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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 users. 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 <sup>Through</sup> 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.



Cisco Packet Tracer - C:\Users\saira\Desktop\question1.pkt

File Edit Options View Tools Extensions Help

Logical Physical 447 x 230

PC0

Physical Config Desktop Programming Attributes

Open the IP Configuration application.

Configuration Desktop Terminal Command Prompt Web Browser

PC Wireless VPN Traffic Generator MID Browser Cisco Command

IPv4 IPv6

Top

Time: 00:13:02

Realtime Simulation

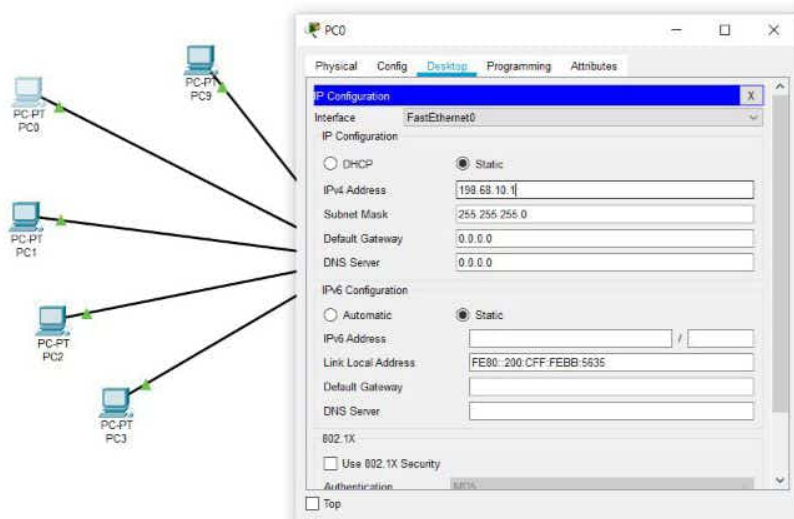
Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
Successful	PC1	PC5	ICMP			0.000	N	0	(edit)	(delete)

30°C Haze 09:38 22-06-2021

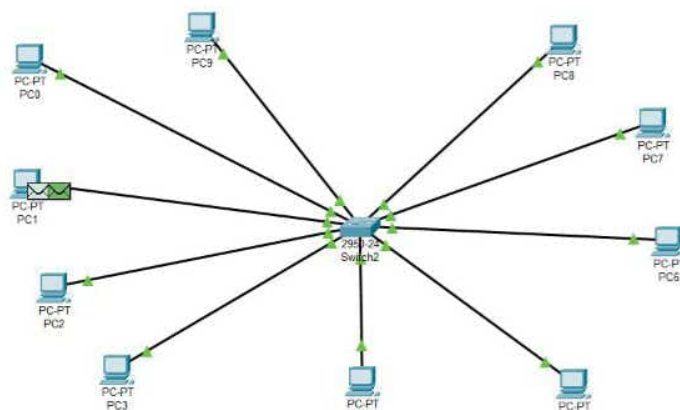


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt

File Edit Options View Tools Extensions Help



Logical Physical 1430 v 589



Simulation Panel

Event List

Vis.	Time(sec)	Last Device	At Device	Type
<input checked="" type="checkbox"/>	0.000	--	PC1	ICMP
<input checked="" type="checkbox"/>	0.000	--	PC1	ARP

Reset Simulation ☒ Constant Delay Captured to: 0.000 s

Play Controls

Play (Alt + P)

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, NTP, NETFLOW,

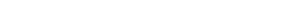
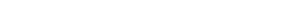
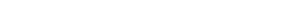
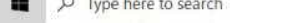
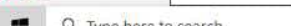
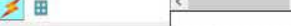
NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP,

RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP,

Telnet, UDP, USB, VTP

Edit Filters Show All/None

Time: 00:14:12.572 PLAY CONTROLS



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)

