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Mid Term Practical

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.**

Answer:- Step1- open cisco packet tracer and select 10 end devices (PC$_1$ to PC$_{10}$).

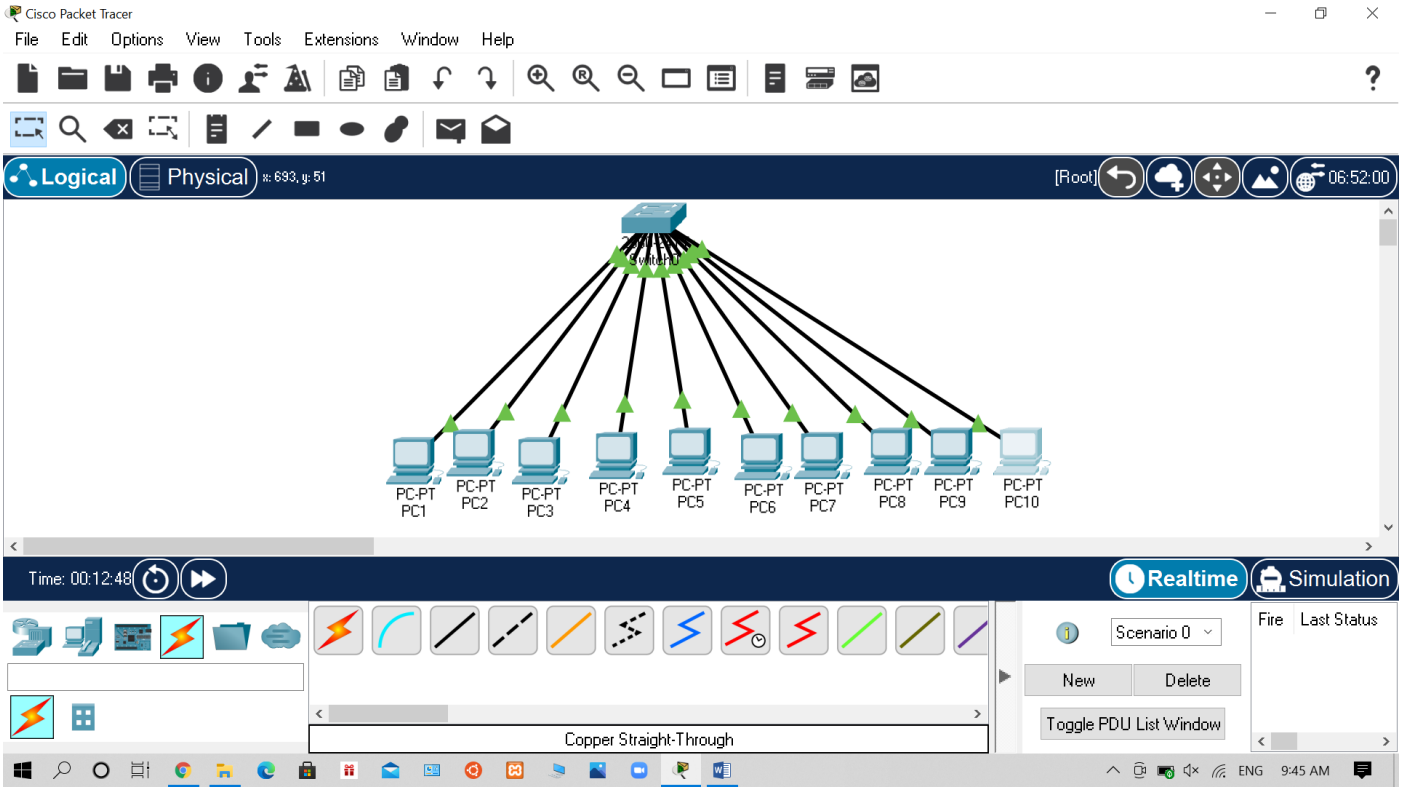
Step2- Now from network devices select the switch

