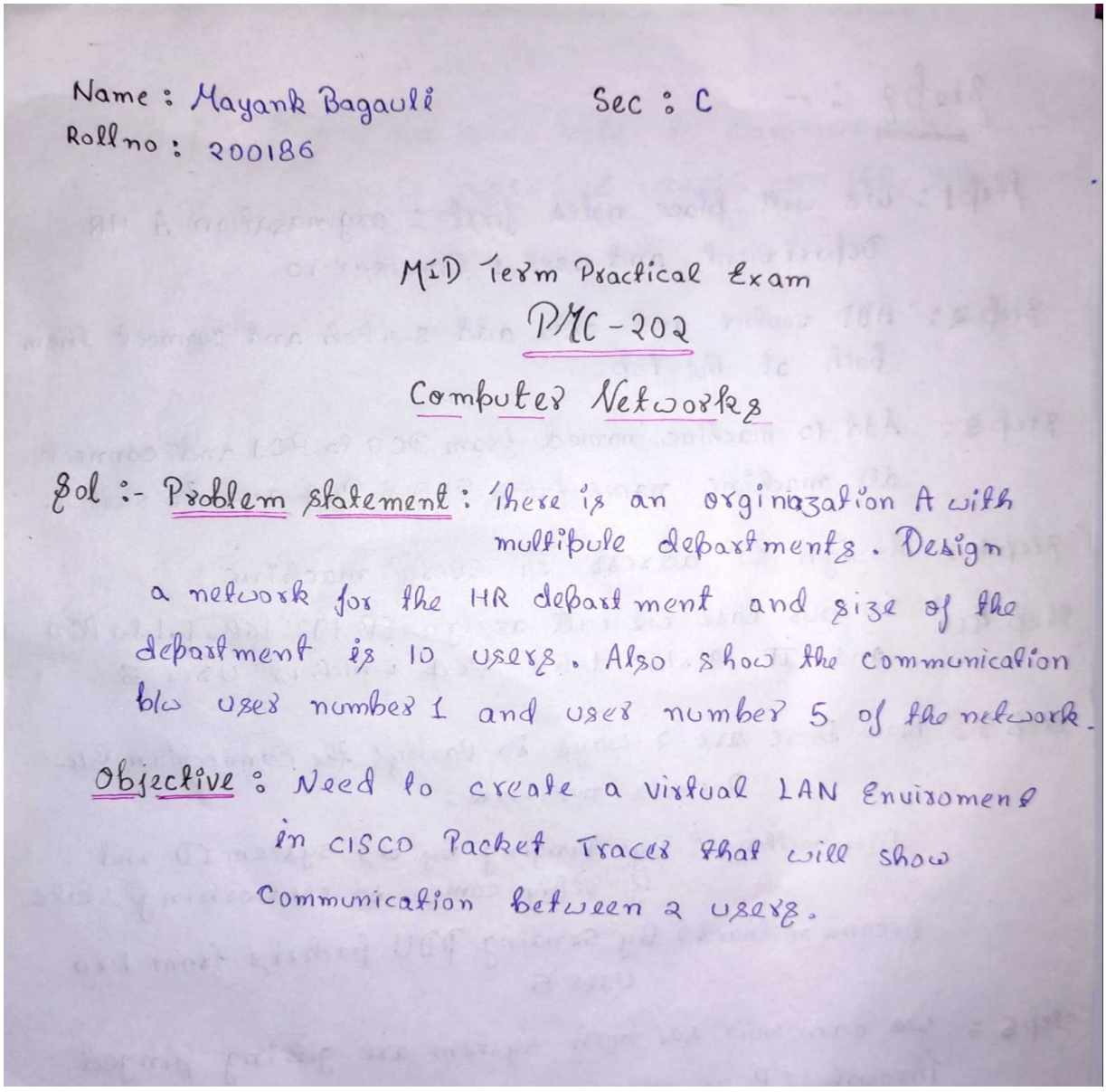
NAME – MAYANK BAGAULI ROLL_NO. -200186

SOL 1 : 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.



Name : Mayank Bagauli Sec : C
Rollno : 200186

Mid Term Practical Exam

PMC-202

Computer Networks

Sol :- Problem statement : There is an orginazation A with multipule departments. Design a network for the HR departments and size of the department is 10 users. Also show the communication blw users number 1 and user number 5 of the network.

Objective : Need to create a virtual LAN Enviroment in CISCO Packet Tracer that will show Communication between 2 users.

Steps :-

Step 1 : we will place notes first : orginazation A HR Deparstment and user 1 to user 10

Step 2 : ADD router and also add switch and connect them both at the top.

Step 3 : Add 10 machine named from PC0 to PC9 and connect all machine ~~name from PC0 & PC9 and~~ to switch.

Step 4 : Assign IP adress to every machine.

Step 4(a) : In our case we will assign IP 192.168.1.1 to PC0 and IP 192.168.1.5 to PC4 which is User 5

Step 5 : Now there are 2 ways to varify the connection blw 2 users network.