Type here to search



30°C Haze 09:40 22-06-2021

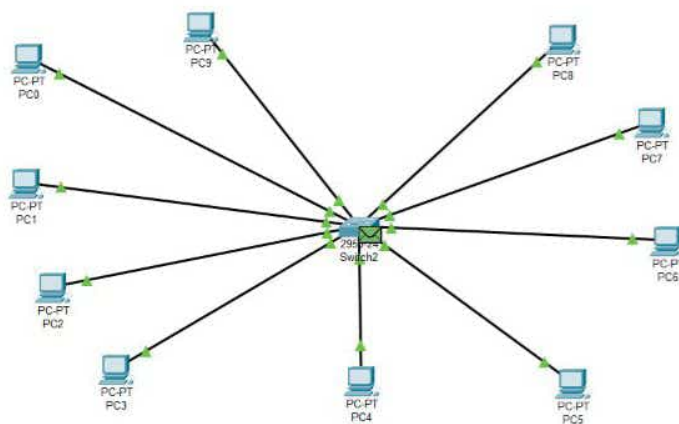


Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt

File Edit Options View Tools Extensions Help

Logical Physical 1413 v 513

Simulation Panel



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 Captured to: 0.001 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, Meraki, NTP, NETFLOW,

NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, 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: 00:14:12.573 PLAY CONTROLS

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

In Progress PC1 PC5 ICMP 0.000 N 0 (edit) (delete)

Type here to search

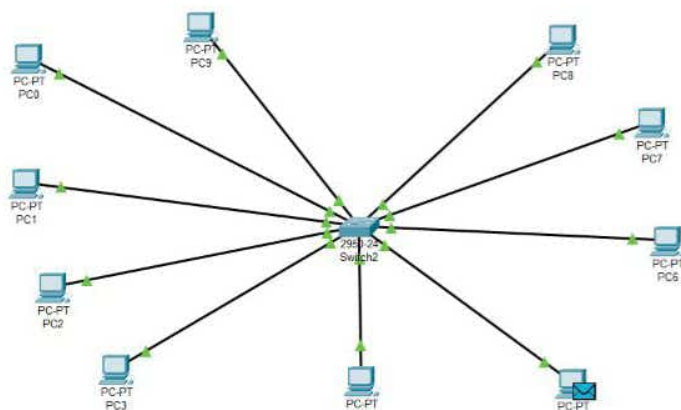
30°C Haze 09:40 22-06-2021

Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt

File Edit Options View Tools Extensions Help

Logical Physical 1411, 7 655

Simulation Panel



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 Captured to: 0.002 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, Meraki, NTP, NETFLOW,

NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, 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: 00:14:23.529 PLAY CONTROLS

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

In Progress PC1 PC5 ICMP 0.000 N 0 (edit) (delete)

Type here to search

30°C Haze 09:41 22-06-2021



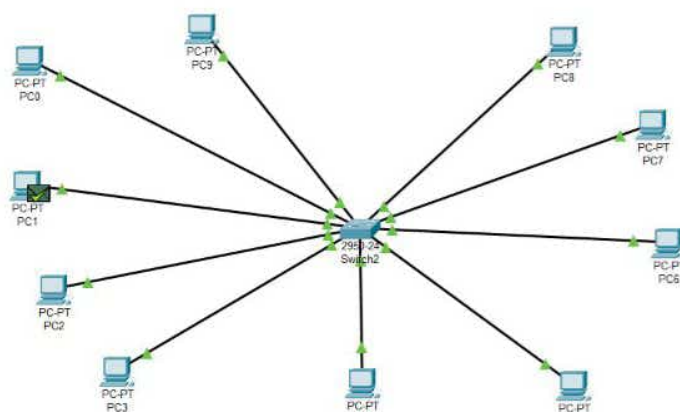
Cisco Packet Tracer - C:\Users\saura\Desktop\question1.pkt

File Edit Options View Tools Extensions Help



Logical Physical 1403 v 953

Simulation Panel (Pkt) 06:21:30



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 Captured to: 0.004 s

Play Controls

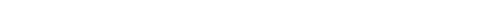
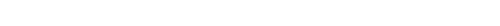
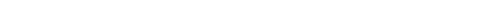
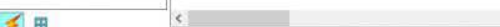


Event List Filters - Visible Events

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, Meraki, NTP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, 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: 00:14:35.526 PLAY CONTROLS



Scenario 0

New Delete

Toggle PDU List Window

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 09:42 22-06-2021

Q2) 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:- 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.