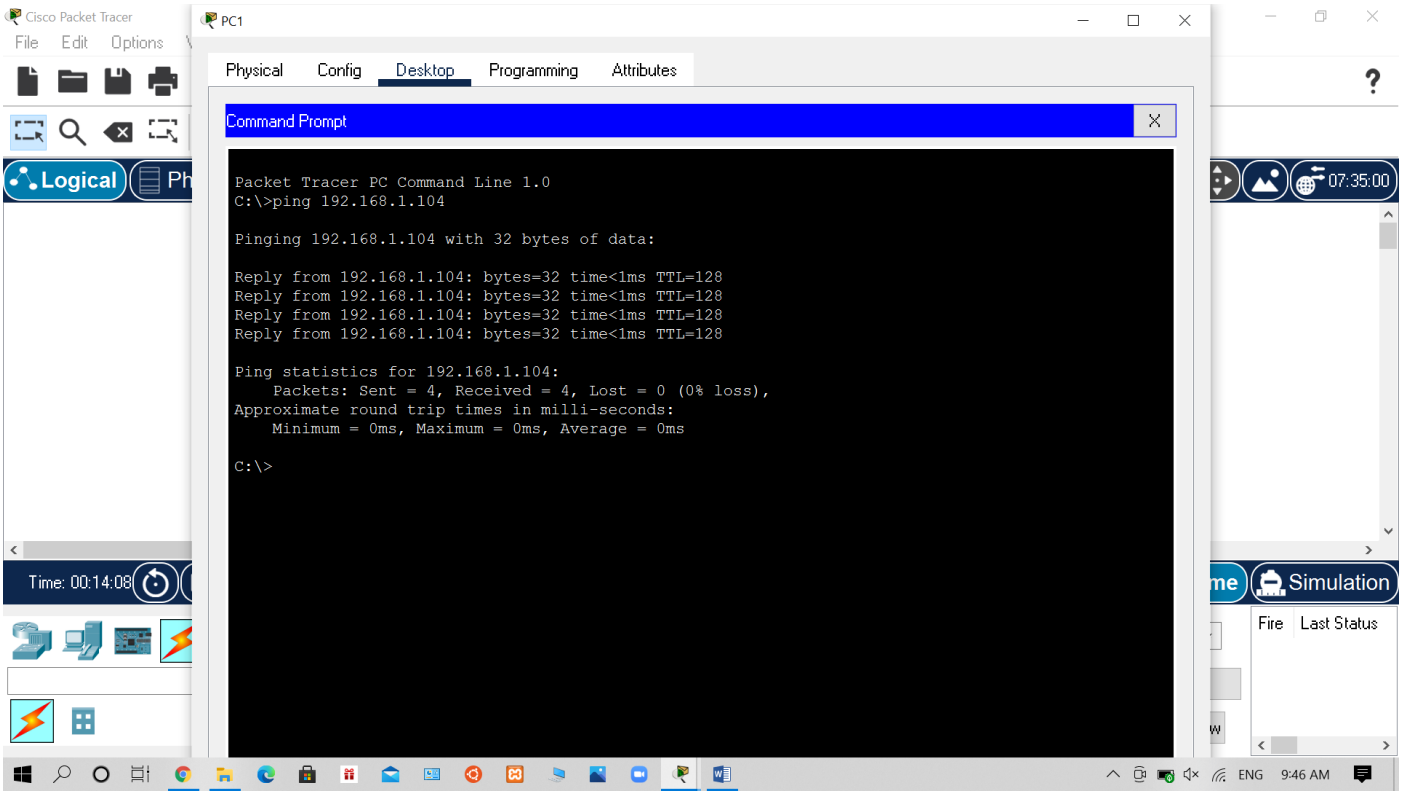
Step 3- From the connections option select the copper straight through cable and using it connect all the devices to the switch

