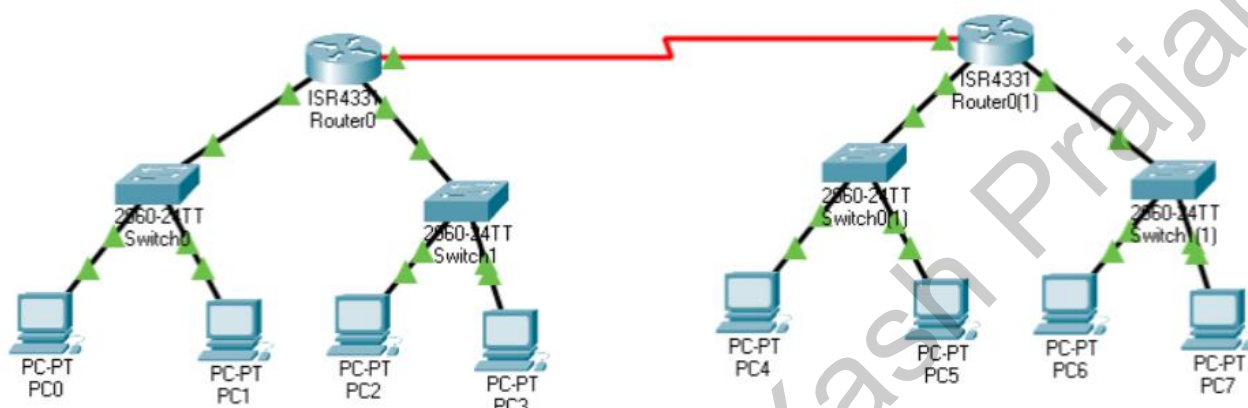


Institute of Computer Technology  
B. Tech Computer Science and Engineering  
Subject: Basics of Communication Systems (2CSE202)  
**PRACTICAL-EXAM**

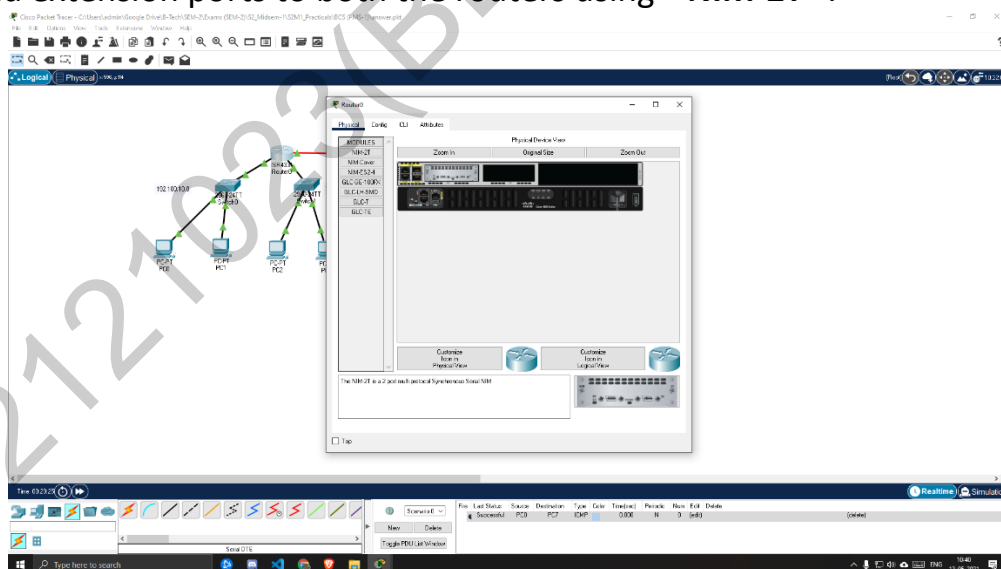
Aim:

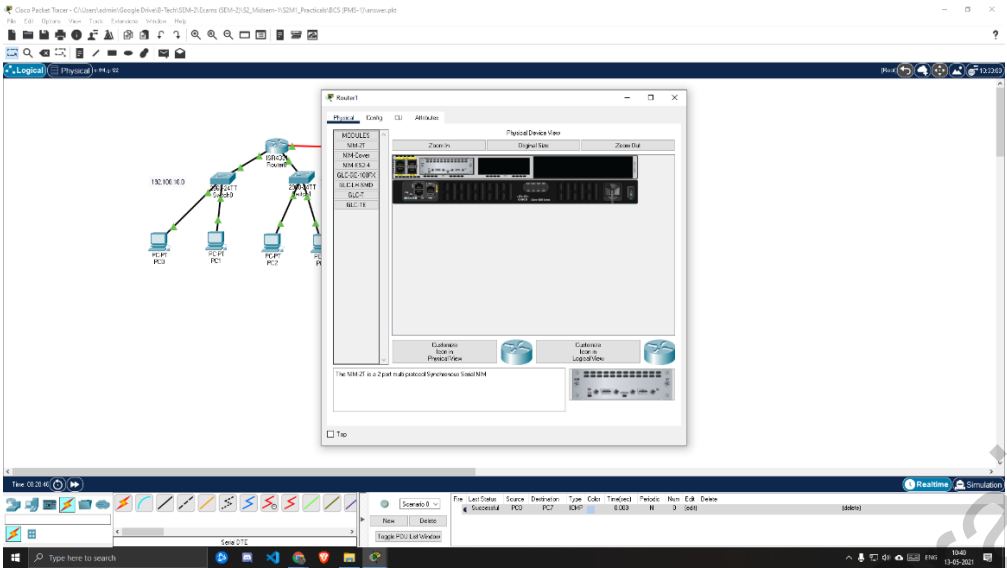
Create a networks as shown below and send packet successfully from PC0 to PC7



