WEEK 4

Configure DHCP within a LAN and outside LAN.

OBSERVATION:

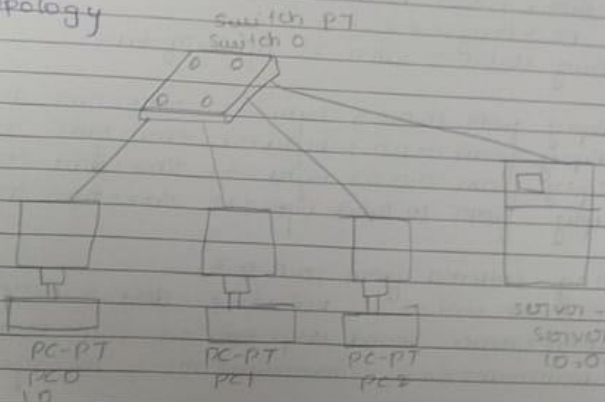
DATE 15/7/23

configure defaut route

Aim:-

configure DHCP within a LAN and outside LAN

Topology



Procedure:-

connect 3 pc's and 1 server to a switch using upper straight through cable

click on server and go to services tab select DHCP and turn on the DHCP service

Set the IP address of the start IP address as 10.0.0.2 and click on save button

Before this, set the IP address of server in config tab under fast ethernet as 10.0.0.1

Next click on Pc_0 and go to desktop tab, click on IP configuration, select DHCP here it

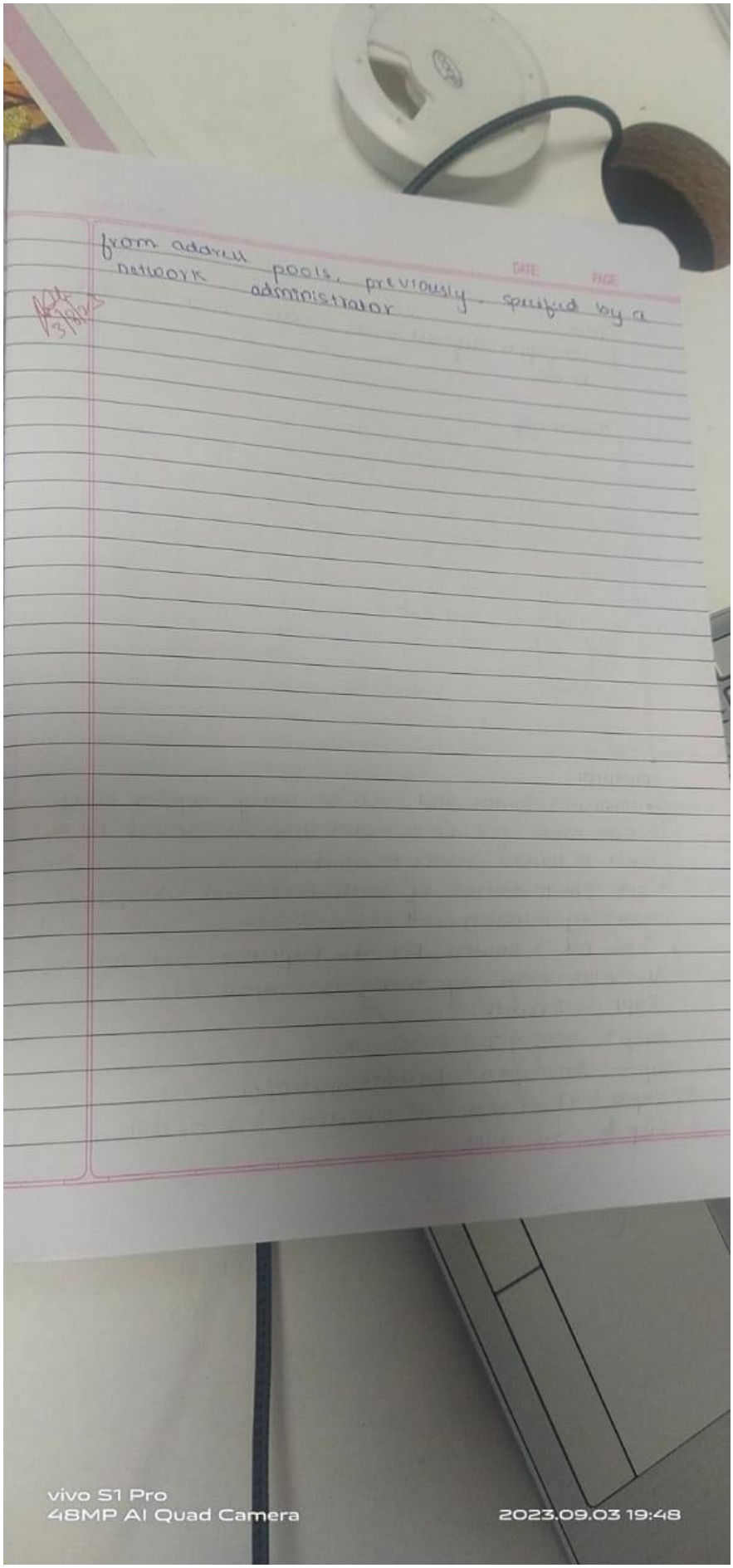
Well request for an IP address are successfully got
The DHCP request also sets the IP address
Replat this steps for other 2 PC's
to send a packet across PC's go to PC's command
Prompt and type ping destination IP address