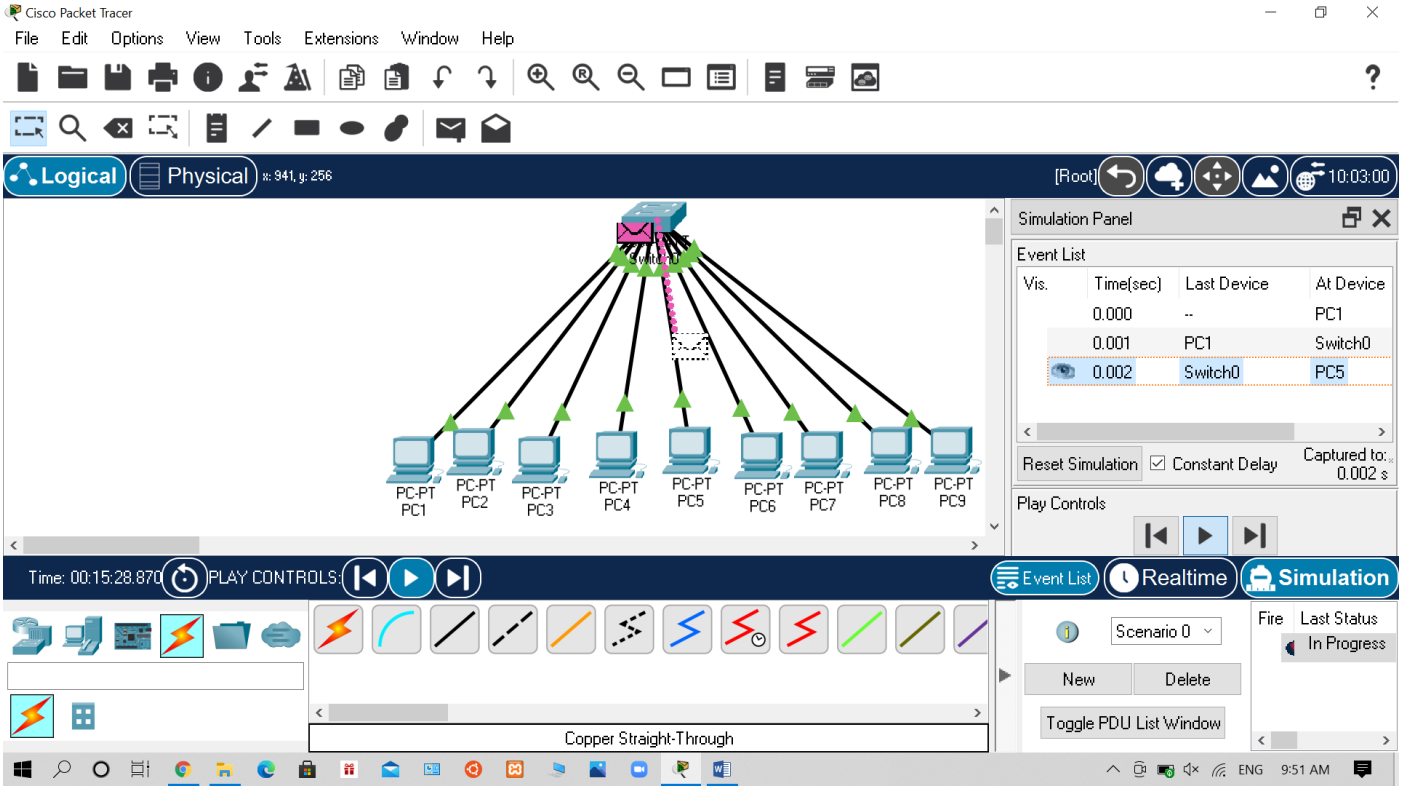
Step4- Now click on the device 1 (PC$_1$) and go to the desktop option and from there select Ip configuration and give Ip address as 192.168.1.100 to the first device and repeat this process for all the devices.