**SOLUTION:**

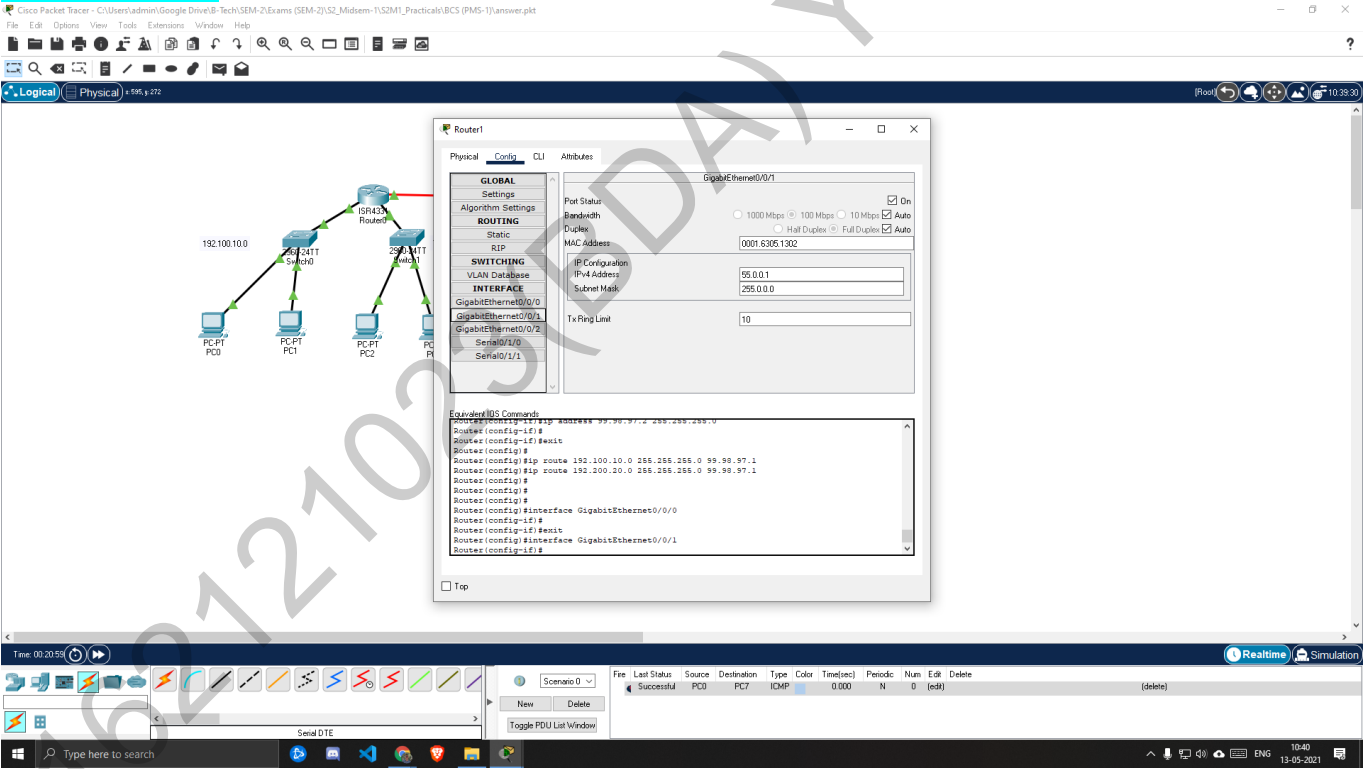
- **Step 1:** Create the given network with the help of Routers, Switches and PCs.
- **Step 2:** Router does not have enough ports to connect to other router, so we need to add extension ports to both the routers using “NIM-2T”.





- **Step 3:** Connect all the devices with appropriate cables and turn ON the ports on both the routers.
- **Step 4:** Configure the ROUTERS and PCs according to the following: -

**FOR ROUTERS**



Logical

Physical

192.100.10.0

ISR4331 Router

255.24.11 Switch

255.24.11 Switch

PC-PT PC0

PC-PT PC1

PC-PT PC2

PC-PT PC3

Router1

Physical

Config

CLI

Attributes

GLOBAL

Settings

ROUTING

Static

SWITCHING

INTERFACE

GigabitEthernet0/0/0

Port Status

Bandwidth

Duplex

MAC Address

IP Configuration

IPv4 Address

Subnet Mask

Tx Ring Limit

Equivalent IOS Commands

Router(config-if)#ip address 99.98.97.2 255.0.0.0

Router(config-if)#ip address 99.98.97.2 255.0.0.0

Router(config-if)#ip address 99.98.97.2 255.0.0.0

Router(config-if)#ip address 99.98.97.2 255.255.255.0

Router(config-if)#

Router(config-if)#exit

Router(config)#

Router(config)#ip route 192.100.10.0 255.255.255.0 99.98.97.1

Router(config)#ip route 192.200.20.0 255.255.255.0 99.98.97.1

Router(config)#

Router(config)#

Router(config)#

Router(config)#interface GigabitEthernet0/0/0

Router(config-if)#

Time: 00:20:50

Realtime

Simulation

File

Last Status

Source

Destination

Type

Color

Time(sec)

