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Father's Name:- Shankar Prasad Suman

University Roll no:- 2001135

Course:- MCA Section:- C

Semester:- 2

Paper Name:- Computer Network

Paper Code:- TMC-203

Q1) There is an organisation A with multiple departments. Design a network for the HR Department and the size of the department is 10 user. Also show the communication between user number 1 and user number five of the network.

Sol:-> Objective:-

By this question we are learning to make an network inside any building by using switch, copper straight through wire and different PC.

Step of Network:-

1) Step 1:- Design a network

2) Step 2:- Assign IP to every PC

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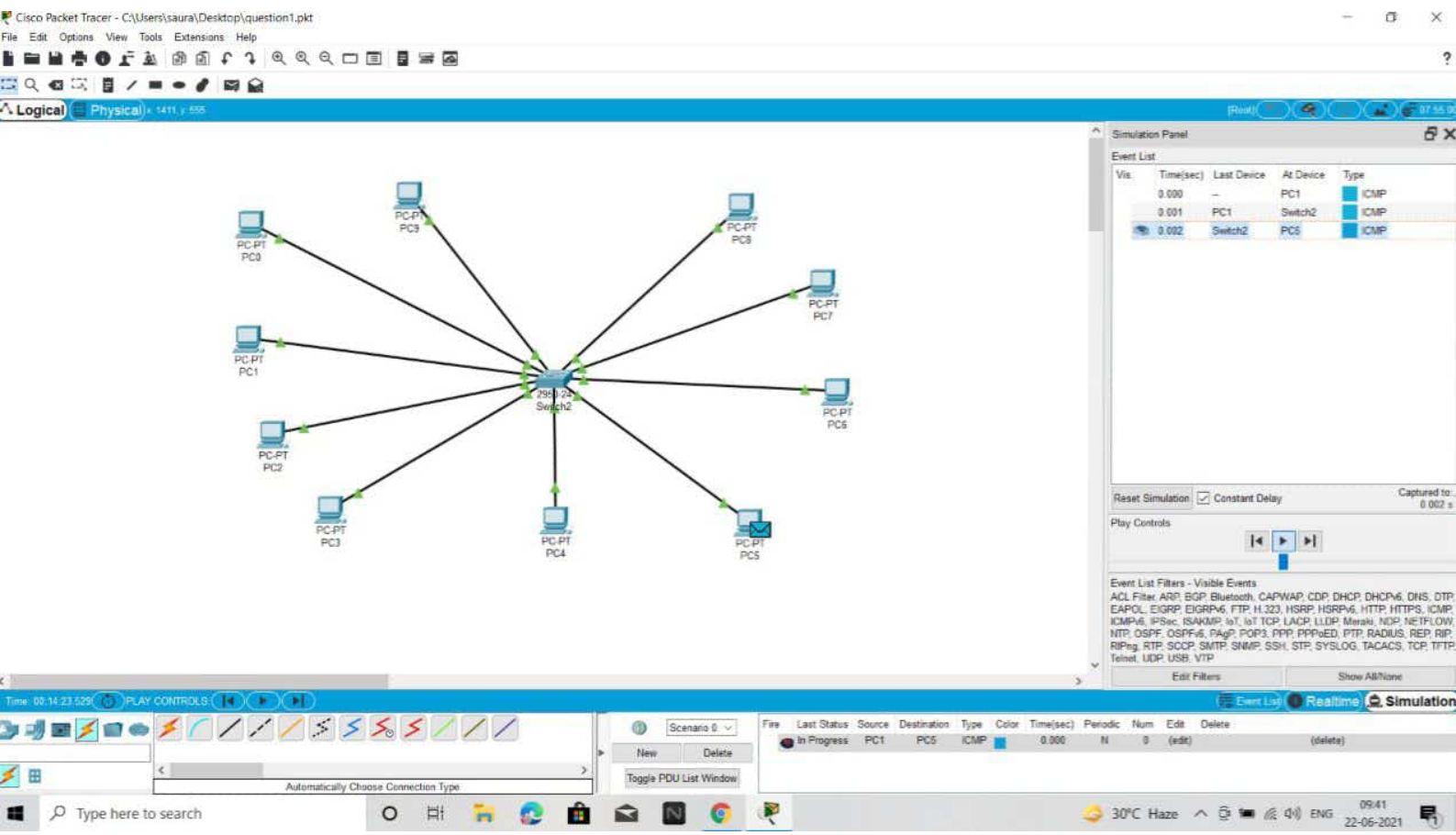
Step 3:- Confirming the network by sending Message from PC1 to PC5.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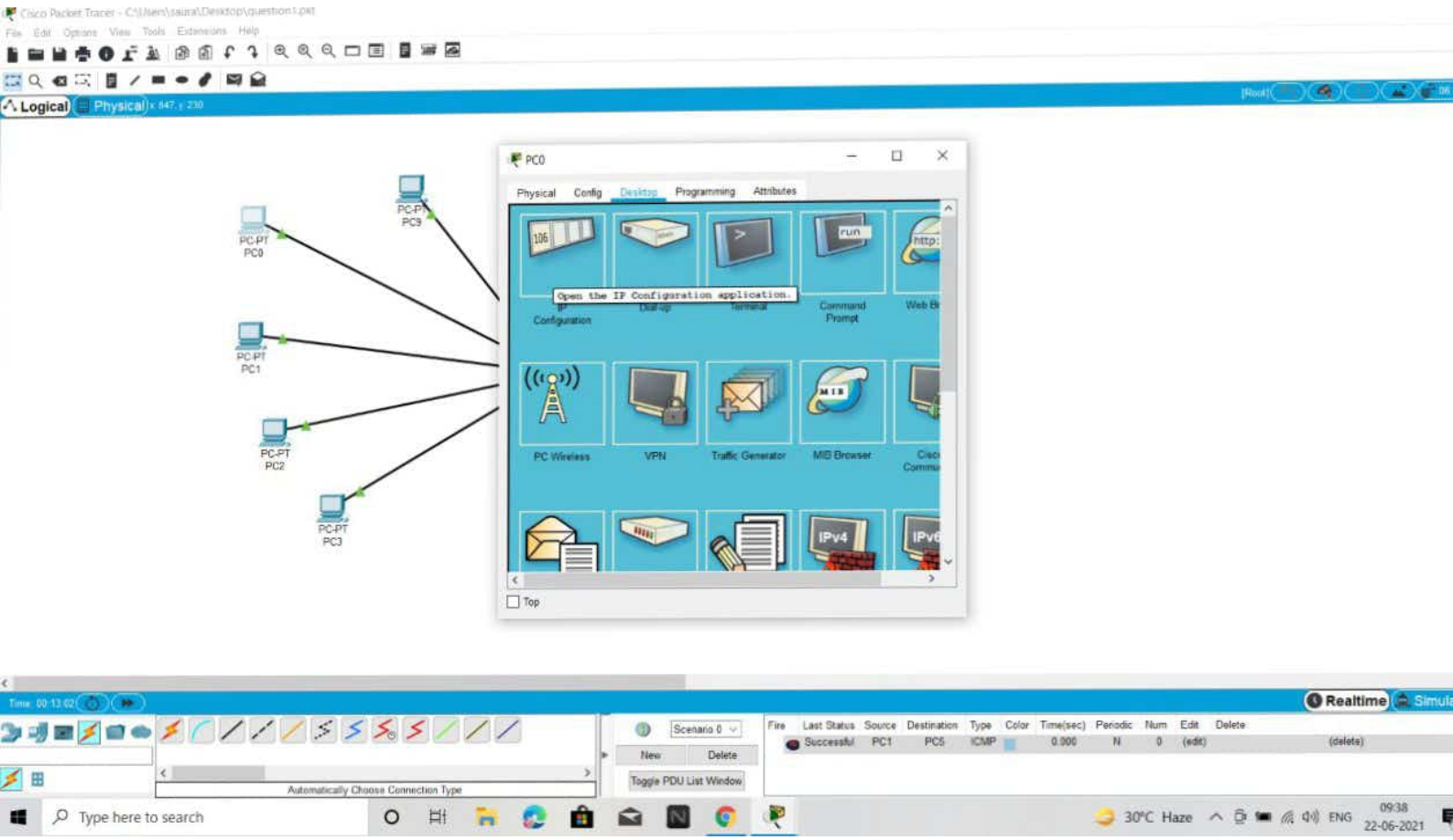
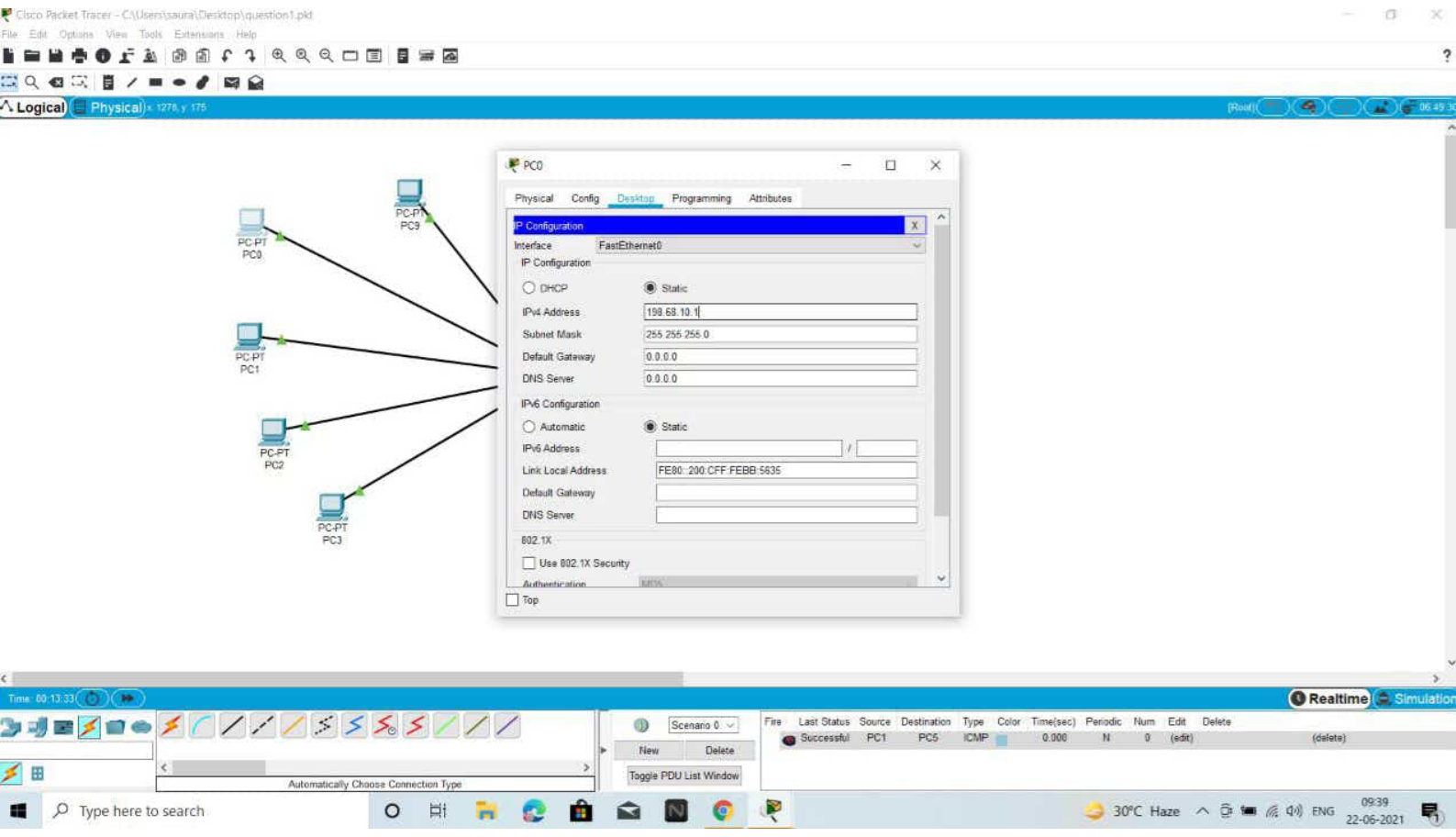
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
PC-PT PC6
PC-PT PC7
PC-PT PC8
PC-PT PC9
2960-24 Switch2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC1 ICMP
0.001 PC1 Switch2 ICMP
0.002 Switch2 PC5 ICMP
Reset Simulation
Constant Delay
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, Meraki, 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
PLAY CONTROLS:
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
In Progress PC1 PC5 ICMP 0.000 N 0 (edit) (delete)
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:41
22-06-2021