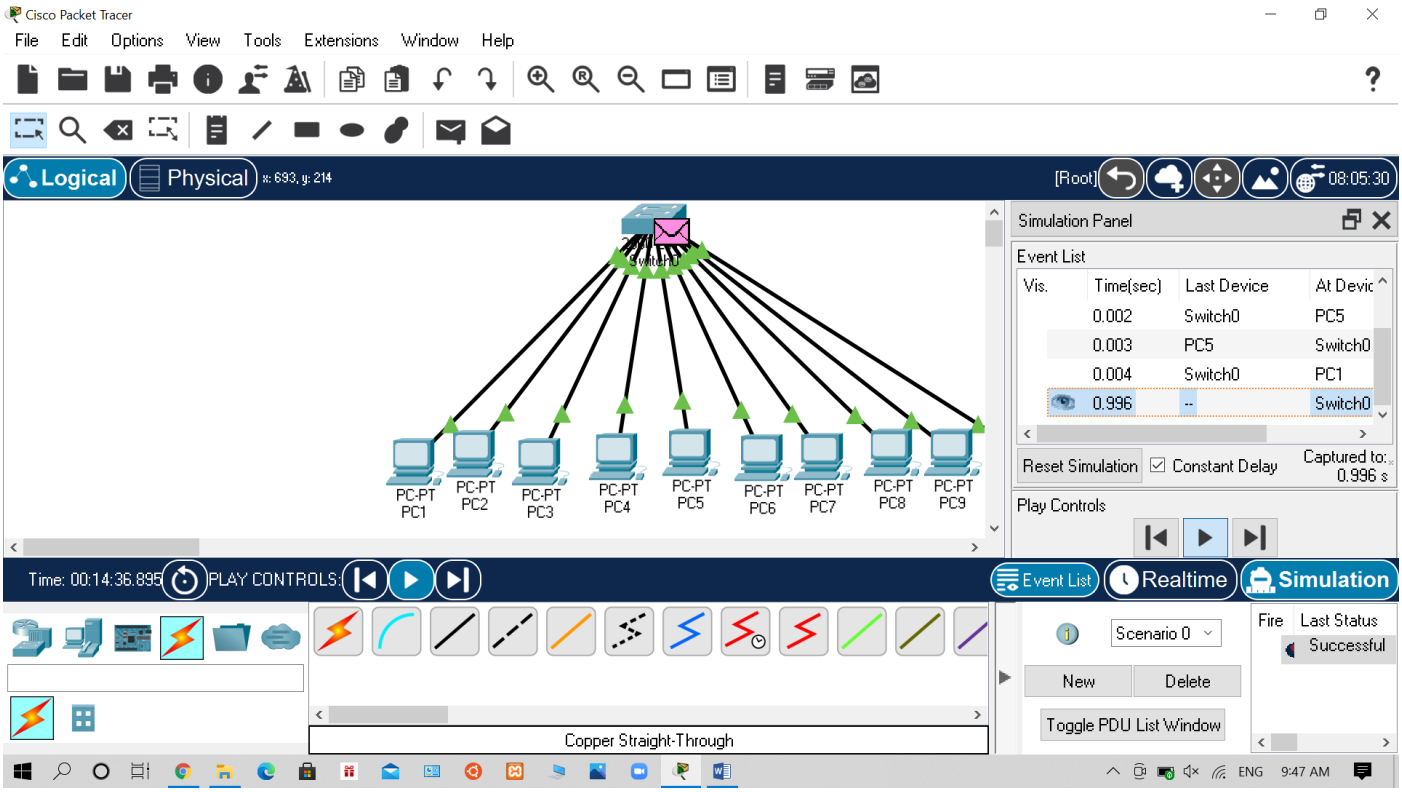
Step 5- Now select PC$_1$ go to the command prompt option use the ping command with Ip address of 5th device to show the communication is established i.e; connection is working or not. Or use the simulation mode for showing communication. i.e; Select PDU from PC$_1$ to PC$_2$ and see whether acknowledgement recieved or not.

Output:


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical
Physical
[Root]
06:52:00
Switch0
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
PC-PT PC10
Time: 00:12:48
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Copper Straight-Through
ENG
9:45 AM


Cisco Packet Tracer
PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.104
Pinging 192.168.1.104 with 32 bytes of data:
Reply from 192.168.1.104: bytes=32 time<1ms TTL=128
Reply from 192.168.1.104: bytes=32 time<1ms TTL=128
Reply from 192.168.1.104: bytes=32 time<1ms TTL=128
Reply from 192.168.1.104: bytes=32 time<1ms TTL=128
Ping statistics for 192.168.1.104:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Logical
07:35:00
Time: 00:14:08
Simulation
Fire
Last Status
ENG
9:46 AM


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical
Physical
x: 941, y: 256
[Root]
10:03:00
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device
0.000 -- PC1
0.001 PC1 Switch0
0.002 Switch0 PC5
Reset Simulation
Constant Delay
Captured to: 0.002 s
Play Controls
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
Time: 00:15:28.870
PLAY CONTROLS:
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status
In Progress
Copper Straight-Through
ENG 9:51 AM


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical
Physical
x: 693, y: 214
[Root]
08:05:30
Simulation Panel
Event List
Vis. Time(sec) Last Device At Devic
0.002 Switch0 PC5
0.003 PC5 Switch0
0.004 Switch0 PC1
0.996 -- Switch0
Reset Simulation
Constant Delay
Captured to: 0.996 s
Play Controls
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
Time: 00:14:36.895
PLAY CONTROLS:
Event List
Realtime
Simulation
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status
Successful
Copper Straight-Through
ENG 9:47 AM

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.**

Answer 2- Step 1- Open cisco packet tracer and create 2 LANs using 4 end devices in each lan.