Periodic

Num

Edt

Delete

Successful

PC0

PC7

ICMP

0.000

N

0

(edit)

(delete)

Router1

Physical

Config

CLI

Attributes

GLOBAL

Settings

ROUTING

Static

SWITCHING

INTERFACE

Static Routes

Network

Mask

Next Hop

Add

Network Address

GigabitEthernet0/0/0

192.100.10.0/24 via 99.98.97.1

GigabitEthernet0/0/1

192.200.20.0/24 via 99.98.97.1

Seria0/1/0

Seria0/1/1

Remove

Equivalent IOS Commands

Router(config-if)#ip address 99.98.97.2 255.0.0.0

Router(config-if)#ip address 99.98.97.2 255.0.0.0

Router(config-if)#ip address 99.98.97.2 255.255.255.0

Router(config-if)#

Router(config-if)#exit

Router(config)#

Router(config)#ip route 192.100.10.0 255.255.255.0 99.98.97.1

Router(config)#ip route 192.200.20.0 255.255.255.0 99.98.97.1

Router(config)#

Router(config)#

Router(config)#

Time: 00:20:53

Realtime

Simulation

File

Last Status

Source

Destination

Type

Color

Time(sec)

Periodic

Num

Edt

Delete

Successful

PC0

PC7

ICMP

0.000

N

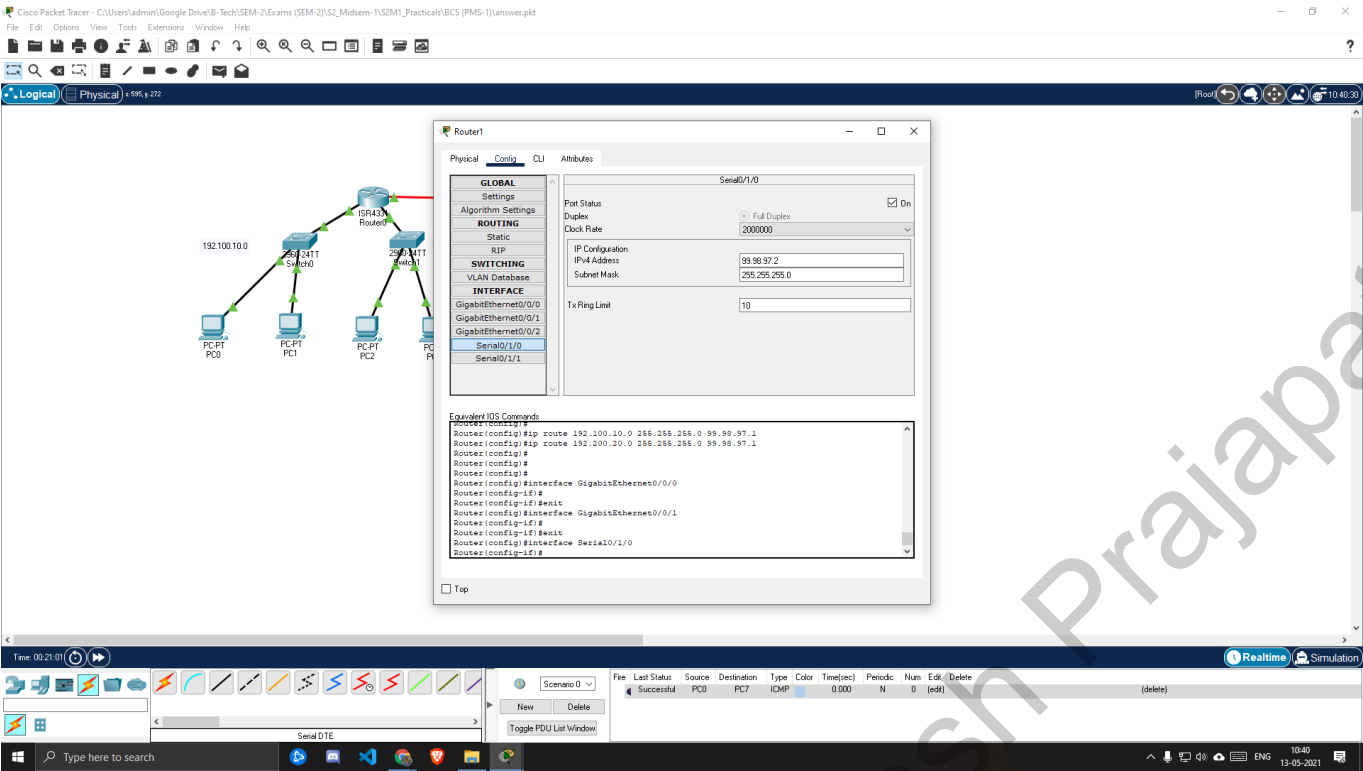
0

(edit)

(delete)