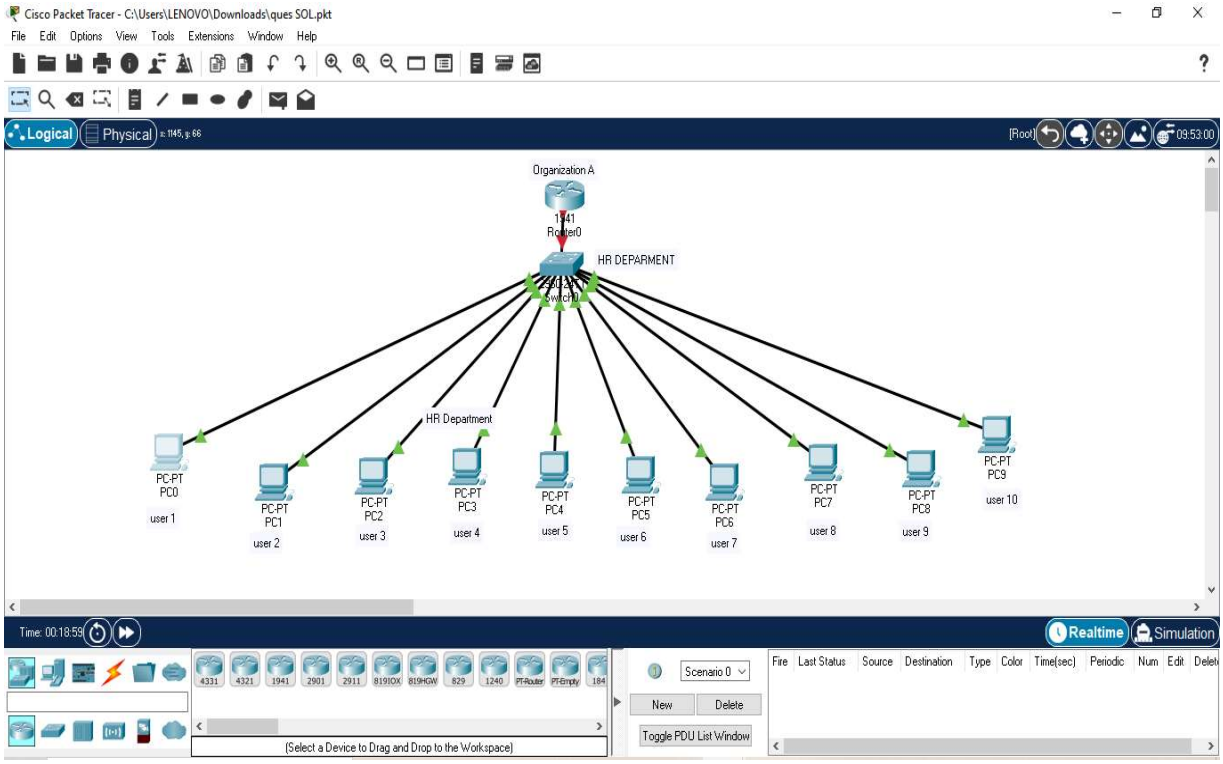
First method : By Pinging by its system ID and if reply comes so its working state.

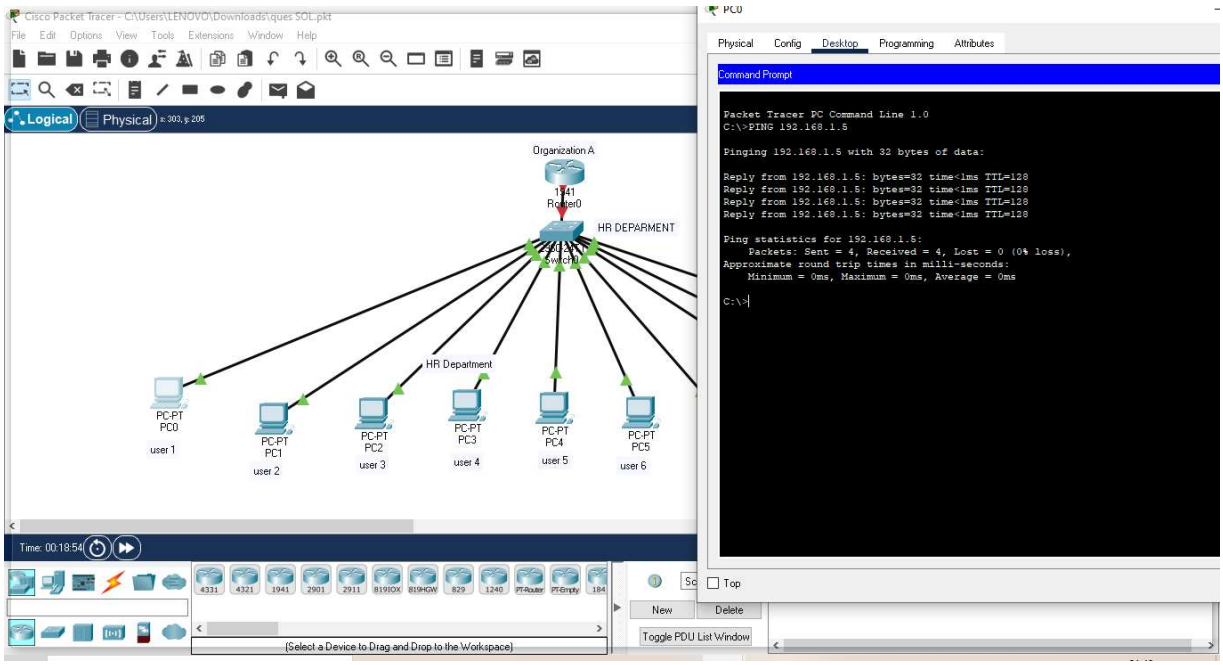
Second method : By Sending PDU packets from 1 to User 5

Step 6 : we can now see both system are getting pinged through IP or other system and we also seeing sent to both system.