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt
File Edit Options View Tools Extensions Help
Logical
Physical
PC0
Physical Config Desktop Programming Attributes
Open the IP Configuration application.
IP Configuration
Command Prompt
PC Wireless
VPN
Traffic Generator
MIB Browser
IPv4
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC9


Realtime
Scenario 0
New
Delete
Toggle PDU List Window
Automatically Choose Connection Type
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC1 PC5 ICMP 0.000 N 0 (edit) (delete)


Type here to search
30°C Haze
ENG
09:38
22-06-2021


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt
File Edit Options View Tools Extensions Help
Logical
Physical
PC0
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 198.68.10.1
Subnet Mask 255.255.255.0
Default Gateway 0.0.0.0
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::200:CFF:FEBB:5635
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC9
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Automatically Choose Connection Type
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
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Type here to search
30°C Haze
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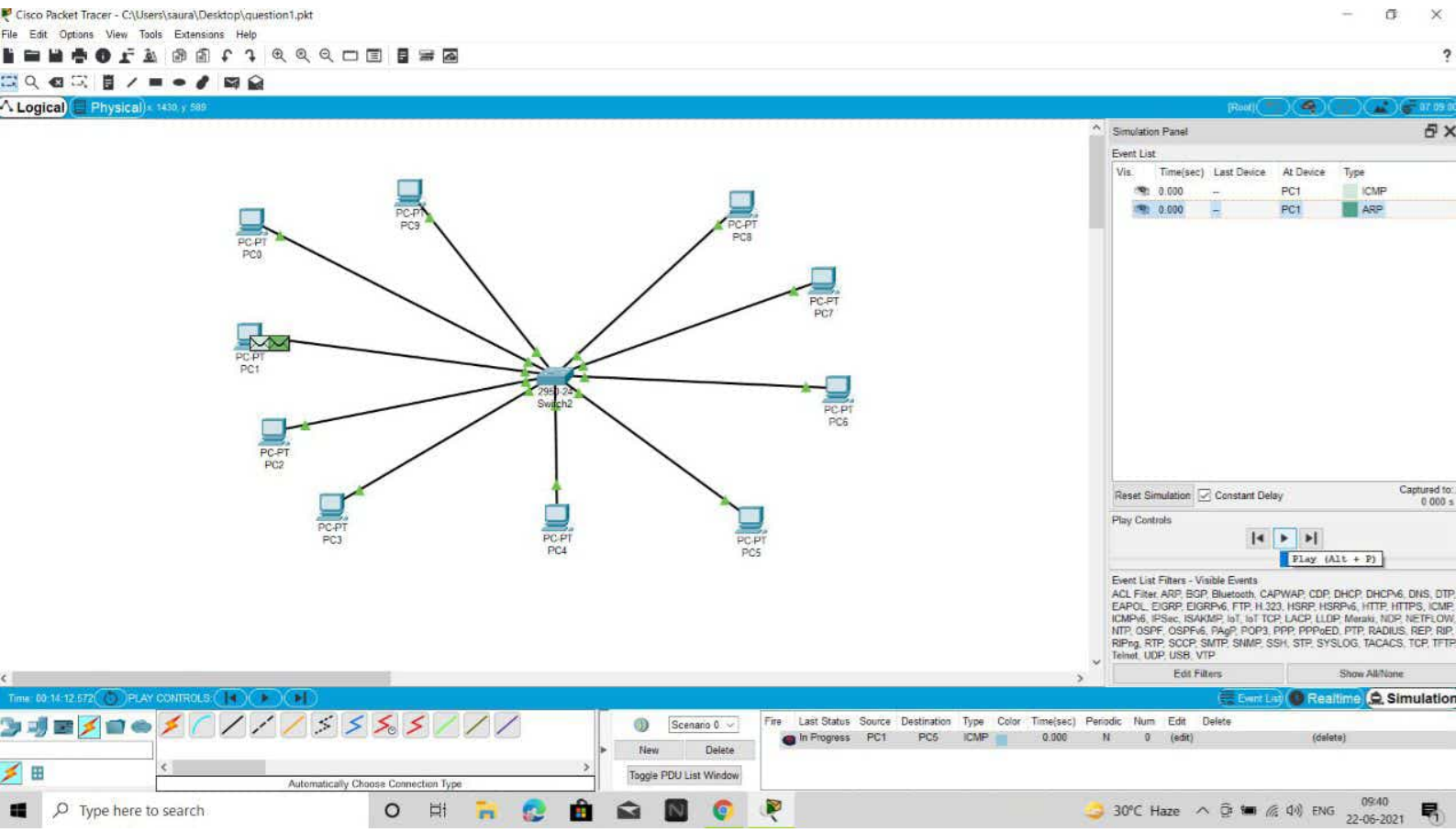
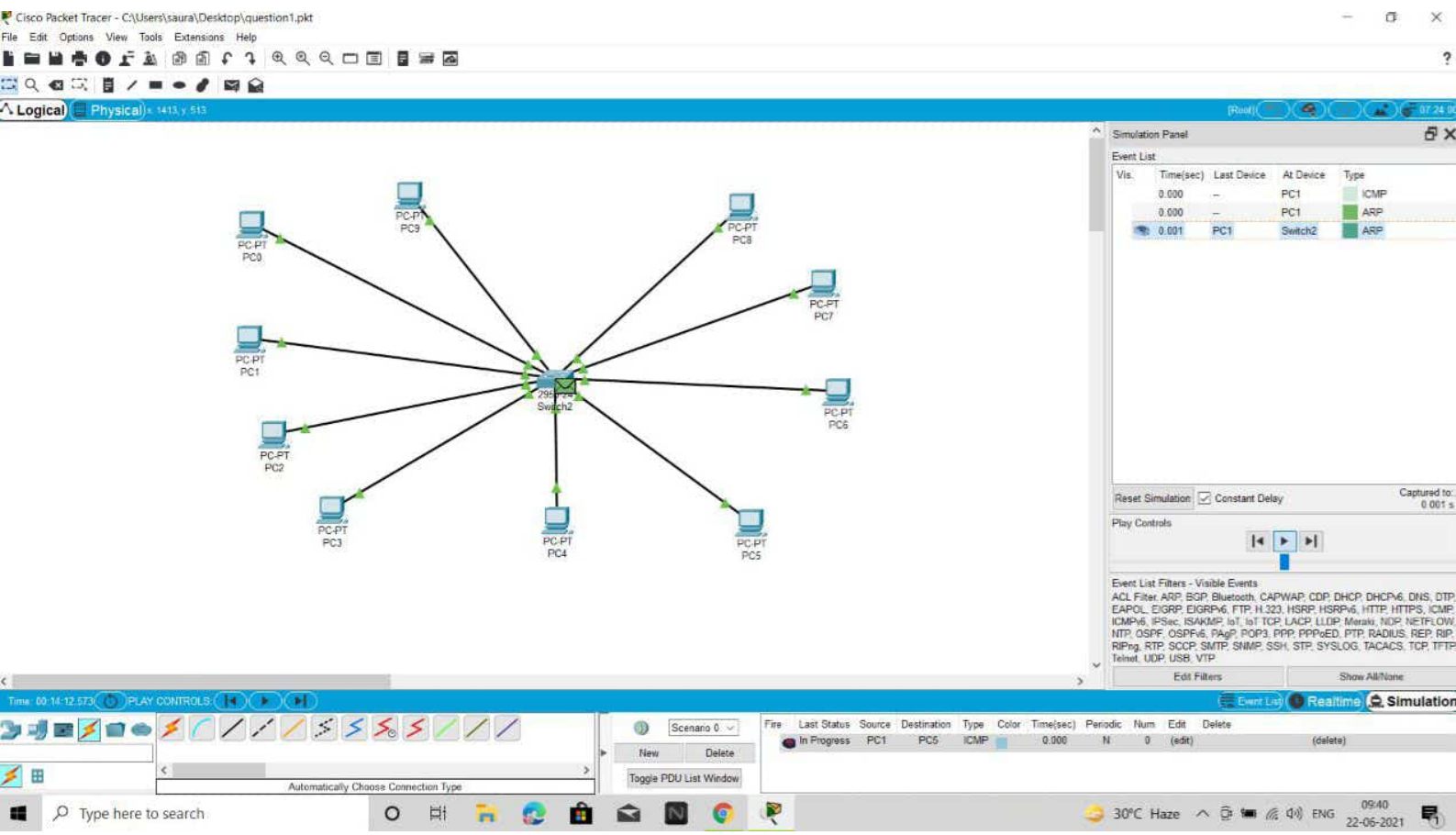
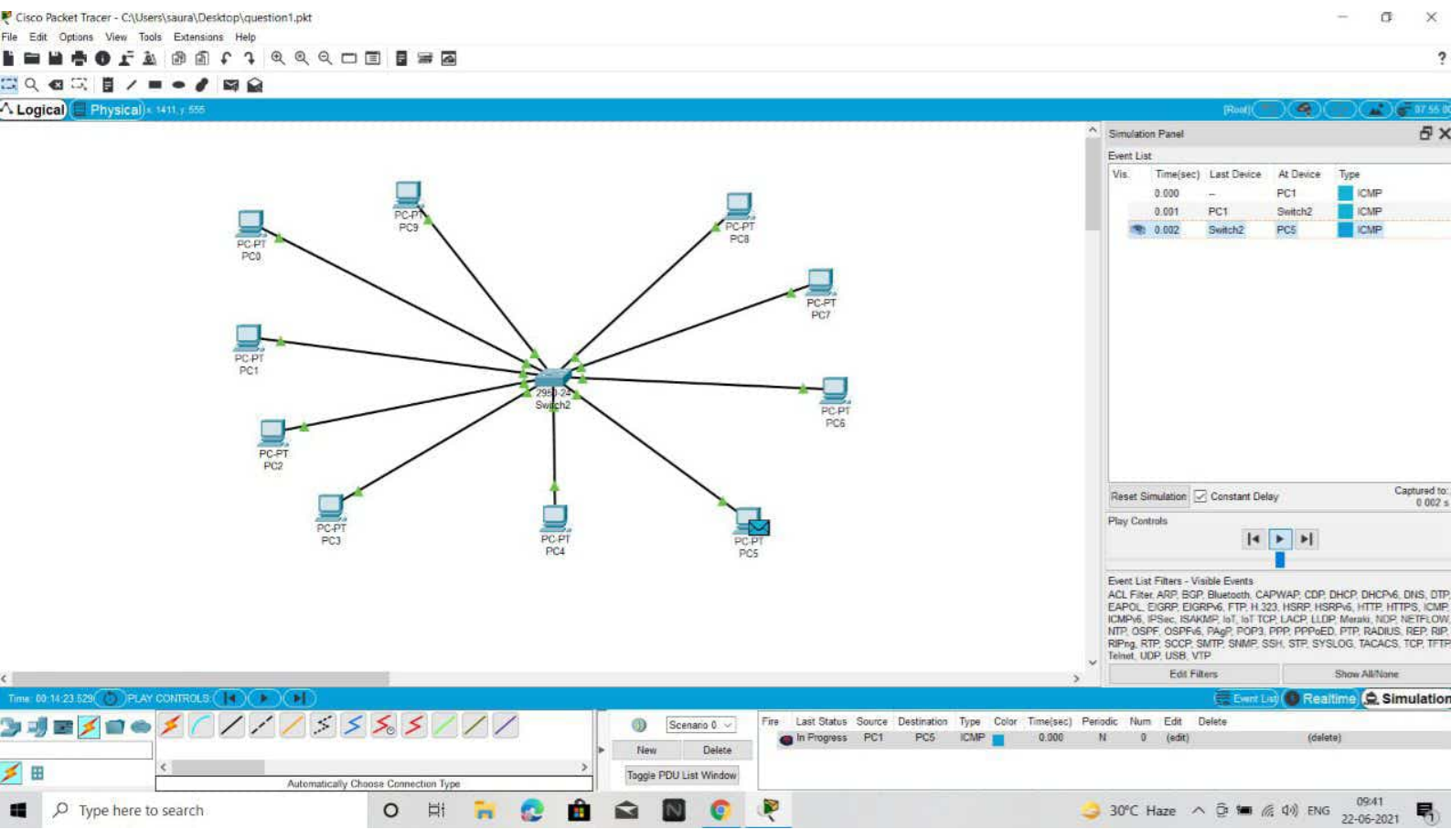
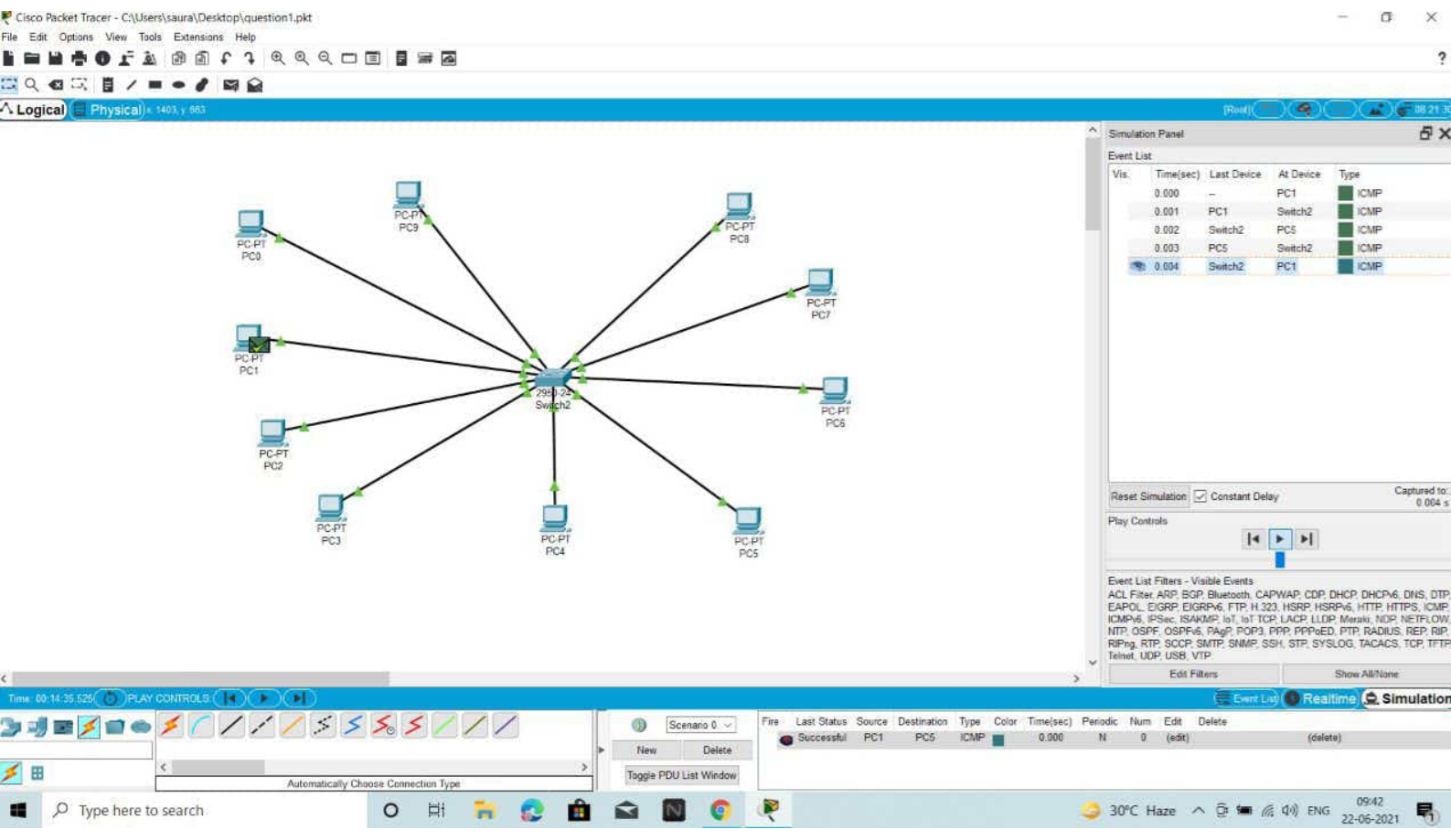
22-06-2021