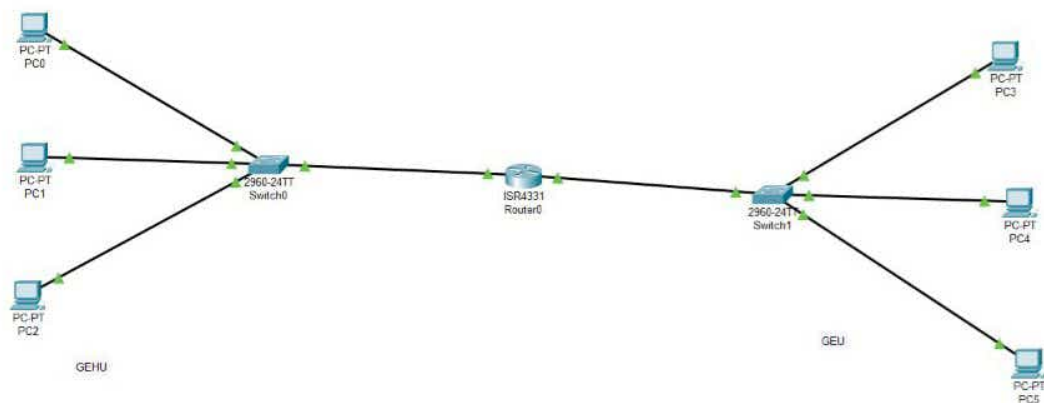
Step 2:- Assign IP address and subnet mask to PC of both networks.