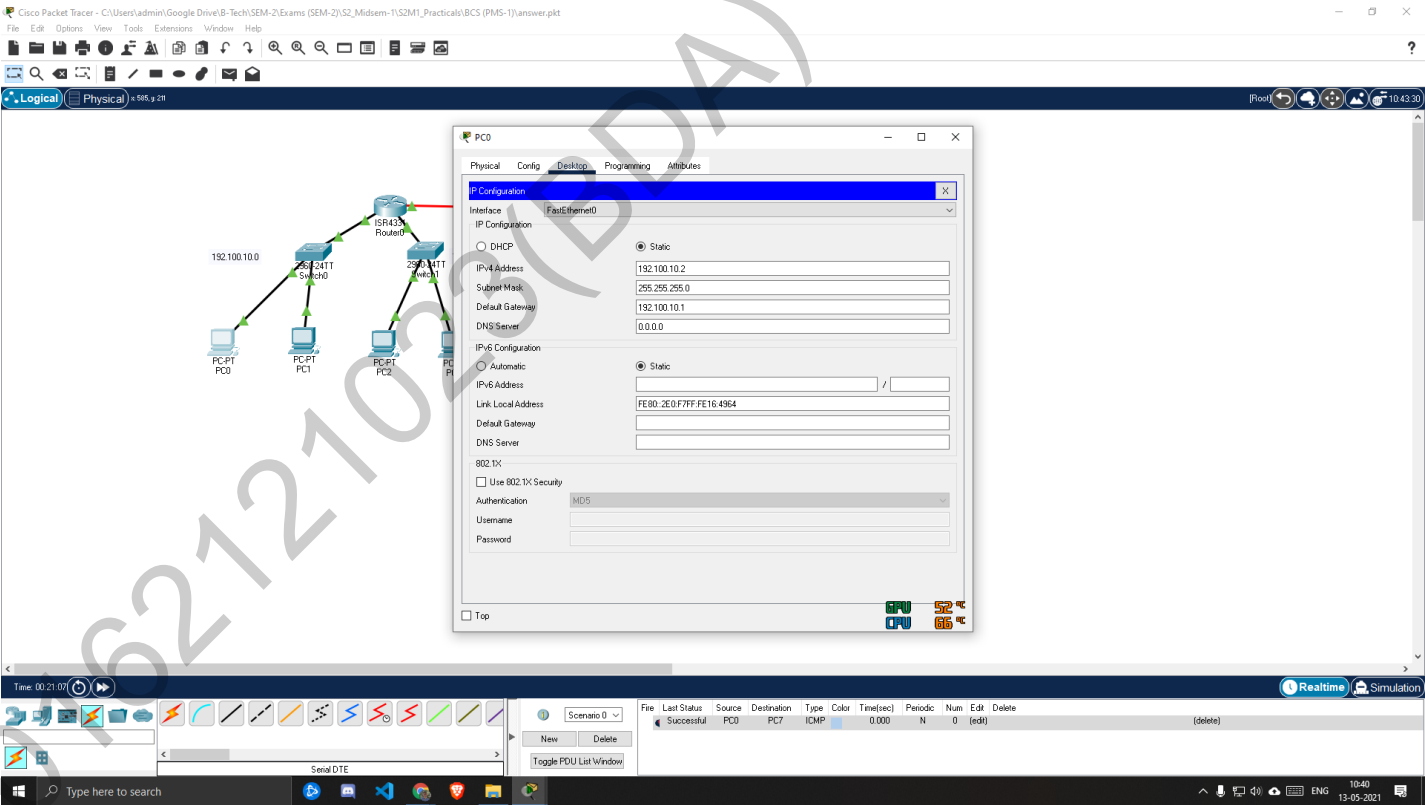




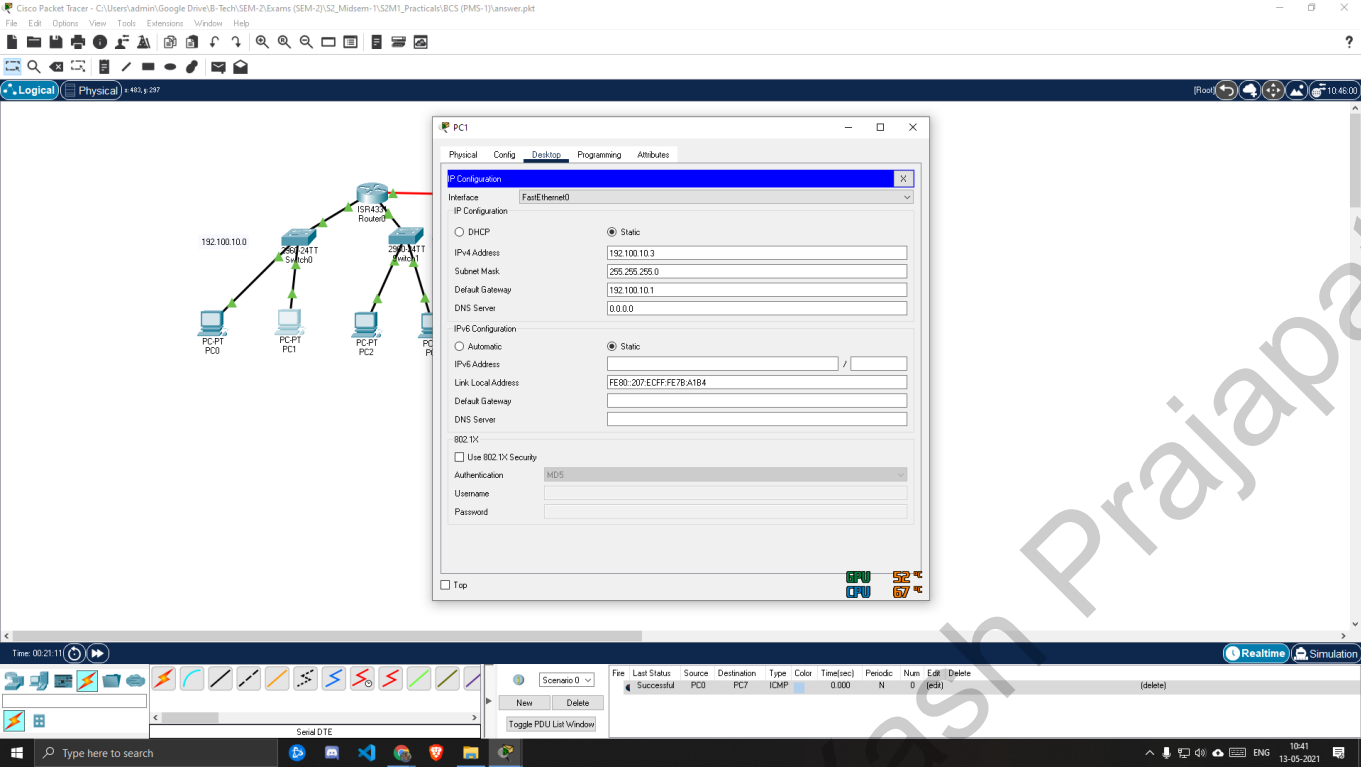


FOR PCs

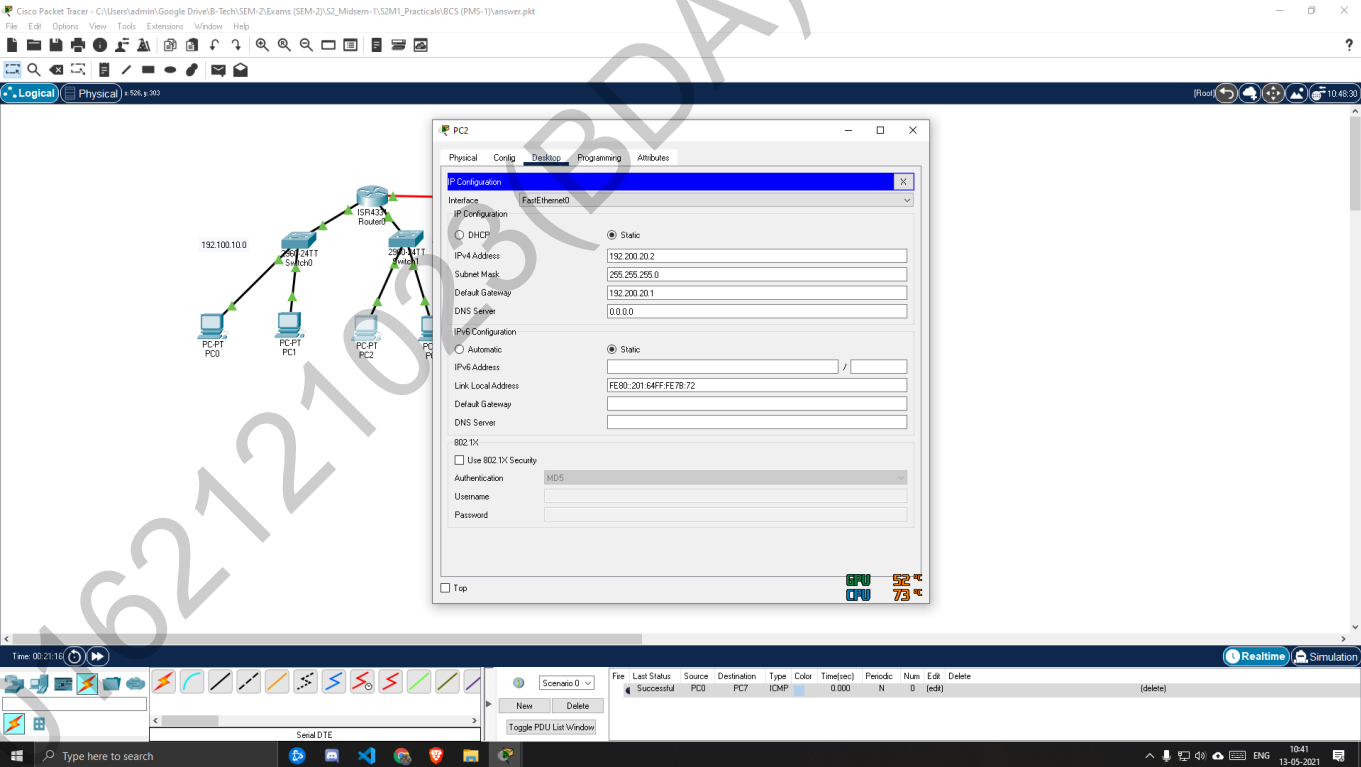
1. PC0



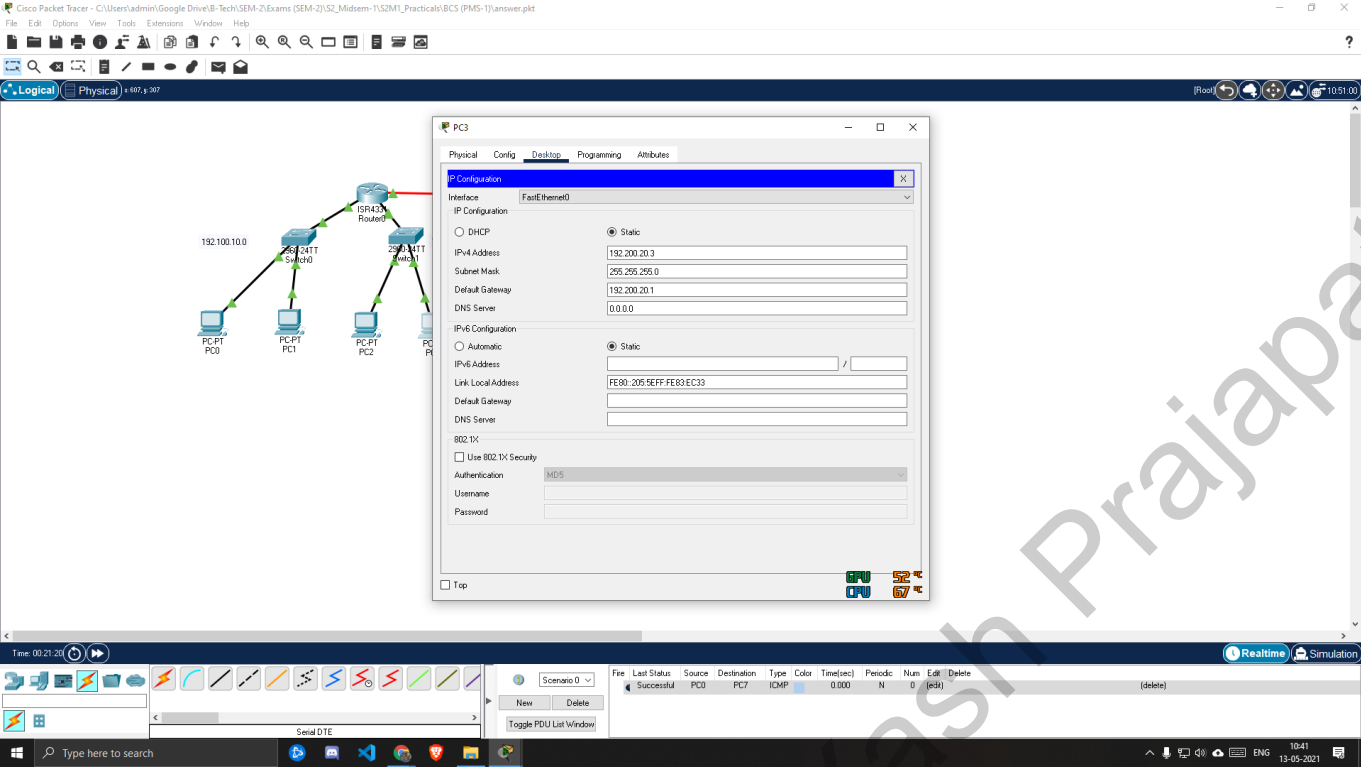
2. PC1



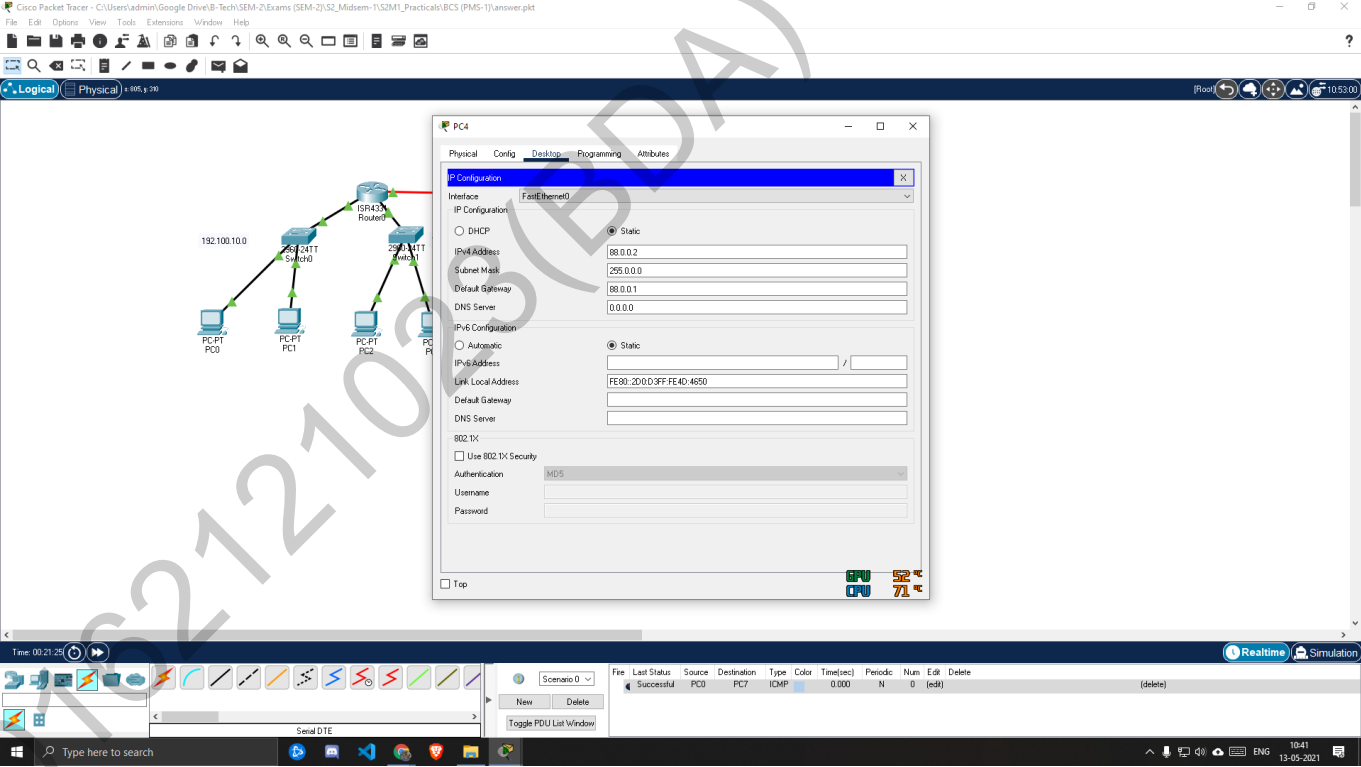
3. PC2



4. PC3



5. PC4





6. PC5

Cisco Packet Tracer - C:\Users\admin\Google Drive\B-Tech\SEM-2\Exams (SEM-2)\S2\_Midsem-T\SEM1\_Practicals\BCS (PMS-1)\answer.plt

File Edit Options View Tools Extensions Window Help

Logical Physical 10:55:00

PC5 Configuration:

- Interface: FastEthernet0/24
- IP Configuration:
  - ☐ DHCP
  - ☒ Static
    - IPv4 Address: 88.0.0.2
    - Subnet Mask: 255.0.0.0
    - Default Gateway: 88.0.0.1
    - DNS Server: 0.0.0.0
- IPv6 Configuration:
  - ☐ Automatic
  - ☒ Static
    - IPv6 Address: FE80::301:43FF:FE09:2432
    - Link Local Address: FE80::301:43FF:FE09:2432
    - Default Gateway:
    - DNS Server:
- 802.1X:
  - ☐ Use 802.1X Security
  - Authentication: MD5
  - Username:
  - Password:

Time: 00:21:20

Scenario 0

File Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Successful PC0 PC7 ICMP 0.000 N 0 (edit) (delete)

Serial DTE

Type here to search

ENG 10:41 13-05-2021

7. PC6

Cisco Packet Tracer - C:\Users\admin\Google Drive\B-Tech\SEM-2\Exams (SEM-2)\S2\_Midsem-T\SEM1\_Practicals\BCS (PMS-1)\answer.plt

File Edit Options View Tools Extensions Window Help

Logical Physical 10:57:00

PC6 Configuration:

- Interface: FastEthernet0/24
- IP Configuration:
  - ☐ DHCP
  - ☒ Static
    - IPv4 Address: 55.0.0.2
    - Subnet Mask: 255.0.0.0