Step 2- After setting up the 2 LAN's from the network devices select the router 2911.

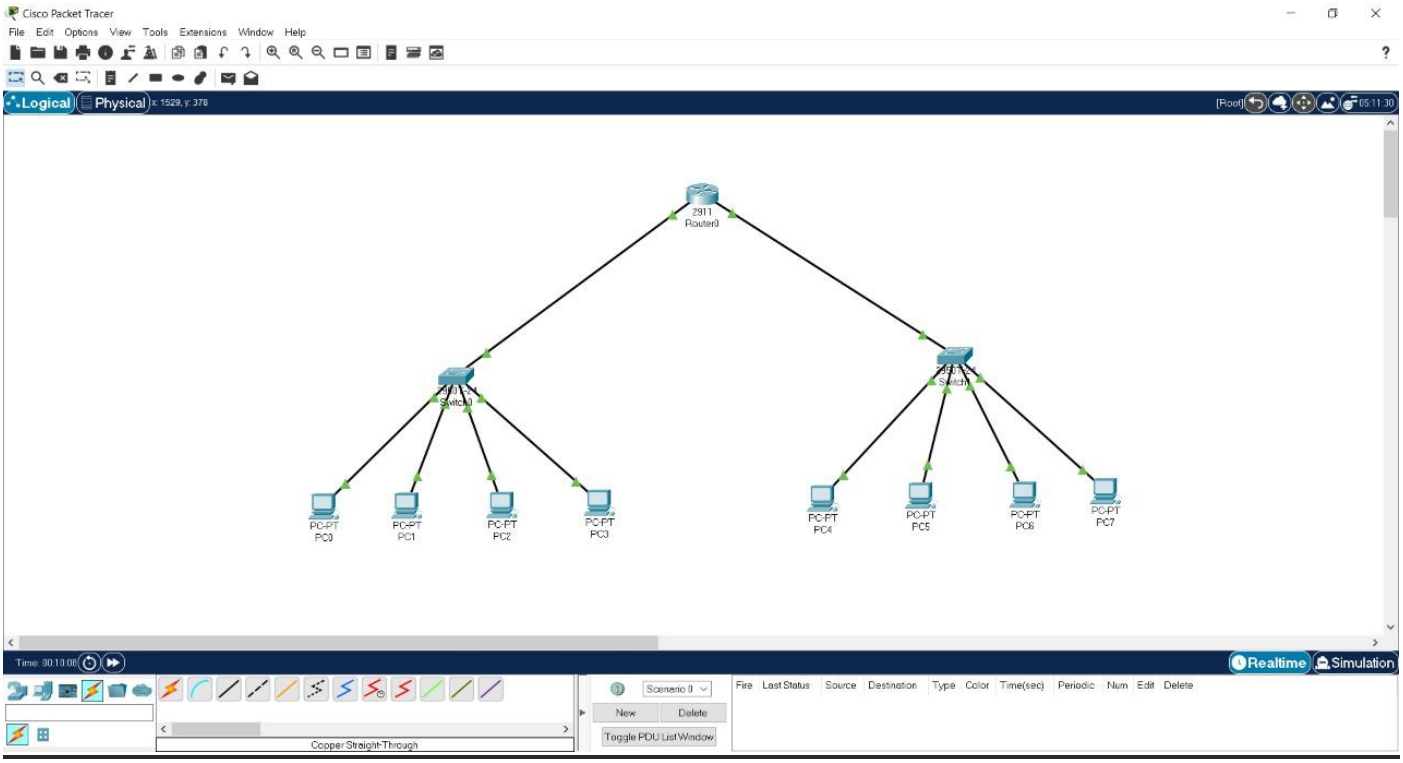
Step 3- Now from the connections select the copper Straight through cable. and connect the LANs with the routers.