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
PC-PT PC6
PC-PT PC7
PC-PT PC8
PC-PT PC9
2950-24 Switch2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC1 ICMP
0.000 -- PC1 ARP
Reset Simulation
Constant Delay
Play Controls
Play (Alt + P)
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
In Progress PC1 PC5 ICMP 0.000 N 0 (edit) (delete)
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:40
22-06-2021


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
PC-PT PC6
PC-PT PC7
PC-PT PC8
PC-PT PC9
Switch2
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC1 ICMP
0.000 -- PC1 ARP
0.001 PC1 Switch2 ARP
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
In Progress PC1 PC5 ICMP 0.000 N 0 (edit) (delete)
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:40
22-06-2021


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC9
PC-PT PC8
PC-PT PC7
PC-PT PC1
2950-24 Switch2
PC-PT PC6
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC1 ICMP
0.001 PC1 Switch2 ICMP
0.002 Switch2 PC5 ICMP
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
In Progress PC1 PC5 ICMP 0.000 N 0 (edit) (delete)
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:41
22-06-2021


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC9
PC-PT PC8
PC-PT PC7
PC-PT PC1
2950-24 Switch2
PC-PT PC6
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC1 ICMP
0.001 PC1 Switch2 ICMP
0.002 Switch2 PC5 ICMP
0.003 PC5 Switch2 ICMP
0.004 Switch2 PC1 ICMP
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Automatically Choose Connection Type
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC1 PC5 ICMP 0.000 N 0 (edit) (delete)
Type here to search
30°C Haze
ENG
09:42
22-06-2021

(Q2) There are two organization 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:- Objective:-

By this we understand how we can connect 2 lan of a different building or organization by the help of router & switch.

Step:-

Step 1:- Design a network for GeU & GeHU and Connection both with help of router.

Step 2:- Assign IP address and subnet mask to pc. of both network

Step 3: Assign IP addres and subnet mask to ~~both~~ ~~of~~ of the ~~network~~ ~~to~~ both network to router

Step 4:- Sending a message from PC0 of gehu to PC3 of geu.