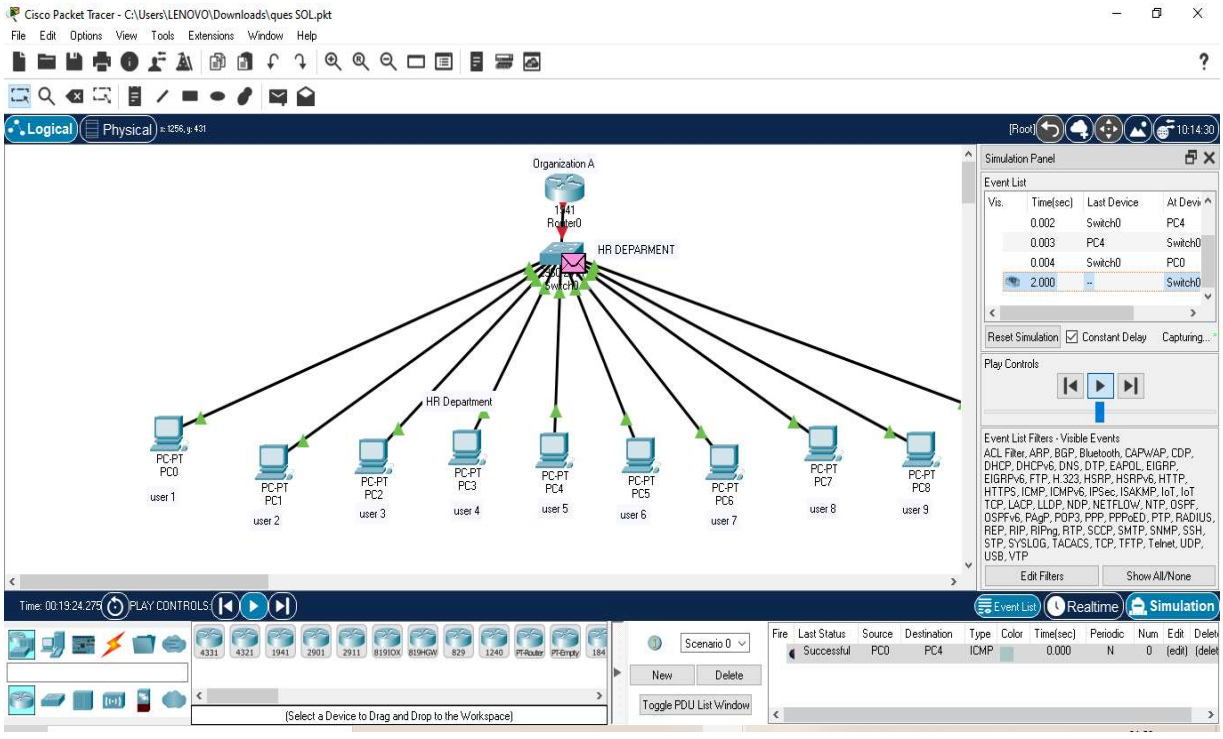
Step 7: Hence we are able to communicate b/w 2 users user 1 & user 5 on HR Department.

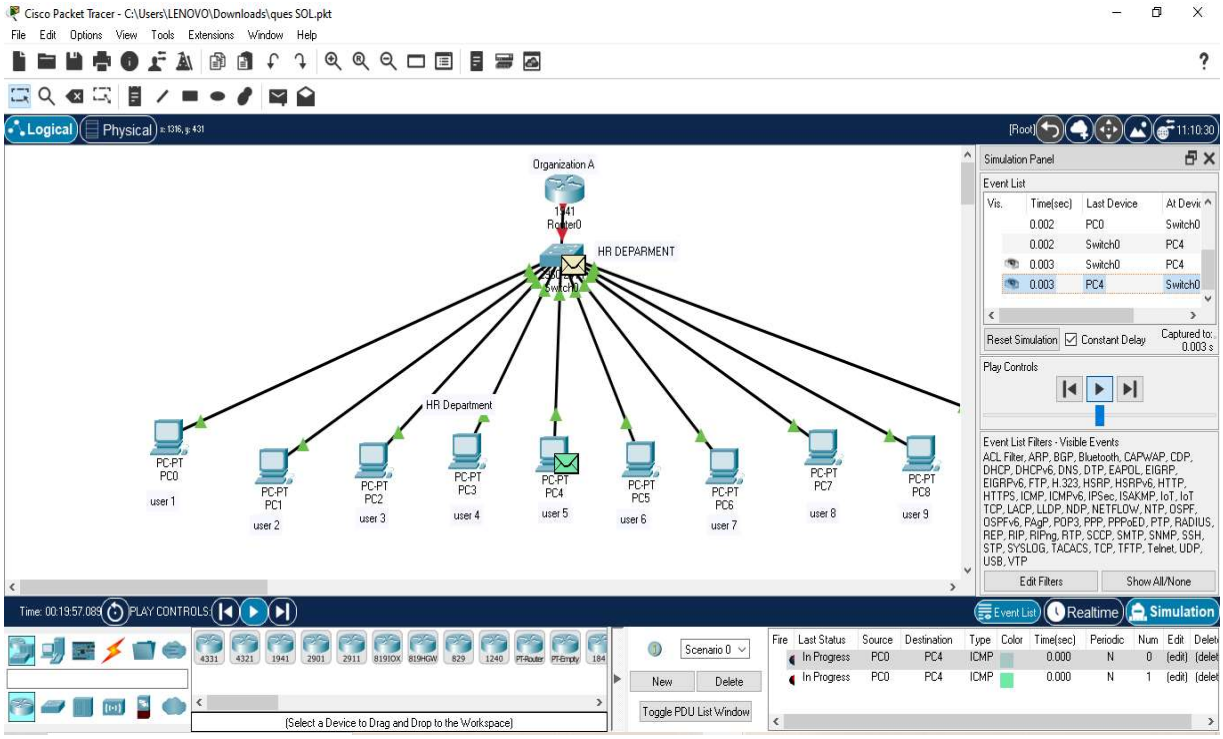
OUTPUT SS FROM CISCO PACKET TRACER Q1:

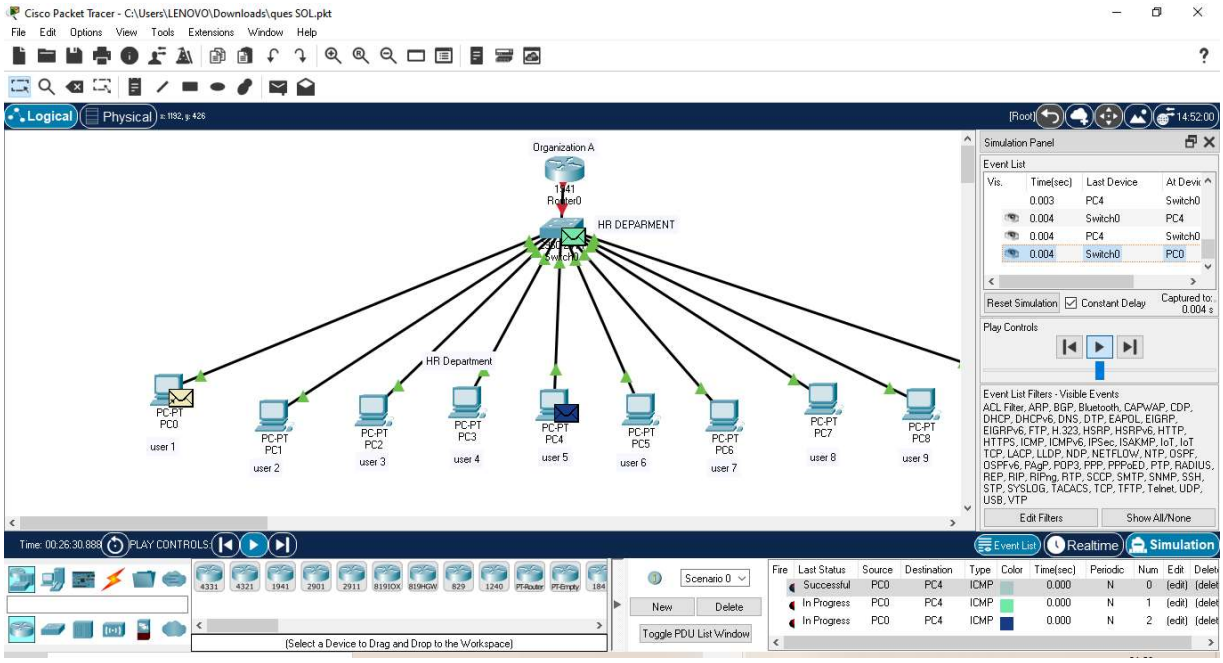


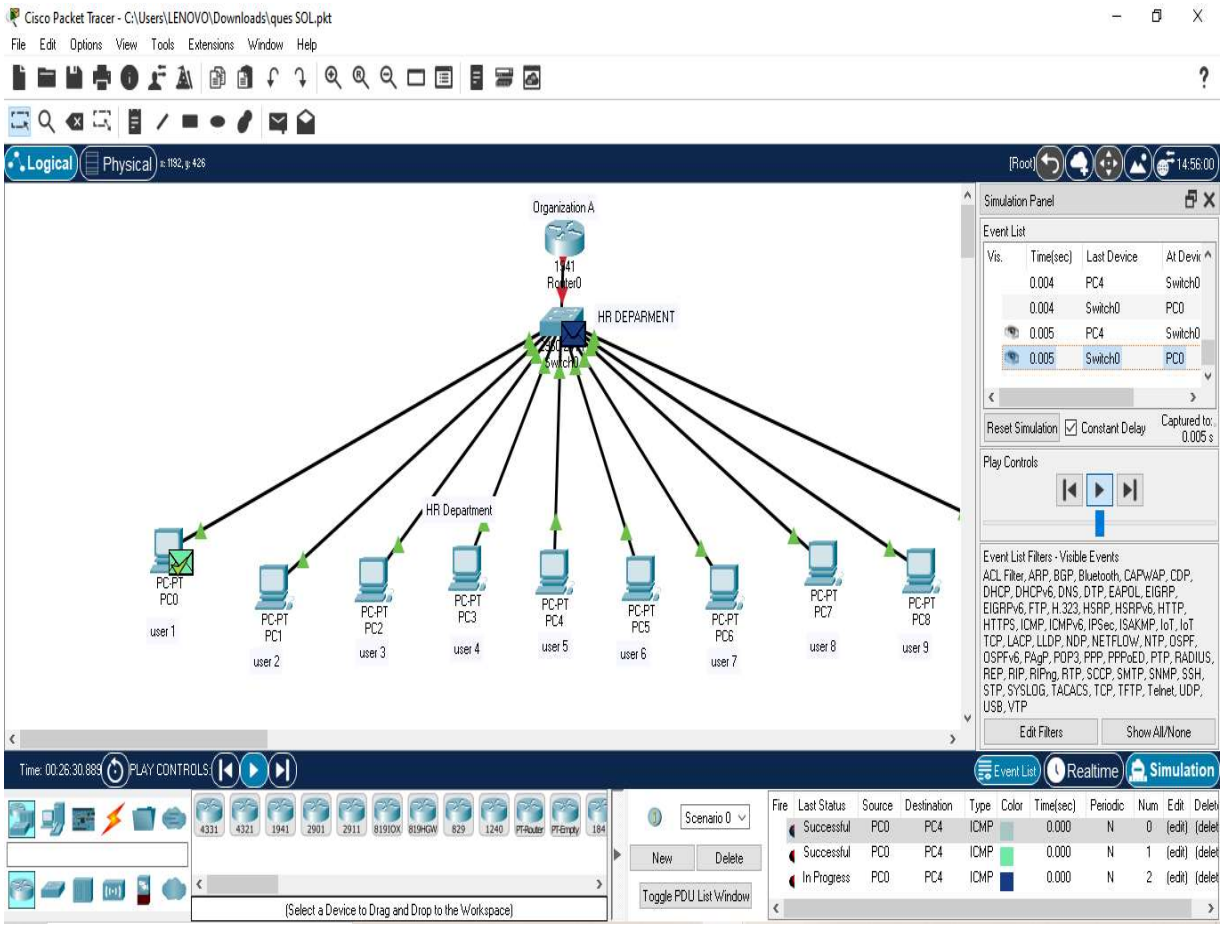


ON SAMULATION :