Ping output
Packet tracer PC command line 1.0
PC > Ping 10.0.0.3
Ping 10.0.0.3 with 32 bytes of data

Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128
Reply from 10.0.0.3 bytes=32 time=0ms TTL=128

Ping statistics from 10.0.0.3
Packets: sent=4, Recived=4 lost=0 (0% loss)
Approximate round trip time in milli seconds
minimum=0ms, maximum=1ms Average=0ms

Observation:
DHCP is used to dynamically assign an IP address
to any device or node
It is a client-server protocol to which servers
manage a pool of unique IP address & also
about client configuration parameter
DHCP enabled client sends a request to DHCP server
when they want to connect to a network
The DHCP server responds to the client request
by providing IP configuration information


from address pools, previously specified by a network administrator

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address in their respective command prompt

Ping output

PC > Ping 20.0.0.2

Ping 20.0.0.2 with 32 byte of data

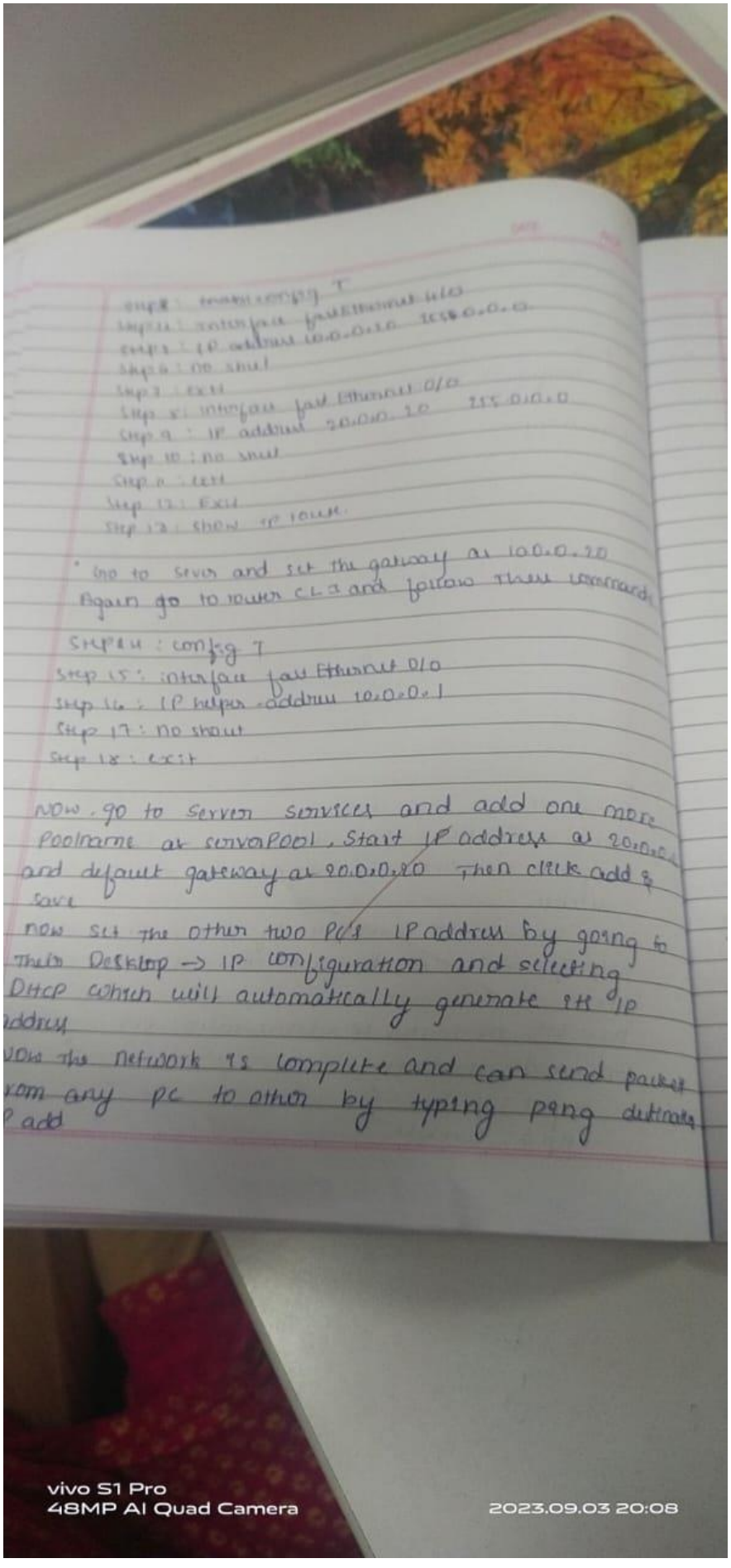
Request timed out

Reply from 20.0.0.2 : bytes = 32 time = 0ms TTL = 127
Reply from 20.0.0.2 : bytes = 32 time = 0ms TTL = 127
Reply from 20.0.0.2 : bytes = 32 time = 0ms TTL = 127

Ping statistics for 20.0.0.2
Packets Sent = 4 Recived = 3 , lost = 1 (25% loss)
Approximate round trip times in milliseconds
minimum = 0ms maximum = 0ms Average = 0ms