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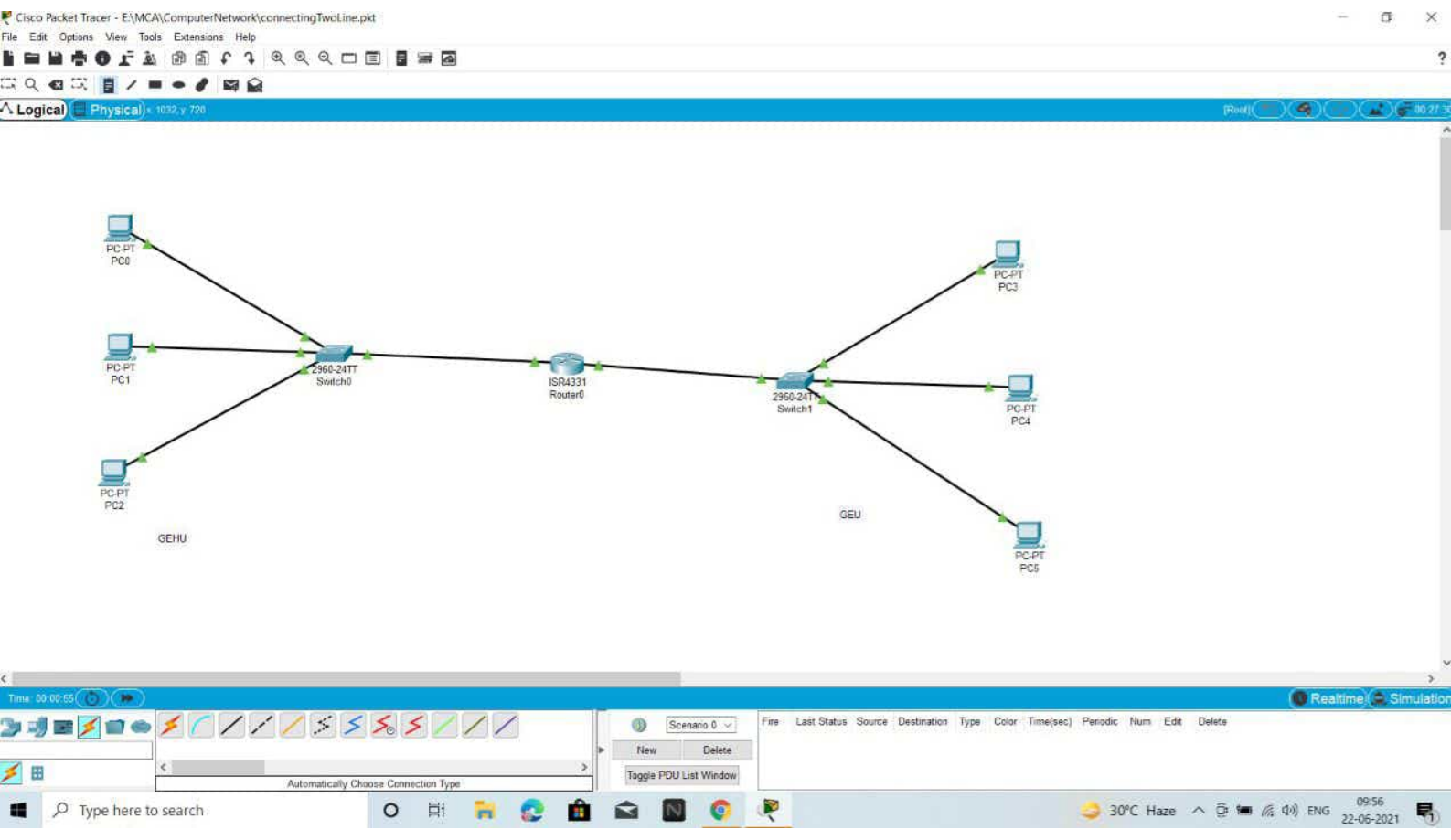
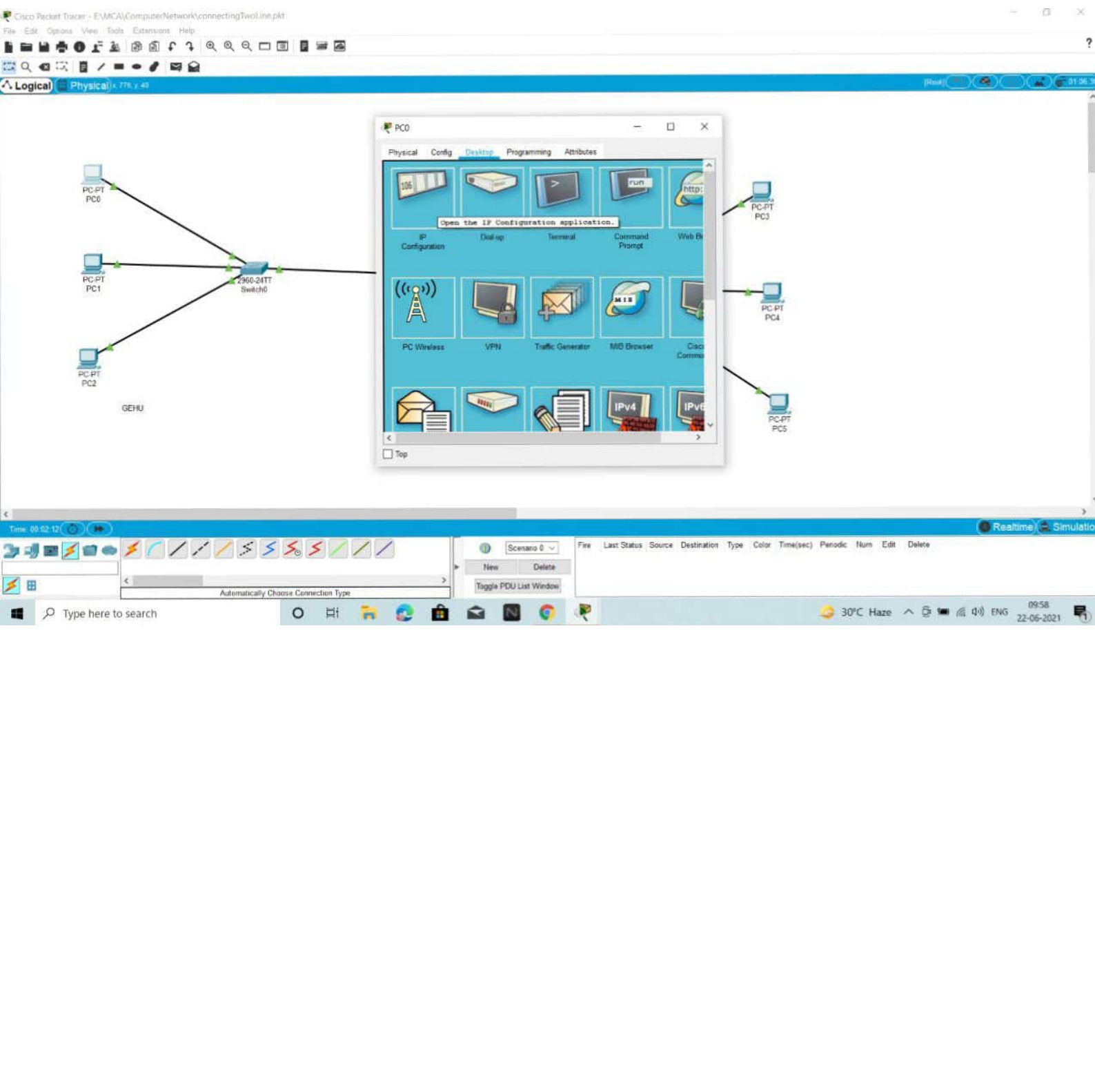