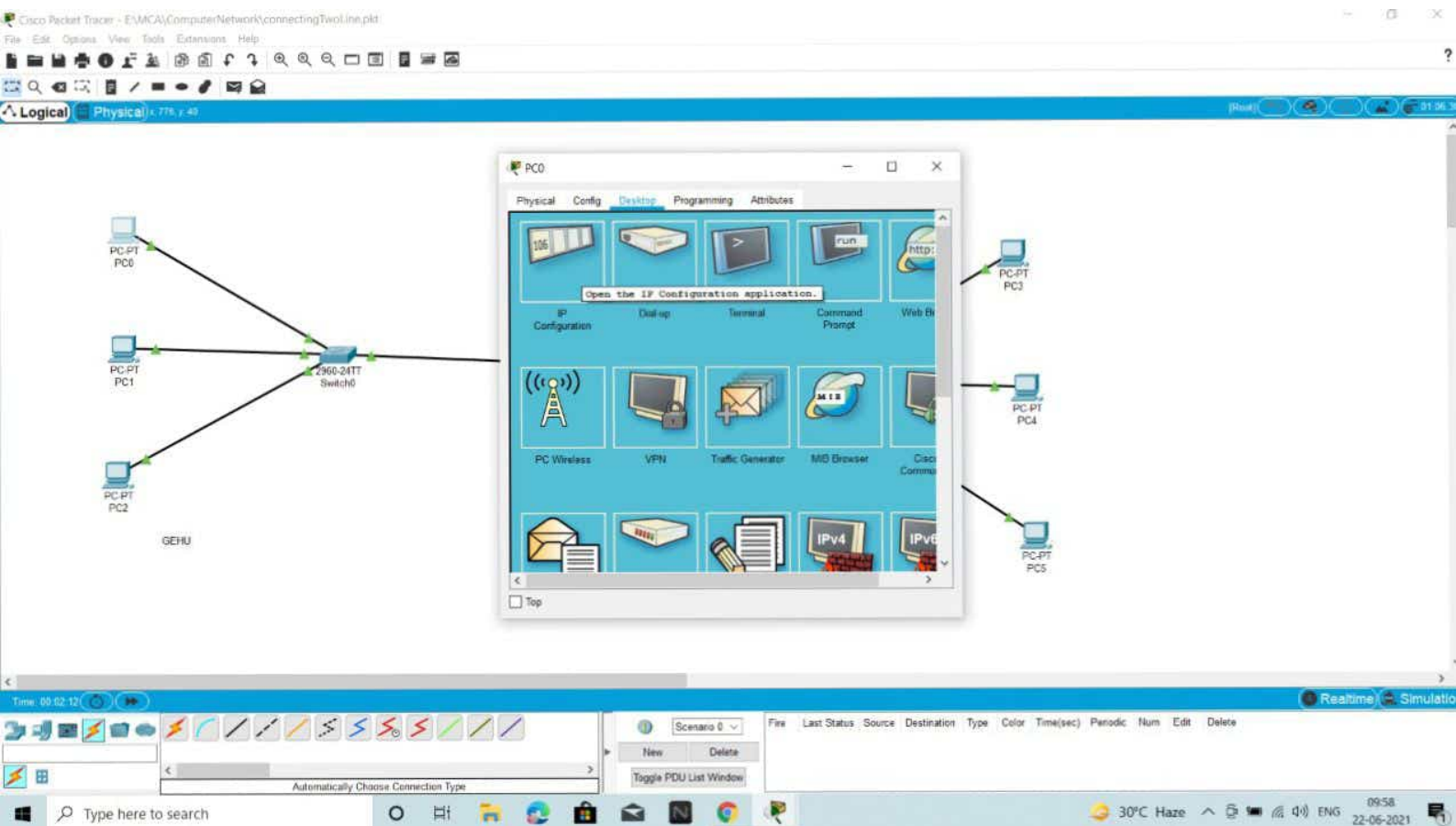
Step 3: Assign IP address and subnet mask to ~~both~~ of the ~~networks~~ both networks to router.

Step 4:- Sending a message from PC of GEHU to PC of GEU.

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Step 5: ~~can~~ Check the conformation.





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

Authentication

☐ Top

PC-PT PC0

PC-PT PC1

PC-PT PC2

2960-24TT Switch0

PC-PT PC3

PC-PT PC4

PC-PT PC5

GEHU

Time: 00:04:02

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 09:59 22-06-2021



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:FE0B:C83B

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

☐ Top

Time: 00:02:48

Scenario 0

New Delete

Toggle PDU List Window

Realtime Simulation

30°C Haze 09:58 22-06-2021



PC-PT  
PC0

PC-PT  
PC1

PC-PT  
PC2

GEHU

2950-24TT  
Switch0

Router0

Physical Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

SWITCHING

VLAN Database

INTERFACE

GigabitEthernet0/0/0

GigabitEthernet0/0/1

GigabitEthernet0/0/2

GigabitEthernet0/0/1

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full 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(config)#configure terminal
Enter configuration commands, one per line. End with CTRL/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  
PC3

PC-PT  
PC4

PC-PT  
PC5

Scenario 0

Free

Last Status

Source

Destination

Type

Color

Time(sec)