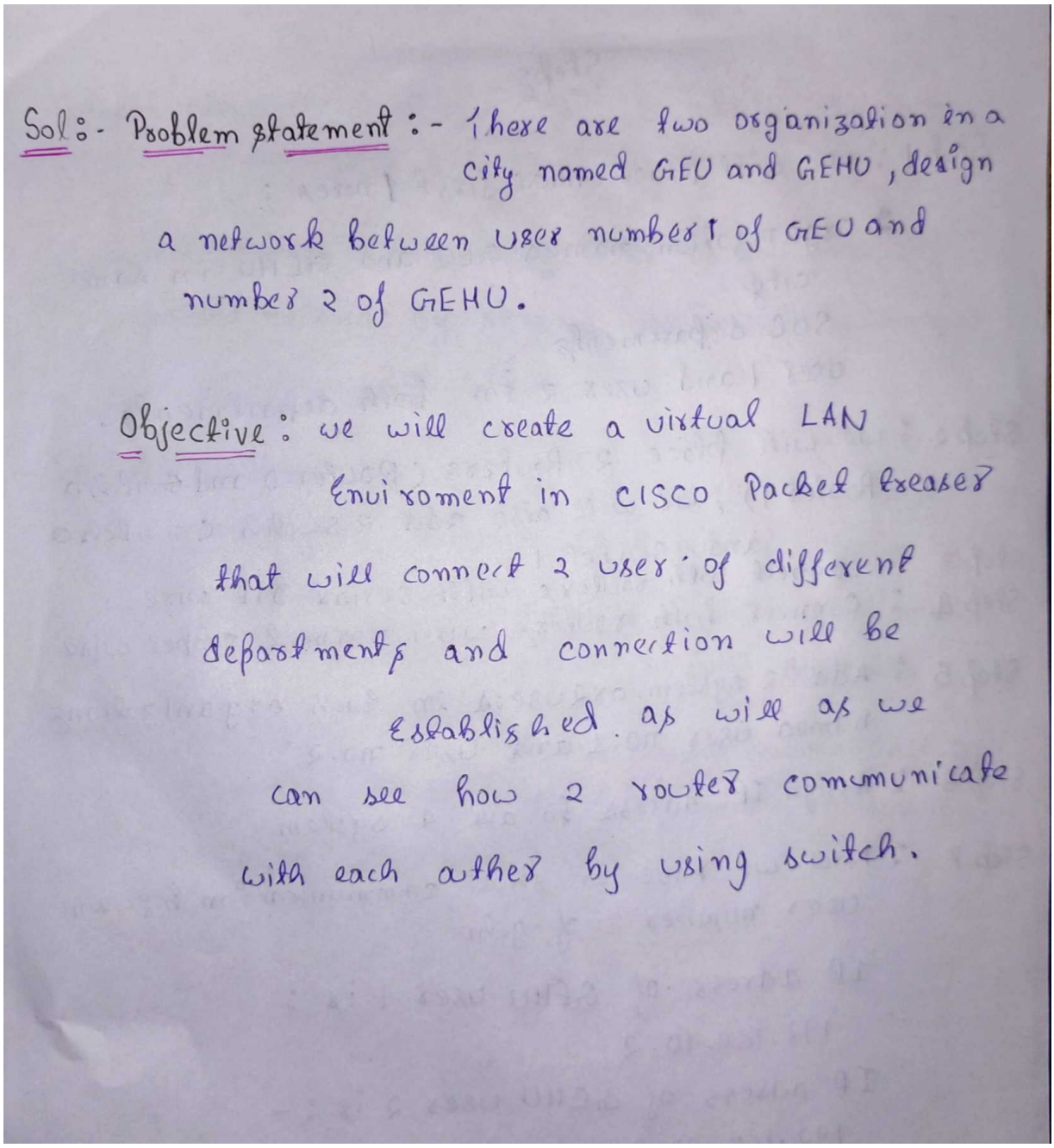



Cisco Packet Tracer - C:\Users\LENOVO\Downloads\ques SOL.pkt
File Edit Options View Tools Extensions Window Help
Logical
Physical
Organization A
1941 Router0
HR DEPARMENT
2960-24TT Switch0
HR Department
PC-PT PC0
user 1
PC-PT PC1
user 2
PC-PT PC2
user 3
PC-PT PC3
user 4
PC-PT PC4
user 5
PC-PT PC5
user 6
PC-PT PC6
user 7
PC-PT PC7
user 8
PC-PT PC8
user 9
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devic
0.002 PC0 Switch0
0.002 Switch0 PC4
0.003 Switch0 PC4
0.003 PC4 Switch0
Reset Simulation
Constant Delay
Captured to: 0.003 s
Play Controls
Event List Filters - Visible Events
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP
Edit Filters
Show All/None
Time: 00:19:57.089
PLAY CONTROLS:
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
(Select a Device to Drag and Drop to the Workspace)
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delet
In Progress PC0 PC4 ICMP 0.000 N 0 (edit) (delet
In Progress PC0 PC4 ICMP 0.000 N 1 (edit) (delet