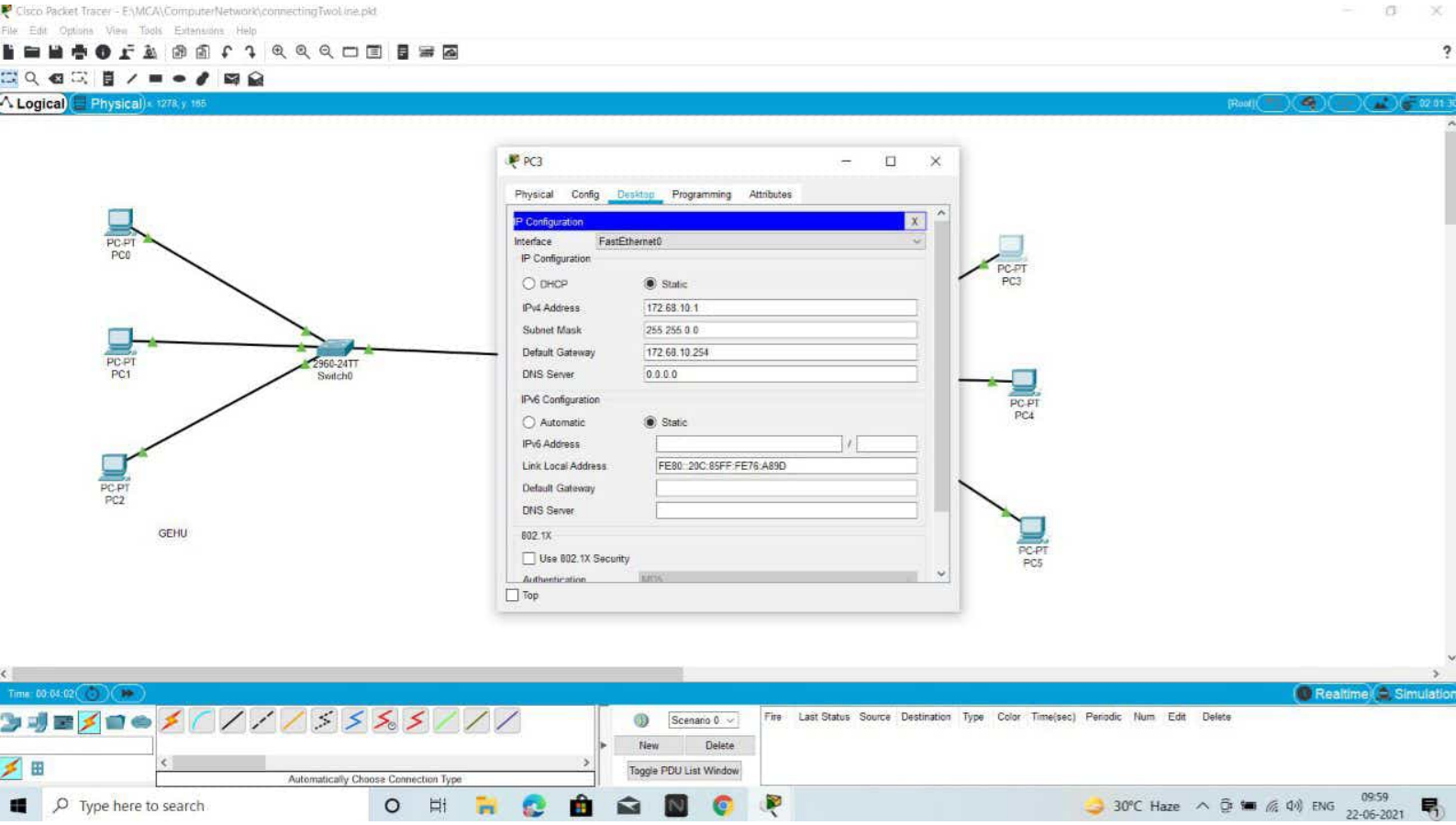
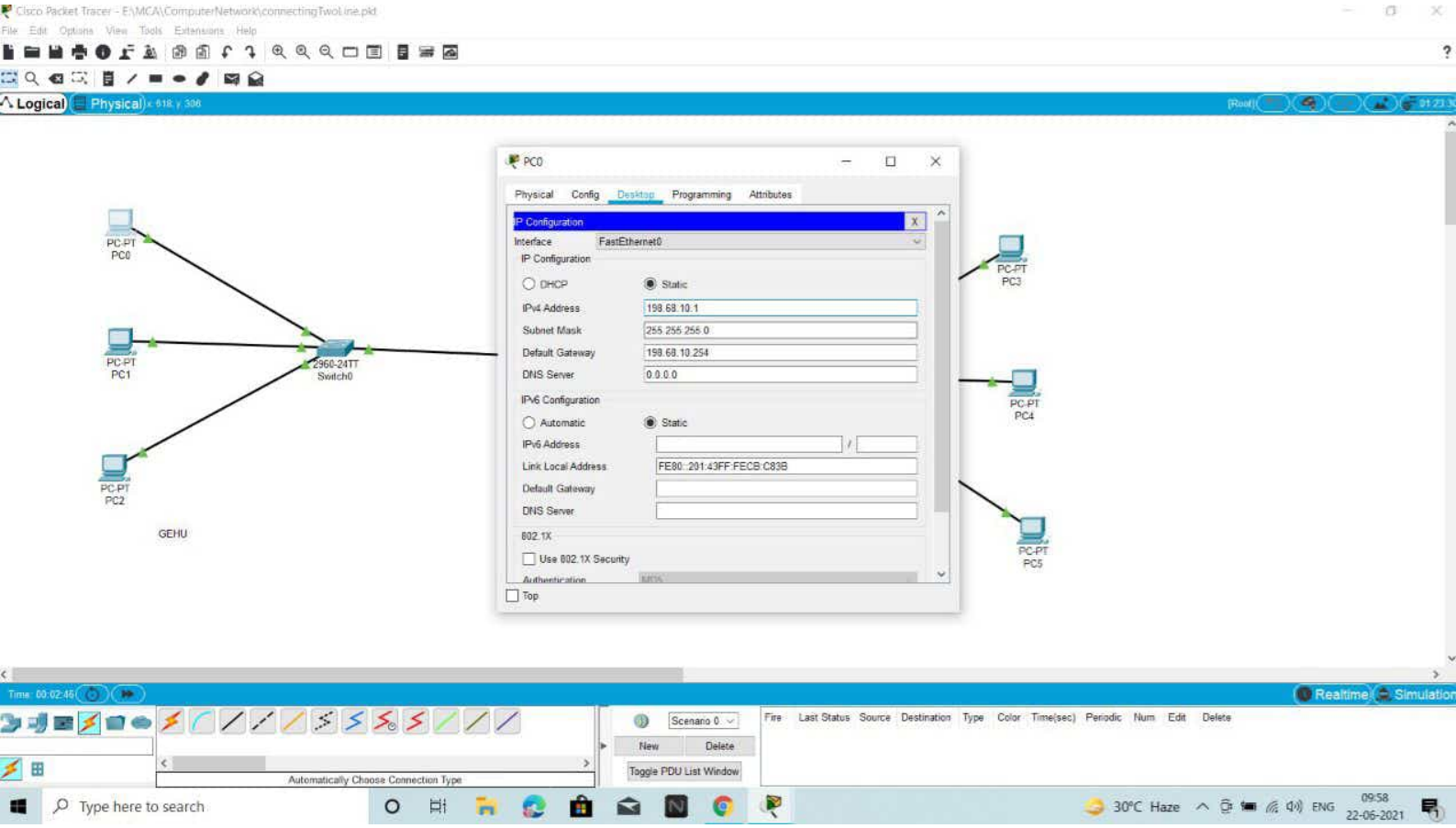
Step 5: Check the conformation.