observation

- DHCP is used to assign IP address dynamically to different divices
- To assign continous IP address we create a server Pool where we assign the starting IP address and a default gateway number. For Pc's under different switches we create a different serverpool again and start. This takes care of delivering the packets to correct destination IP address and also sends back the ACK to the initial device.


Step 8 : no shut
Step 9 : exit
Step 10 : interface fast Ethernet 0/0
Step 11 : IP address 20.0.0.20 255.0.0.0
Step 12 : no shut
Step 13 : exit
Step 14 : Exit
Step 15 : show ip route
Go to server and set the gateway as 10.0.0.20
Again go to router CLI and follow these commands
Step 14 : config T
Step 15 : interface fast Ethernet 0/0
Step 16 : IP helper-address 10.0.0.1
Step 17 : no shout
Step 18 : exit
NOW, go to Server services and add one more
Poolname as serverPool, Start IP address as 20.0.0.1
and default gateway as 20.0.0.20 Then click add &
save
now set the other two PC's IP address by going to
their Desktop → IP configuration and selecting
DHCP which will automatically generate the IP
address
Now the Network is complete and can send packet
from any PC to other by typing ping destinate
IP add
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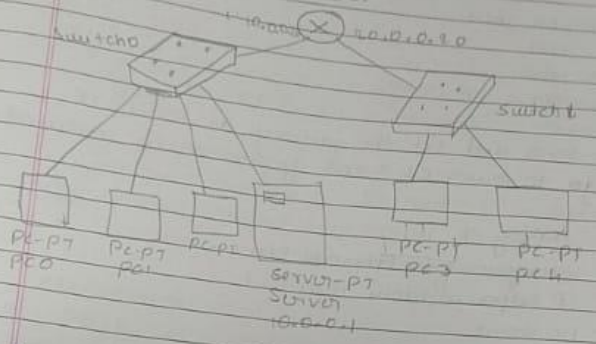
Aim

Configure DHCP within a LAN and outside LAN.