    - Default Gateway: 55.0.0.1
    - DNS Server: 0.0.0.0
- IPv6 Configuration:
  - ☐ Automatic
  - ☒ Static
    - IPv6 Address: FE80::30A:41FF:FECD:4B78
    - Link Local Address: FE80::30A:41FF:FECD:4B78
    - Default Gateway:
    - DNS Server:
- 802.1X:
  - ☐ Use 802.1X Security
  - Authentication: MD5
  - Username:
  - Password:

Time: 00:21:32

Scenario 0

File Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

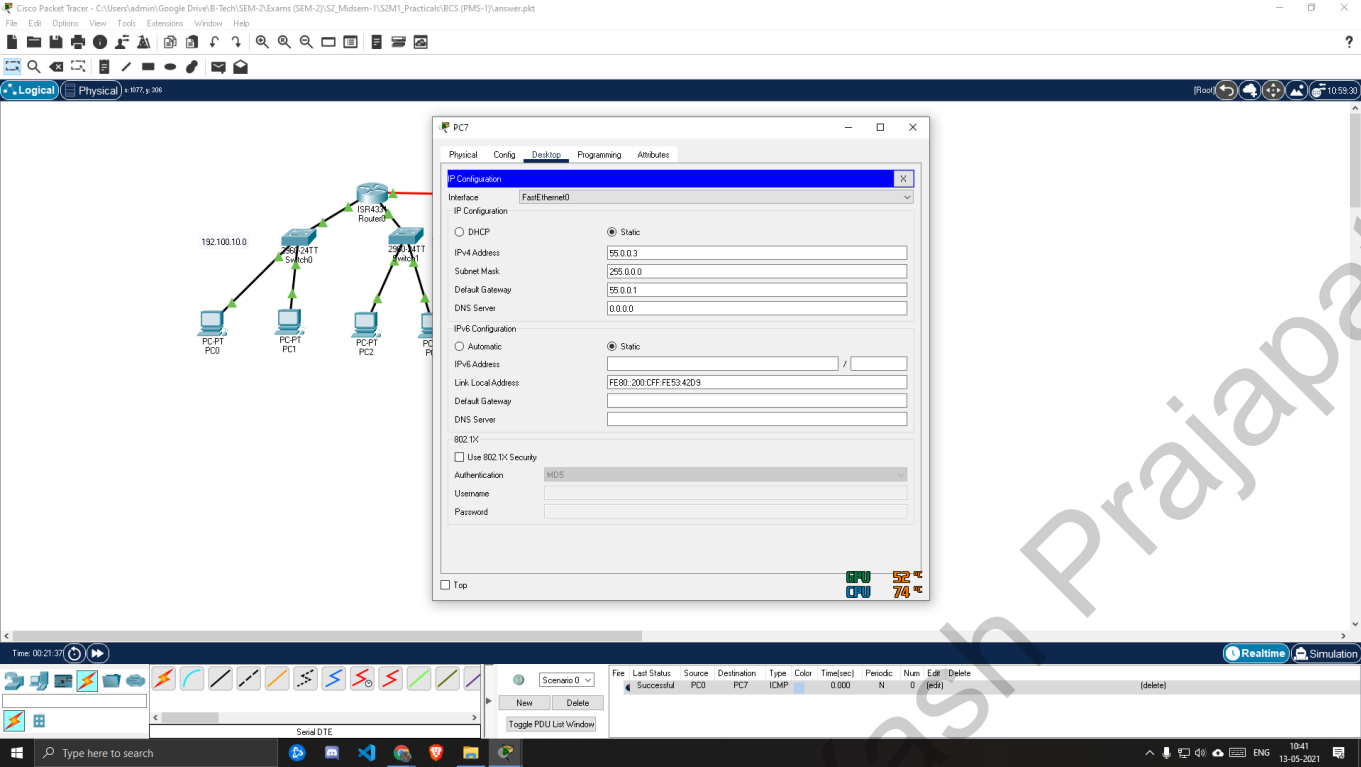
Successful PC0 PC7 ICMP 0.000 N 0 (edit) (delete)