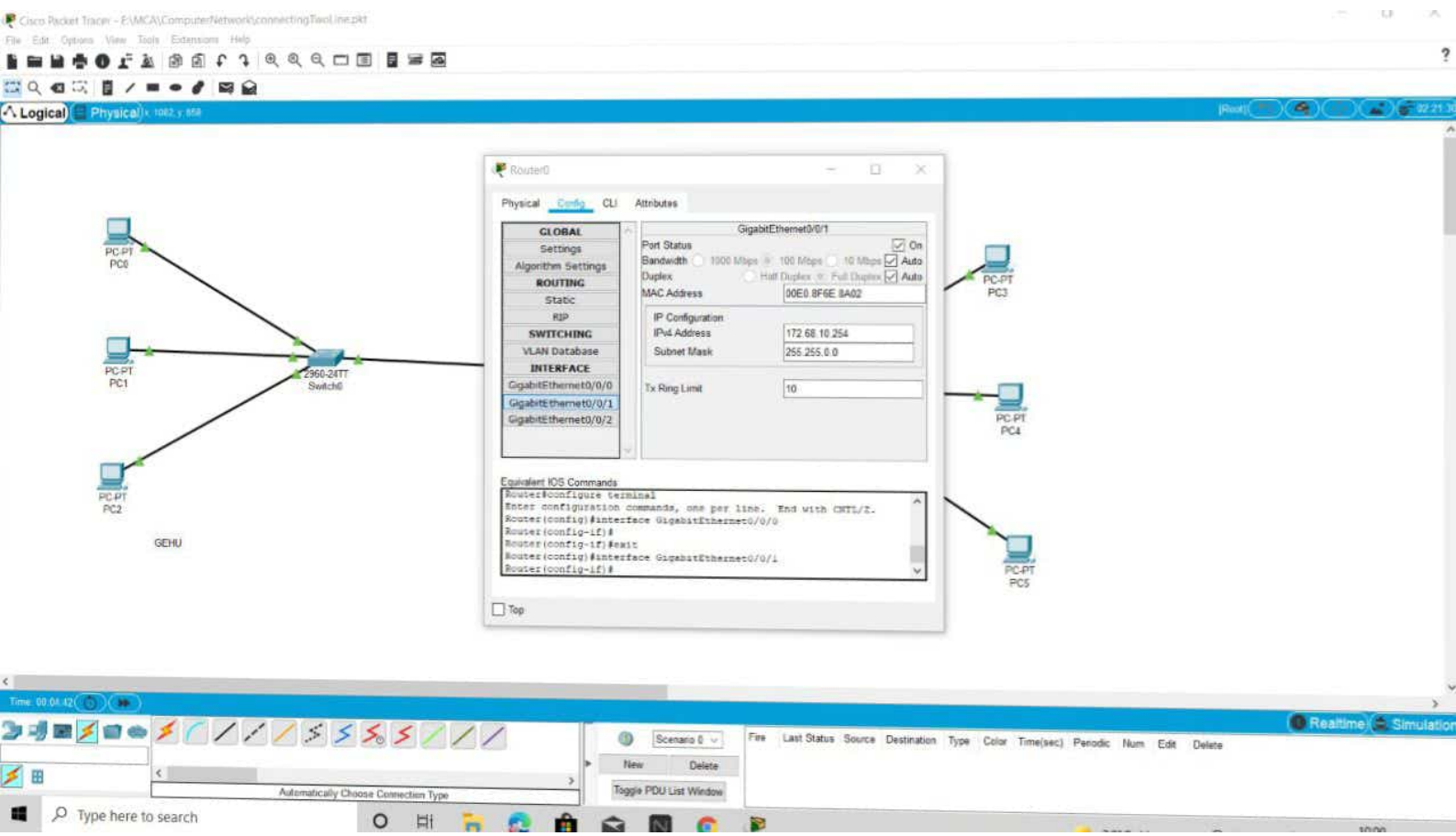
Saurabh

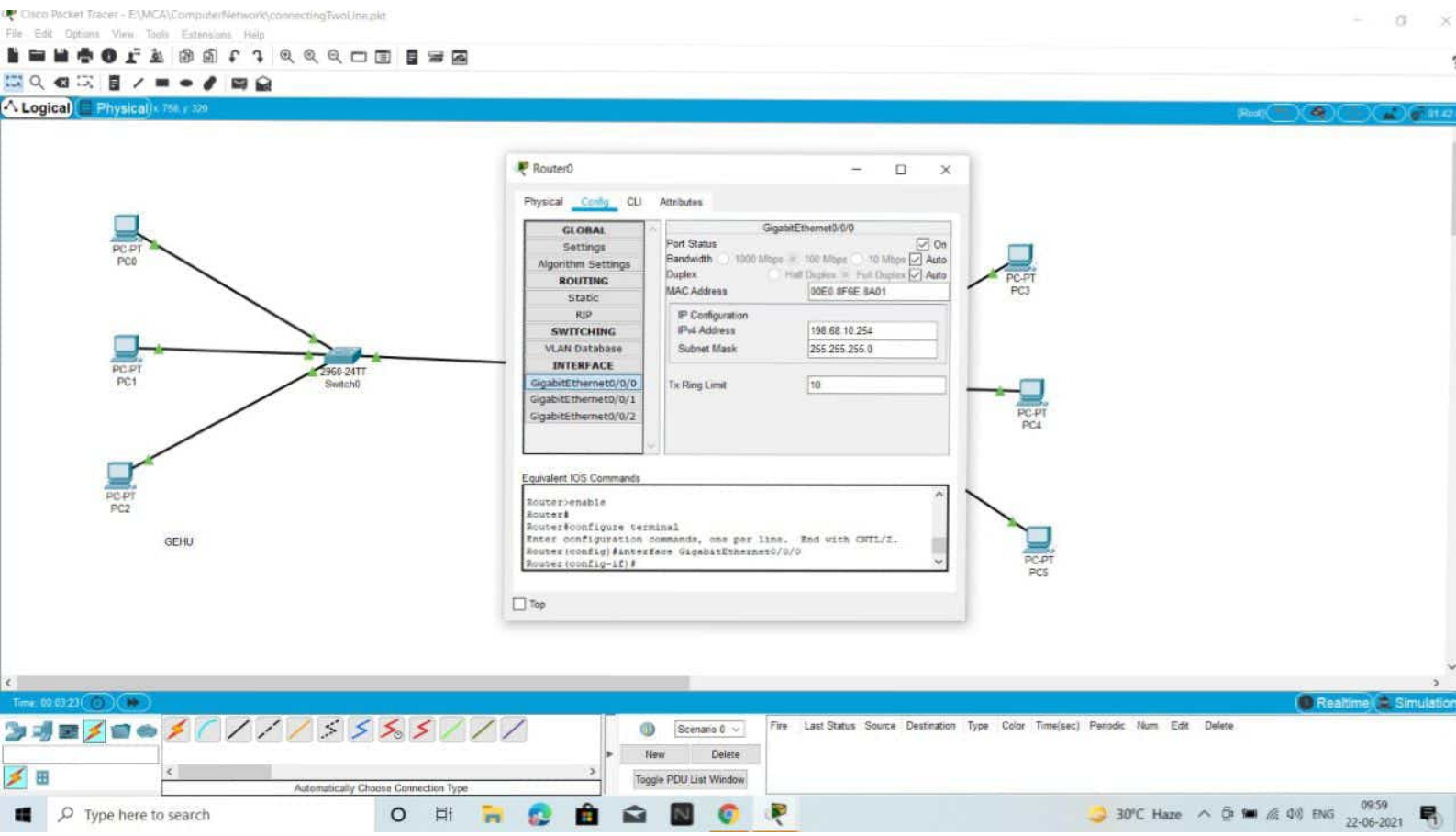

Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
ISR4331 Router0
2960-24TT Switch1
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
GEU
Realtime Simulation
Scenario 0
New Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:56
22-06-2021