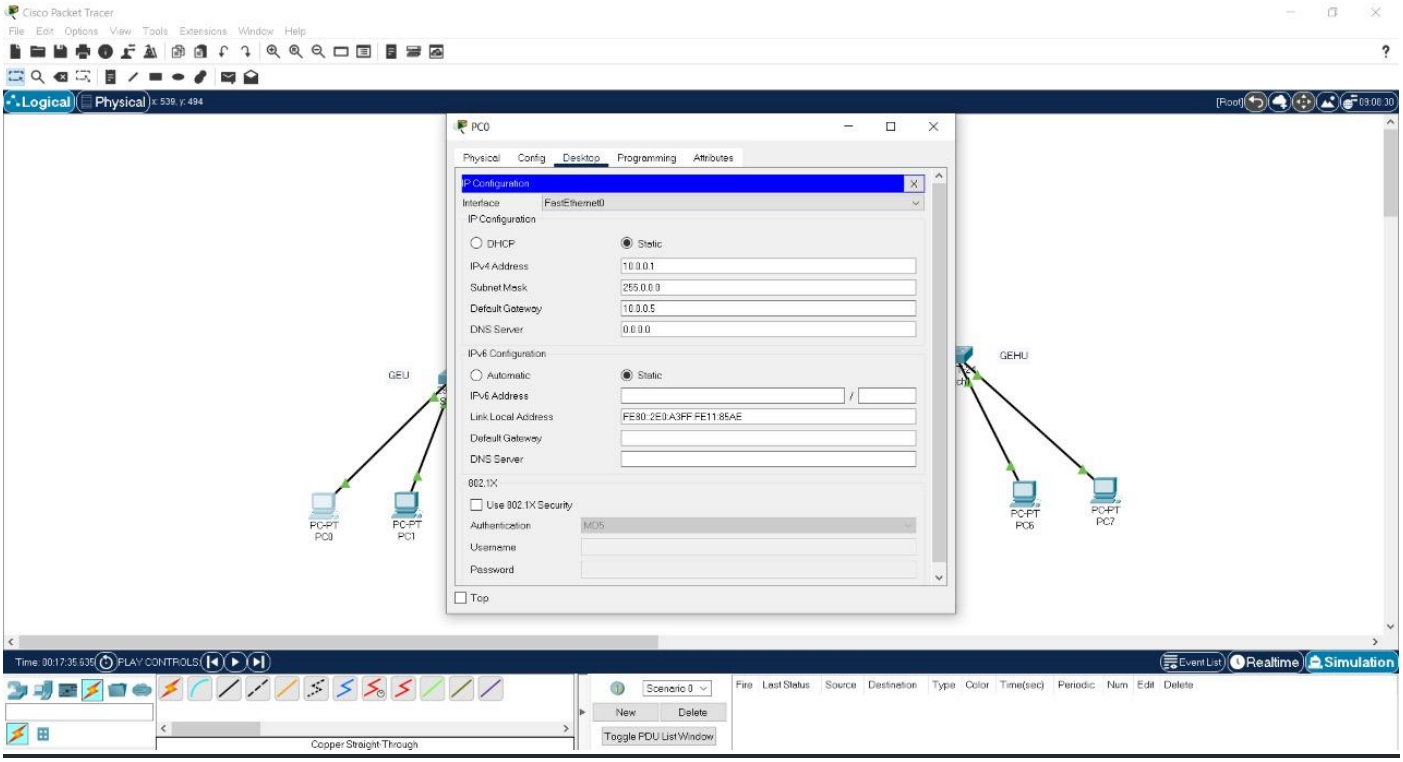
Step 4- click on router go to config click on gigabit ethernet 0/0. give the Ipv4 address for LAN1 and LAN2 and on the port status.