Serial DTE

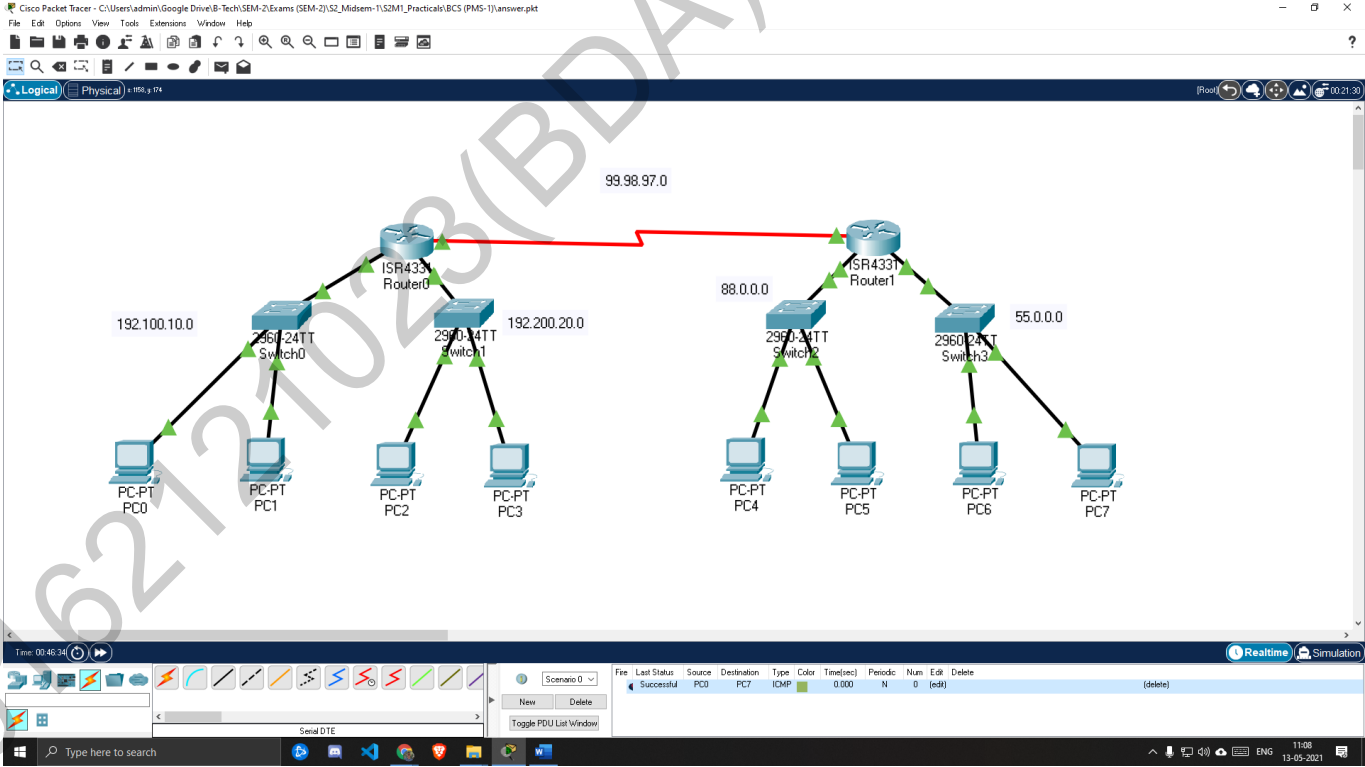
Type here to search

ENG 10:41 13-05-2021

8. PC7



- Step 5: Now as the connections are done, all PCs are connected to each other.
- Step 6: The connections is according as below.



- **Step 7:** Now according to question, we have to send packet from PC0 to PC7.

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC7	ICMP		0.000	N	0	(edit)	(delete)

**CONCLUSION:**

Hence by doing this practical we conclude the study and designing of computer network according to question.