Cisco Packet Tracer - C:\Users\LENOVO\Downloads\ques SOL.pkt
File Edit Options View Tools Extensions Window Help
Logical
Physical
Organization A
1941 Router0
HR DEPARMENT
2960-24TT Switch0
HR Department
PC-PT PC0
user 1
PC-PT PC1
user 2
PC-PT PC2
user 3
PC-PT PC3
user 4
PC-PT PC4
user 5
PC-PT PC5
user 6
PC-PT PC6
user 7
PC-PT PC7
user 8
PC-PT PC8
user 9
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devic
0.003 PC4 Switch0
0.004 Switch0 PC4
0.004 PC4 Switch0
0.004 Switch0 PC0
Reset Simulation
Constant Delay
Captured to: 0.004 s
Play Controls
Event List Filters - Visible Events
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP
Edit Filters
Show All/None
Time: 00:26:30.889
PLAY CONTROLS:
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
(Select a Device to Drag and Drop to the Workspace)
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delet
Successful PC0 PC4 ICMP 0.000 N 0 (edit) (delet
In Progress PC0 PC4 ICMP 0.000 N 1 (edit) (delet
In Progress PC0 PC4 ICMP 0.000 N 2 (edit) (delet


Cisco Packet Tracer - C:\Users\LENOVO\Downloads\ques SOL.pkt
File Edit Options View Tools Extensions Window Help
Logical
Physical
Organization A
1941
Router0
HR DEPARMENT
2950-24
Switch0
HR Department
PC-PT
PC0
user 1
PC-PT
PC1
user 2
PC-PT
PC2
user 3
PC-PT
PC3
user 4
PC-PT
PC4
user 5
PC-PT
PC5
user 6
PC-PT
PC6
user 7
PC-PT
PC7
user 8
PC-PT
PC8
user 9
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devic
0.004 PC4 Switch0
0.004 Switch0 PC0
0.005 PC4 Switch0
0.005 Switch0 PC0
Reset Simulation
Constant Delay
Captured to:
0.005 s
Play Controls
Event List Filters - Visible Events
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP
Edit Filters
Show All/None
Time: 00:26:30.889
PLAY CONTROLS:
Event List
Realtime
Simulation
4331 4321 1941 2901 2911 819IOX 819HGW 829 1240 PT-Router PT-Empty
(Select a Device to Drag and Drop to the Workspace)
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delet
Successful PC0 PC4 ICMP 0.000 N 0 (edit) (delet
Successful PC0 PC4 ICMP 0.000 N 1 (edit) (delet
In Progress PC0 PC4 ICMP 0.000 N 2 (edit) (delet

SOL 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.



Sol:- Problem statement :- There are two organization in a city named GEU and GEHU, design a network between user number 1 of GEU and number 2 of GEHU.

Objective: we will create a virtual LAN Enviroment in CISCO Packet tracer that will connect 2 user of different departments and connection will be established. as will as we can see how 2 router communicate with each other by using switch.

Steps

Step 1 : we will place node first 1 notes :

2 Organization named GEU and GEHU in same city

SOC departments

user 1 and user 2 in both departments.

Step 2 : we will place 2 Routers (ROUter 0 and ~~switch 0~~ Router 1), we will also add 2 switch (switch 0 and Switch 1)

Step 3 : Connect both routers with serial DTE wire

Step 4 : Connect both routers with normal copper wire

Step 5 : Add 2 system or 2 users in each organizations named user no. 1 and user no. 2

Step 6 : Assign IP adress to all 4 system

Step 7 : Now we have to show communication between user number 2 of gehu

IP adress of GEHU user 1 is :

192.168.10.2

IP adress of GEHU user 2 is :-

192.168.20.3

Step 8 : Now their are 2 ways to varify the connection b/w 2 users in network.

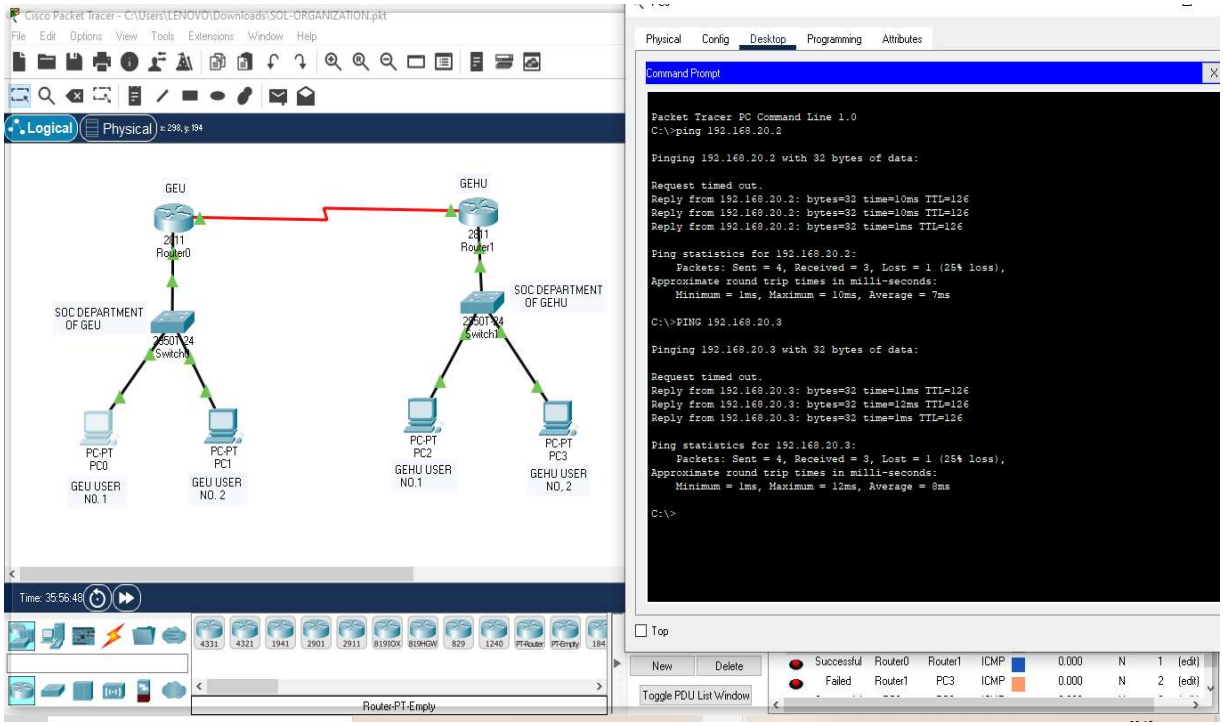
First method : By Pinging user by its system IP

Second method : By sending PDU packets from user 2 of GEHU.