Periodic

Num

Edit

Delete

New

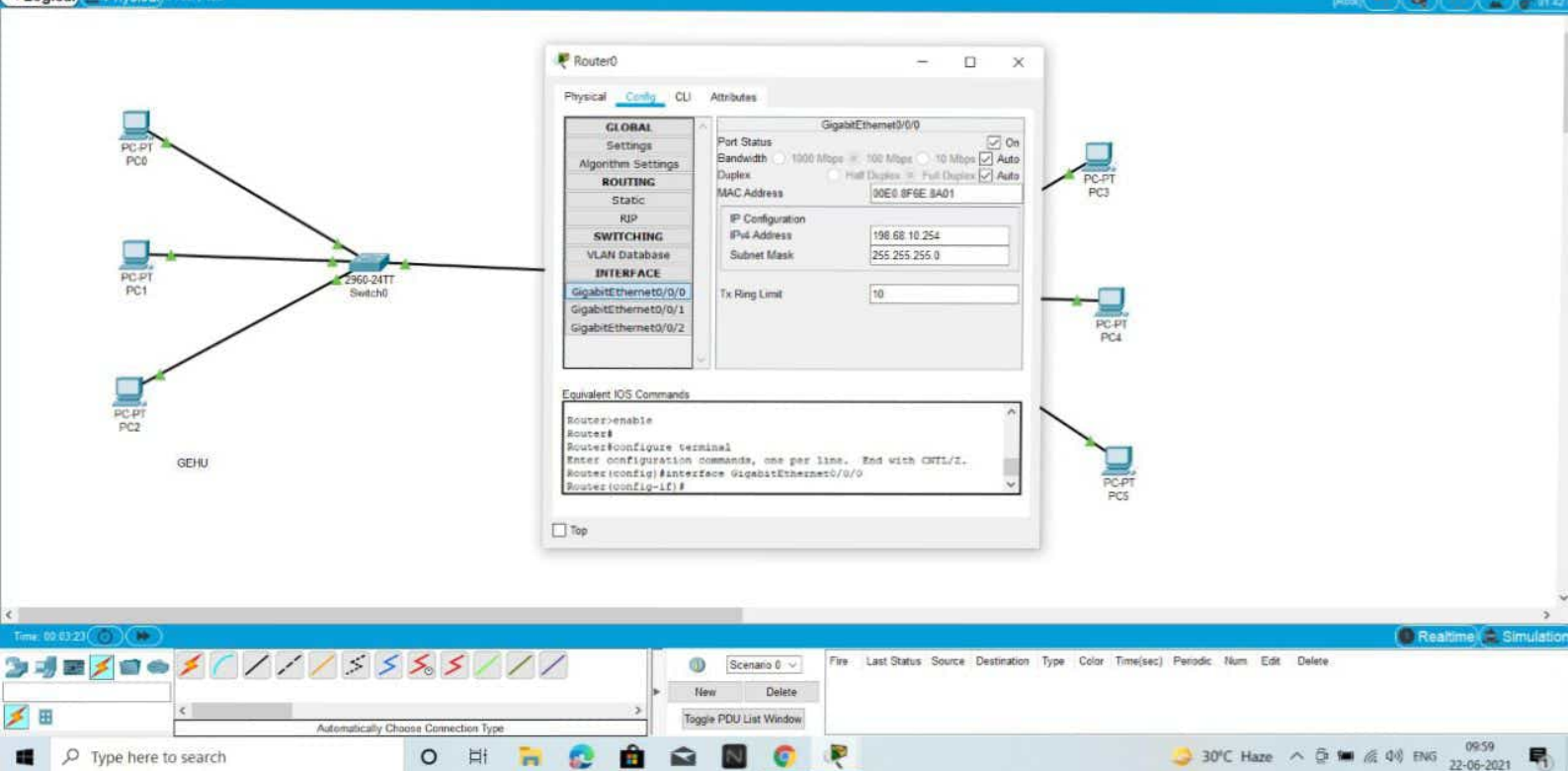
Delete

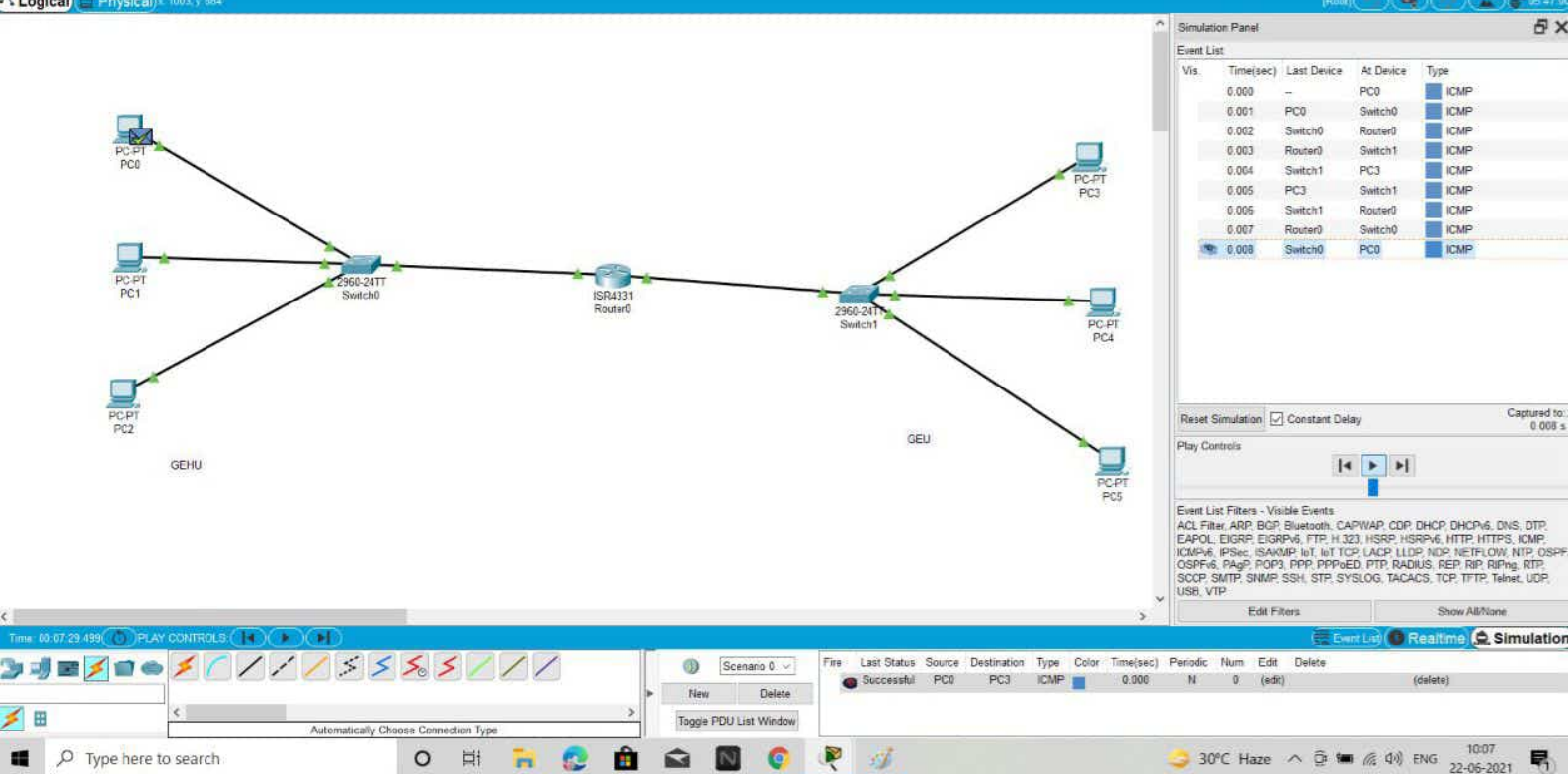
Toggle PDU List Window

Automatically Choose Connection Type

Realtime

Simulation





C:\Users\user\Desktop\NetworkDiagram\NetworkDiagram

File Edit Options View Tools Windows Help

Standard Toolbar

Navigation Toolbar

Legend

Project: New Project