Topology:



Procedure

Add a Router, a Switch and 3 PCs to it.

Program networks & connect the router to both Switchs

Set the server IP address of server and with the help of server set the first 3PC's IP address through DHCP

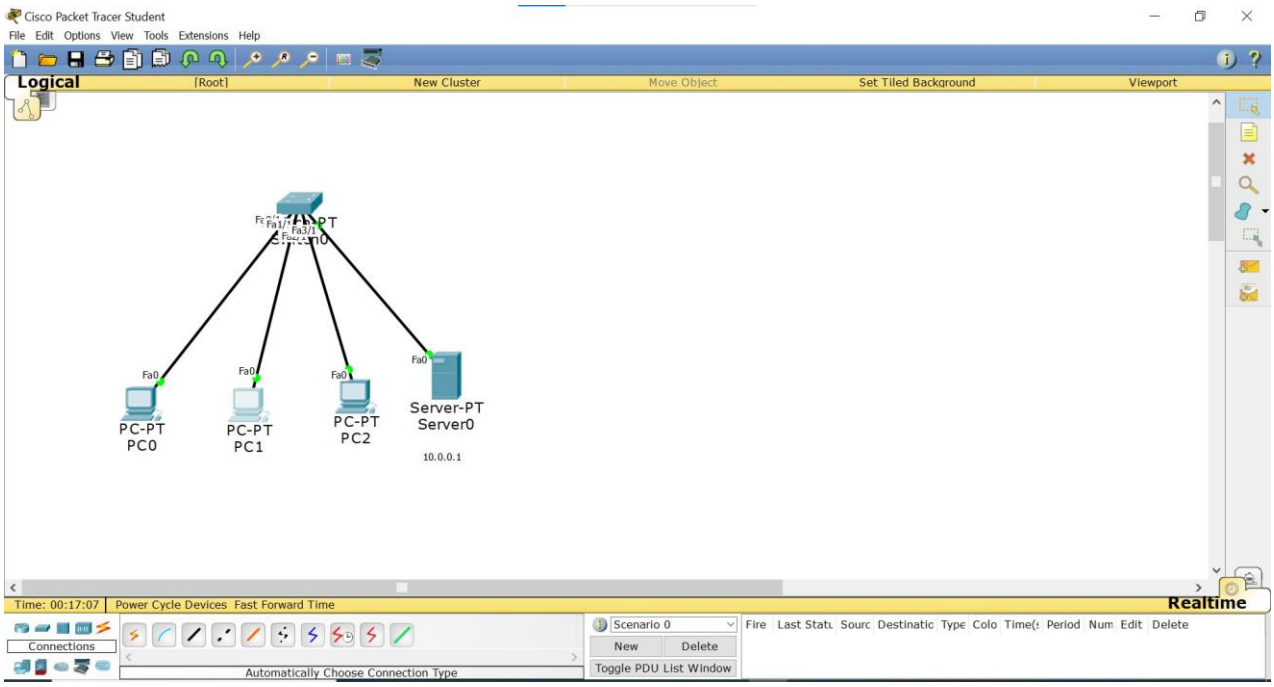
Now set the router IP address with the following commands statically

