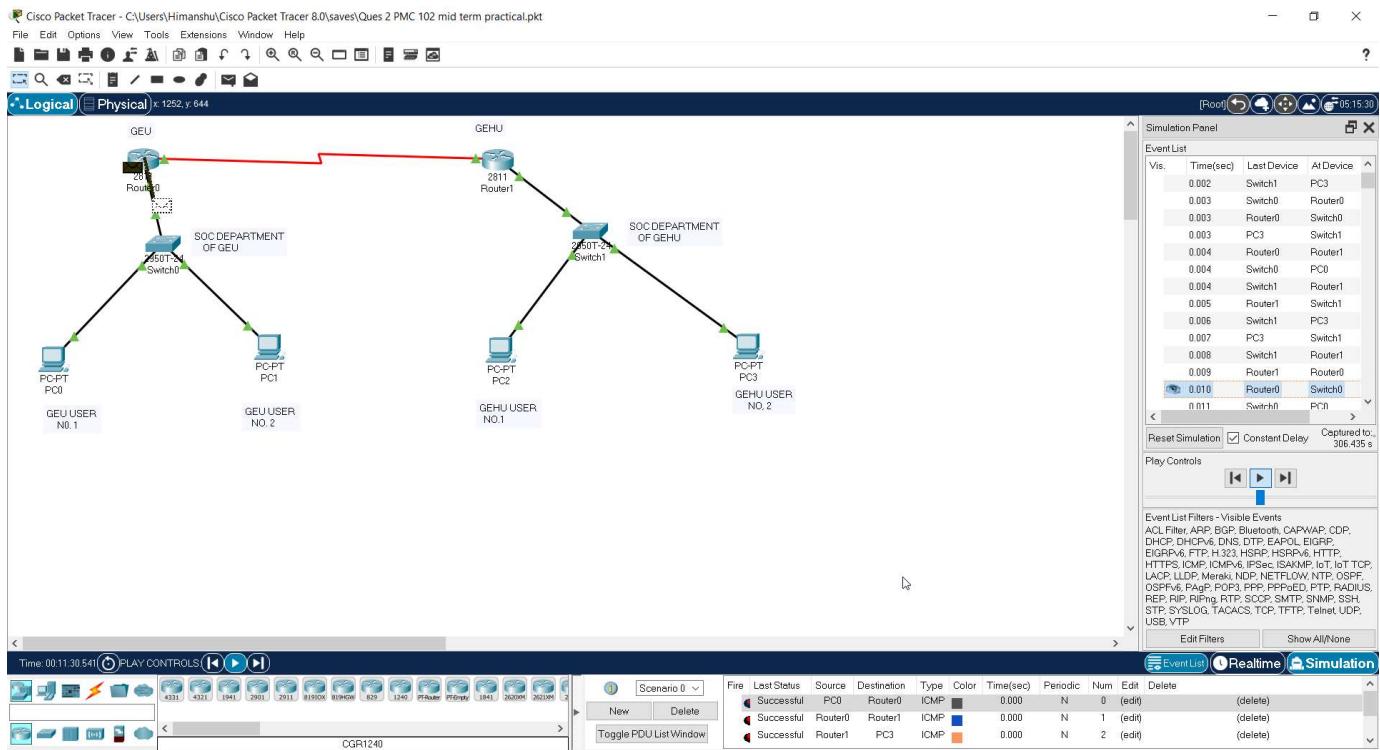
PDU being sent to User 2 of GEHU from User 1 of GEU



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.