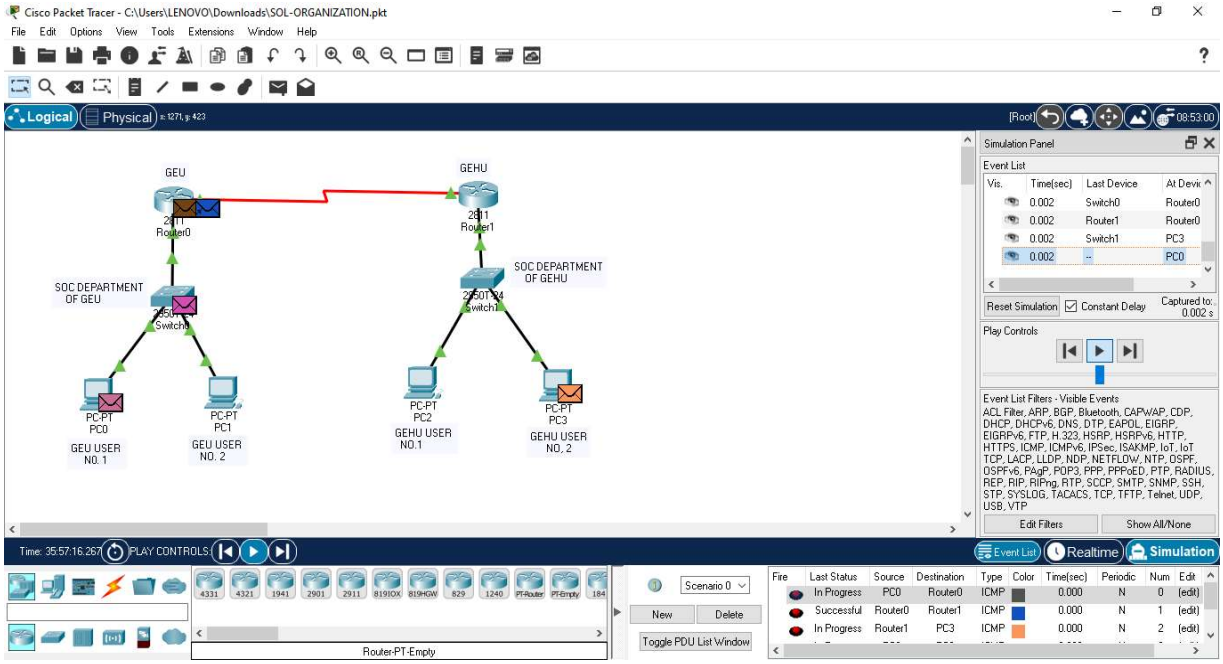
Step 9 : we can ~~see~~ now see both system are getting pinging through IP of outher system and we are also sending PDU packet and it is also being sent to both systems.

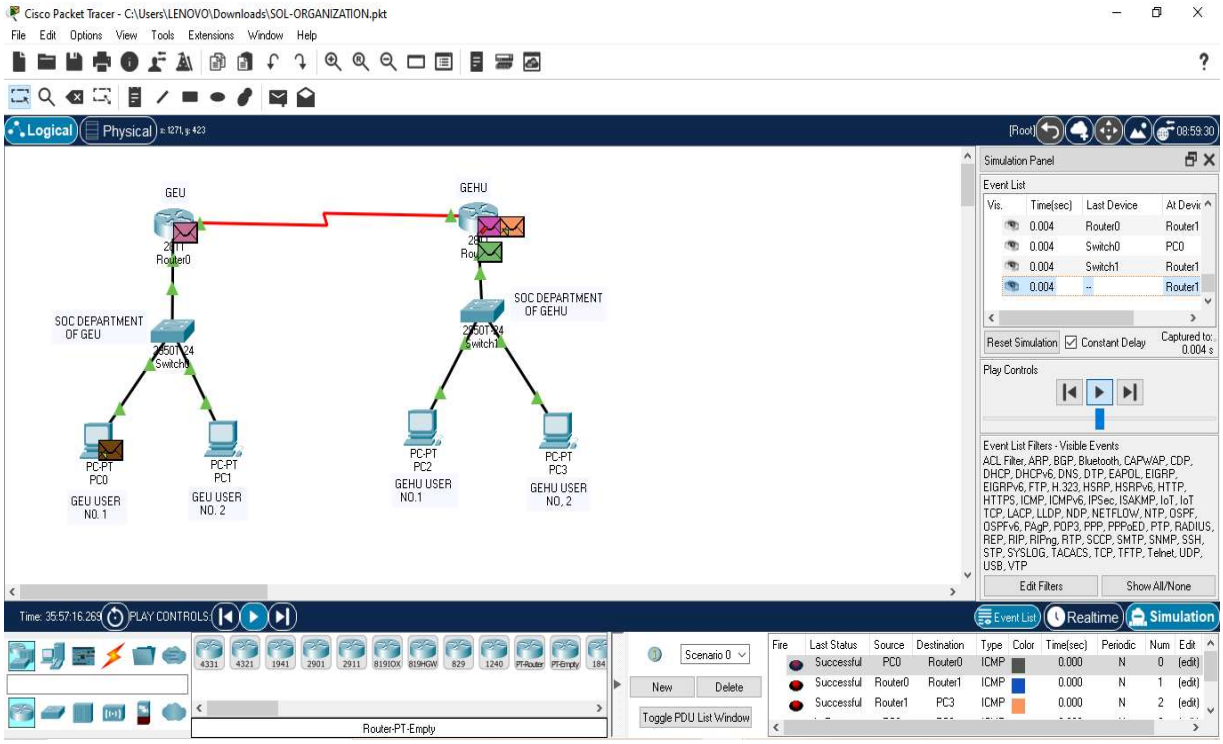
Step 10 : Hence we are able to communicate b/w 2 user of 2 different department in same orgianization.