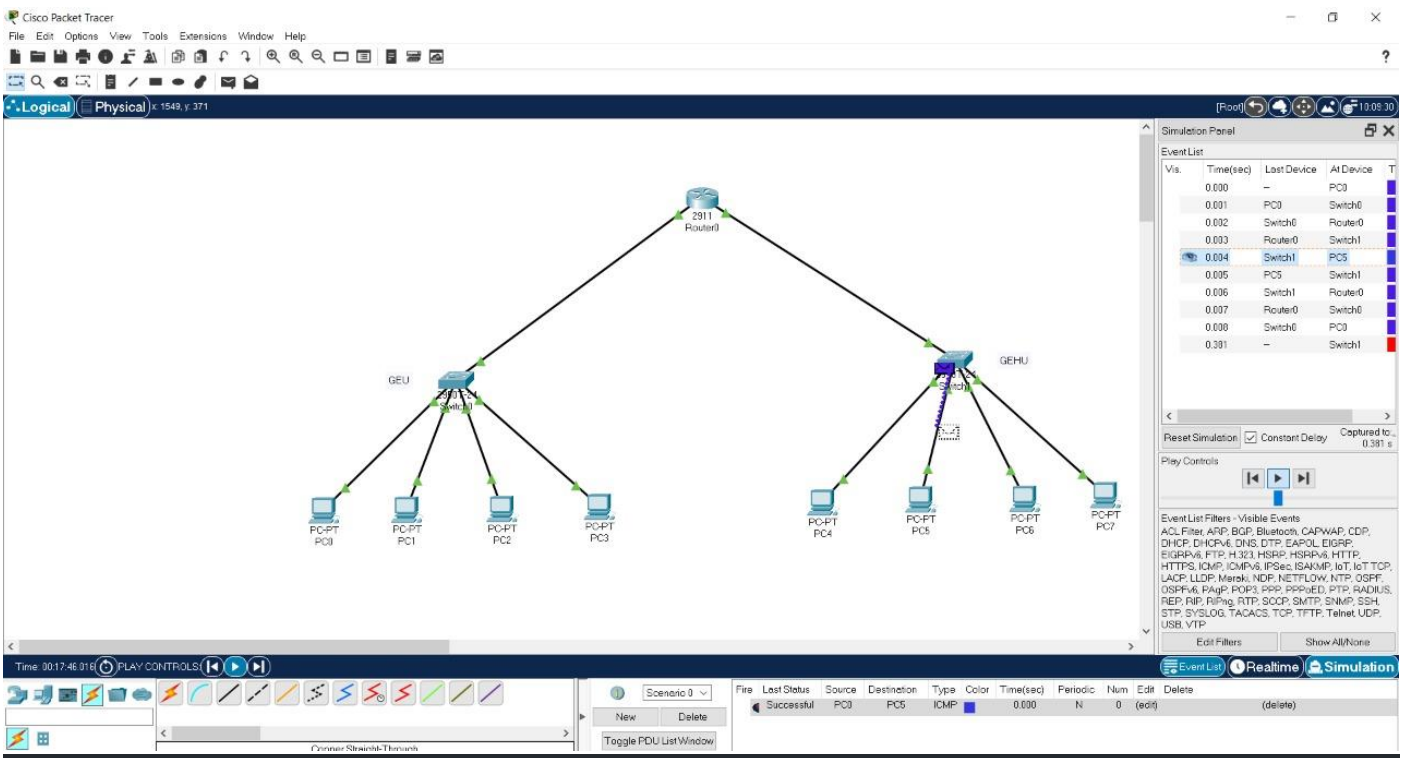
Step 5. Go to Pc0 click on desktop in Ip config type default gateway and use it for all devices of I Lan and do the same for II LAN.