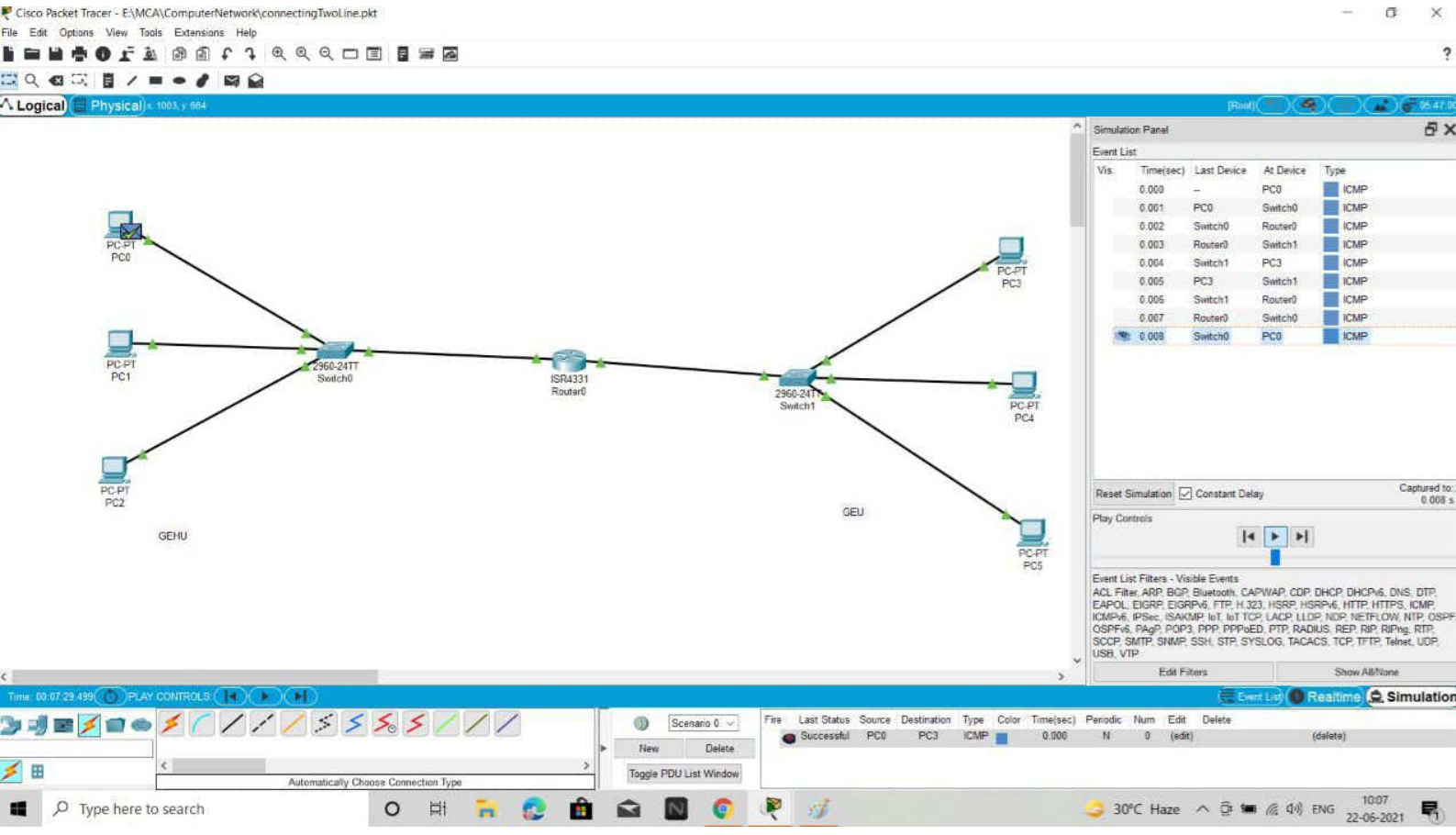

Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
File Edit Options View Tools Extensions Help
Logical
Physical
PC0
Physical Config Desktop Programming Attributes
Open the IP Configuration application.
IP Configuration
Dial-up
Terminal
Command Prompt
PC Wireless
VPN
Traffic Generator
MIB Browser
IPv4
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:58
22-06-2021

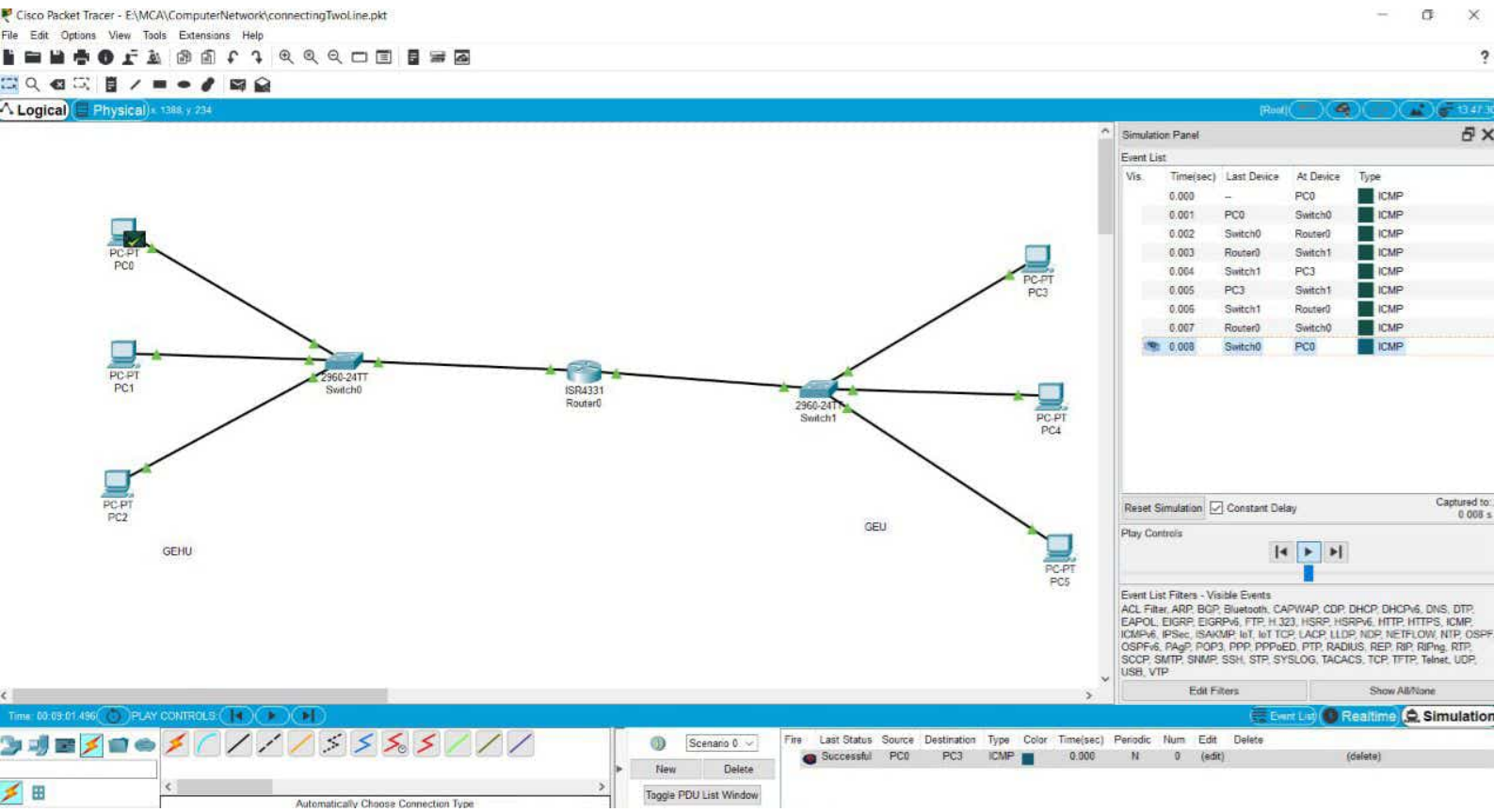

Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
File Edit Options View Tools Extensions Help
Logical
Physical
PC3
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 172.68.10.1
Subnet Mask 255.255.0.0
Default Gateway 172.68.10.254
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::20C:85FF:FE76:A89D
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:59
22-06-2021


Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
File Edit Options View Tools Extensions Help
Logical
Physical
PC0
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address 198.68.10.1
Subnet Mask 255.255.255.0
Default Gateway 198.68.10.254
DNS Server 0.0.0.0
IPv6 Configuration
Automatic
Static
IPv6 Address
Link Local Address FE80::201:43FF:FECB:C83B
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:58
22-06-2021


Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
Logical
Physical
Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
GigabitEthernet0/0/1
Port Status
On
Bandwidth
Auto
Duplex
Auto
MAC Address
00E0.8F6E.8A02
IP Configuration
IPv4 Address
172.68.10.254
Subnet Mask
255.255.0.0
Tx Ring Limit
10
Equivalent IOS Commands
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0/1
Router(config-if)#
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
Automatically Choose Connection Type
Type here to search


Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
File Edit Options View Tools Extensions Help
Logical
Physical
Router0
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
GigabitEthernet0/0/0
Port Status
On
Bandwidth
Auto
Duplex
Auto
MAC Address
00E0.8F6E.8A01
IP Configuration
IPv4 Address
198.68.10.254
Subnet Mask
255.255.255.0
Tx Ring Limit
10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#
Top
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
09:59
22-06-2021


Cisco Packet Tracer - E:\MCA\ComputerNetwork\connectingTwoLine.pkt
File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
ISR4331 Router0
2960-24TT Switch1
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
GEU
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC0 ICMP
0.001 PC0 Switch0 ICMP
0.002 Switch0 Router0 ICMP
0.003 Router0 Switch1 ICMP
0.004 Switch1 PC3 ICMP
0.005 PC3 Switch1 ICMP
0.006 Switch1 Router0 ICMP
0.007 Router0 Switch0 ICMP
0.008 Switch0 PC0 ICMP
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC3 ICMP 0.000 N 0 (edit) (delete)
Automatically Choose Connection Type
Type here to search
30°C Haze
ENG
10:07
22-06-2021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File Edit Options View Tools Extensions Help
Logical Physical
PC-PT PC0
PC-PT PC1
PC-PT PC2
2960-24TT Switch0
ISR4331 Router0
2960-24TT Switch1
PC-PT PC3
PC-PT PC4
PC-PT PC5
GEHU
GEU
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type
0.000 -- PC0 ICMP
0.001 PC0 Switch0 ICMP
0.002 Switch0 Router0 ICMP
0.003 Router0 Switch1 ICMP
0.004 Switch1 PC3 ICMP
0.005 PC3 Switch1 ICMP
0.006 Switch1 Router0 ICMP
0.007 Router0 Switch0 ICMP
0.008 Switch0 PC0 ICMP
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC3 ICMP 0.000 N 0 (edit) (delete)
Automatically Choose Connection Type