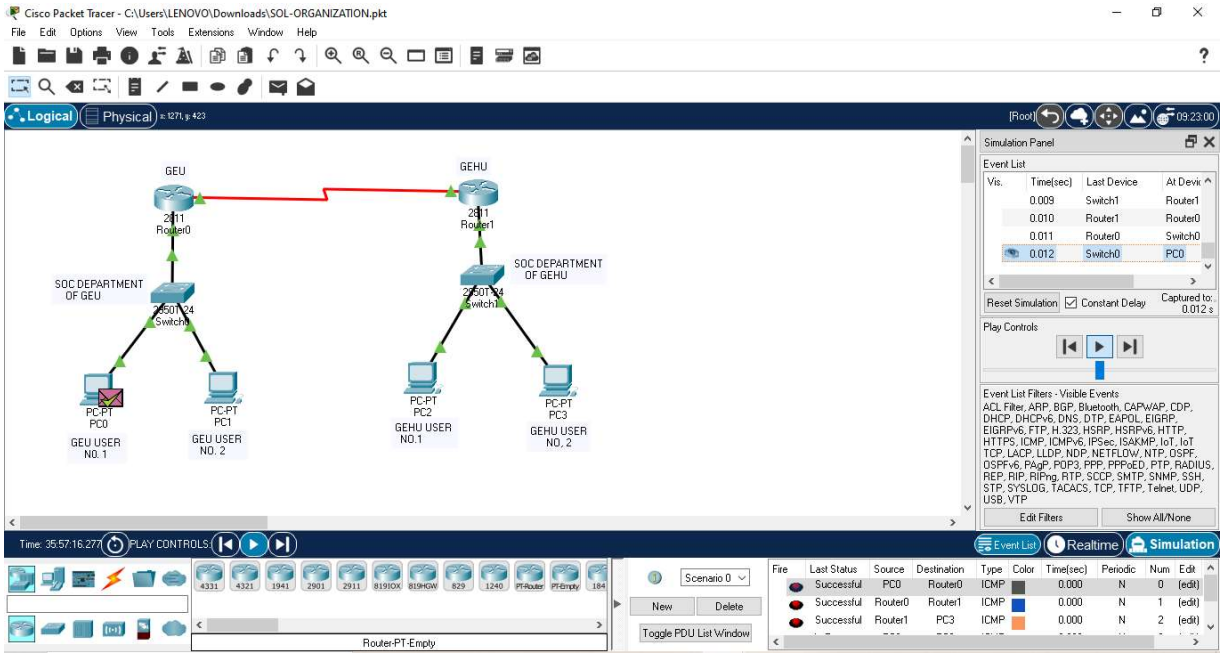
OUTPUT :



ON SAMULATION :




Cisco Packet Tracer - C:\Users\LENOVO\Downloads\SOL-ORGANIZATION.pkt
File Edit Options View Tools Extensions Window Help
Logical
Physical
GEU
GEHU
Router0
Router1
SOC DEPARTMENT OF GEU
SOC DEPARTMENT OF GEHU
Switch0
Switch1
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
GEU USER NO. 1
GEU USER NO. 2
GEHU USER NO.1
GEHU USER NO. 2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devic
0.004 Router0 Router1
0.004 Switch0 PC0
0.004 Switch1 Router1
0.004 -- Router1
Reset Simulation
Constant Delay
Captured to: 0.004 s
Play Controls
Event List Filters - Visible Events
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP
Edit Filters
Show All/None
Time: 35:57:16.269
PLAY CONTROLS
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit
Successful PC0 Router0 ICMP 0.000 N 0 (edit)
Successful Router0 Router1 ICMP 0.000 N 1 (edit)
Successful Router1 PC3 ICMP 0.000 N 2 (edit)
Router-PT-Empty


Cisco Packet Tracer - C:\Users\LENOVO\Downloads\SOL-ORGANIZATION.pkt
File Edit Options View Tools Extensions Window Help
Logical
Physical
GEU
GEHU
Router0
Router1
SOC DEPARTMENT OF GEU
SOC DEPARTMENT OF GEHU
Switch0
Switch1
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
GEU USER NO. 1
GEU USER NO. 2
GEHU USER NO.1
GEHU USER NO. 2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devic
0.009 Switch1 Router1
0.010 Router1 Router0
0.011 Router0 Switch0
0.012 Switch0 PC0
Reset Simulation
Constant Delay
Captured to: 0.012 s
Play Controls
Event List Filters - Visible Events
ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, IoT, IoT TCP, LACP, LLDP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoED, PTP, RADIUS, REP, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP
Edit Filters
Show All/None
Time: 35:57:16.277
PLAY CONTROLS
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit
Successful PC0 Router0 ICMP 0.000 N 0 (edit)
Successful Router0 Router1 ICMP 0.000 N 1 (edit)
Successful Router1 PC3 ICMP 0.000 N 2 (edit)
Router-PT-Empty