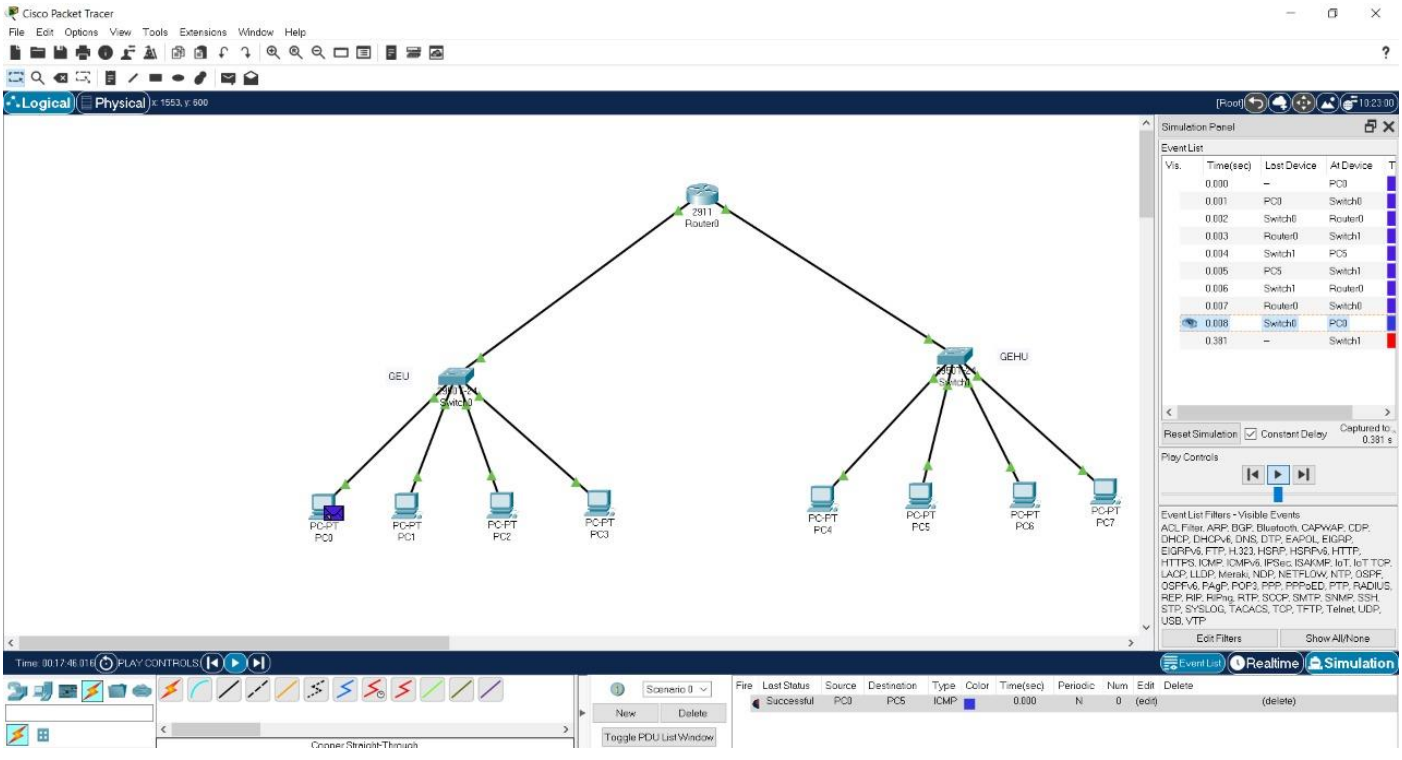
Step 6. Use the ping command to check the connection or use Simulation mode.

Output:


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical Physical
2911 Router0
Switch0
Switch1
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
PC-PT PC6
PC-PT PC7
Realtime Simulation
Copper Straight-Through


Cisco Packet Tracer
Logical Physical
PC0
Physical Config Desktop Programming Attributes
IP Configuration
Interface FastEthernet0
DHCP Static
IPv4 Address 10.0.0.1
Subnet Mask 255.0.0.0
Default Gateway 10.0.0.5
DNS Server 0.0.0.0
IPv6 Configuration
Automatic Static
IPv6 Address
Link Local Address FE80::2E0:A3FF:FE11:85AE
Default Gateway
DNS Server
802.1X
Use 802.1X Security
Authentication MD5
Username
Password
Top
GEU
GEHU
PC-PT PC0
PC-PT PC1
PC-PT PC6
PC-PT PC7
Realtime Simulation
Copper Straight-Through


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical Physical
2911 Router0
GEU
GEHU
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
PC-PT PC6
PC-PT PC7
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device
0.000 – PC0
0.001 PC0 Switch0
0.002 Switch0 Router0
0.003 Router0 Switch1
0.004 Switch1 PC5
0.005 PC5 Switch1
0.006 Switch1 Router0
0.007 Router0 Switch0
0.008 Switch0 PC0
0.381 – Switch1
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC5 ICMP 0.000 N 0 (edit) (delete)
New
Delete
Toggle PDU List Window


Cisco Packet Tracer
File Edit Options View Tools Extensions Window Help
Logical Physical
2911 Router0
GEU
GEHU
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
PC-PT PC6
PC-PT PC7
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device
0.000 – PC0
0.001 PC0 Switch0
0.002 Switch0 Router0
0.003 Router0 Switch1
0.004 Switch1 PC5
0.005 PC5 Switch1
0.006 Switch1 Router0
0.007 Router0 Switch0
0.008 Switch0 PC0
0.381 – Switch1
Reset Simulation
Constant Delay
Play Controls
Event List Filters - Visible Events
Edit Filters
Show All/None
Realtime
Simulation
Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete
Successful PC0 PC5 ICMP 0.000 N 0 (edit) (delete)
New
Delete
Toggle PDU List Window