step 1: no

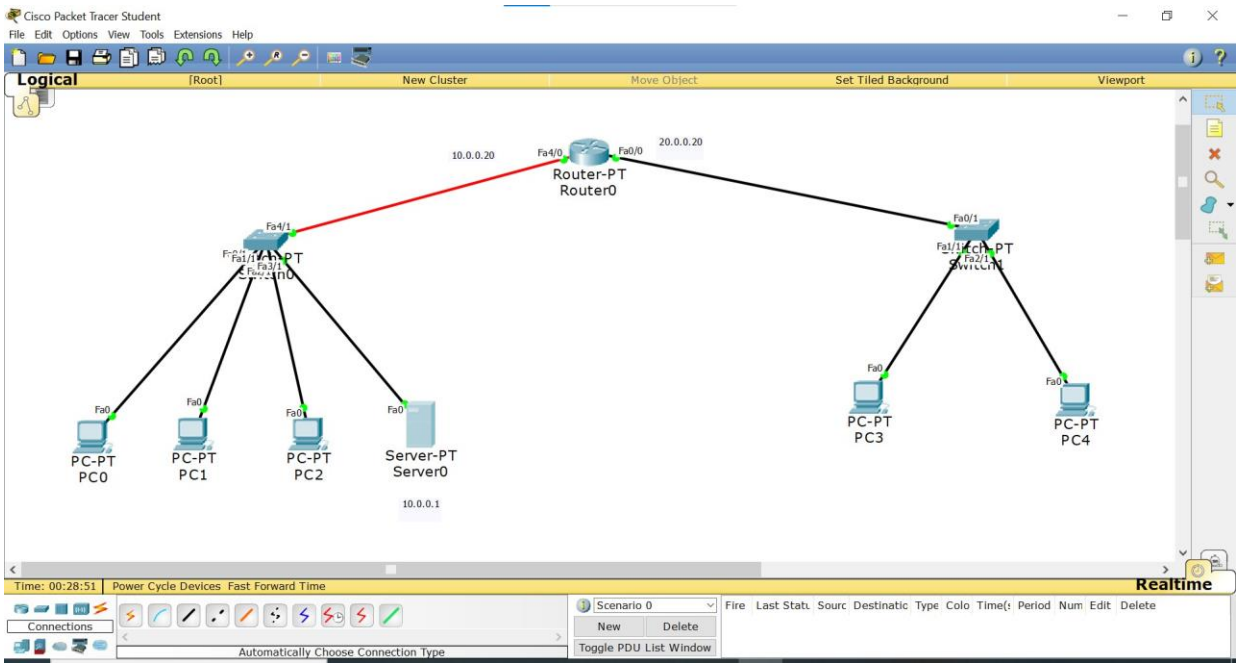
step 2: enable

TOPOLOGY:

PROGRAM 4.1:

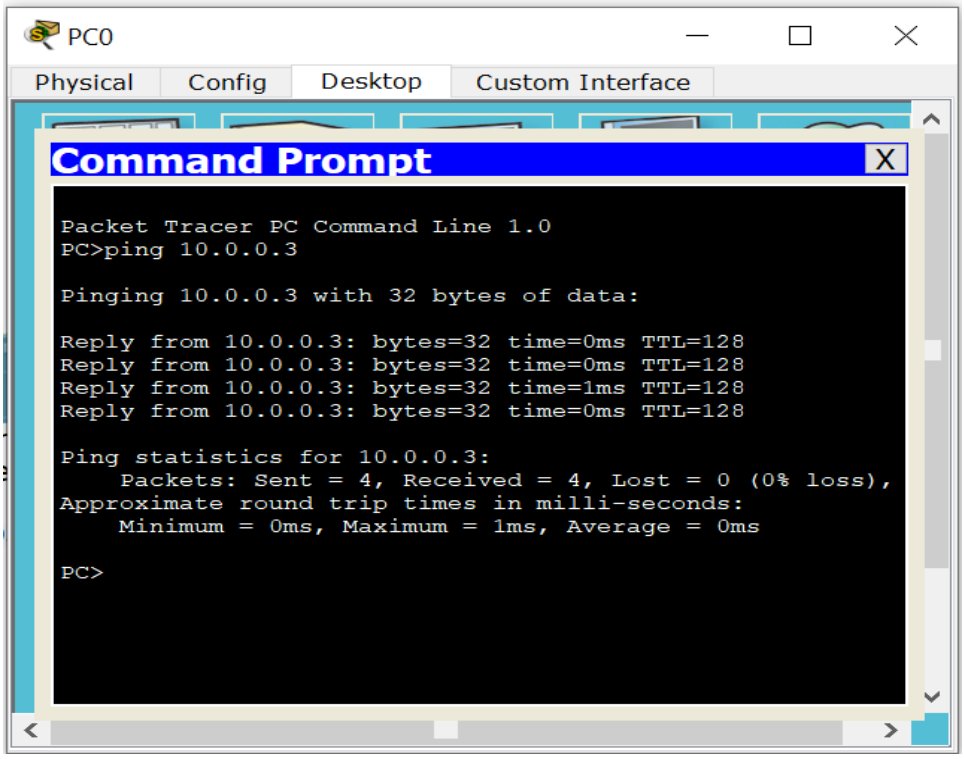


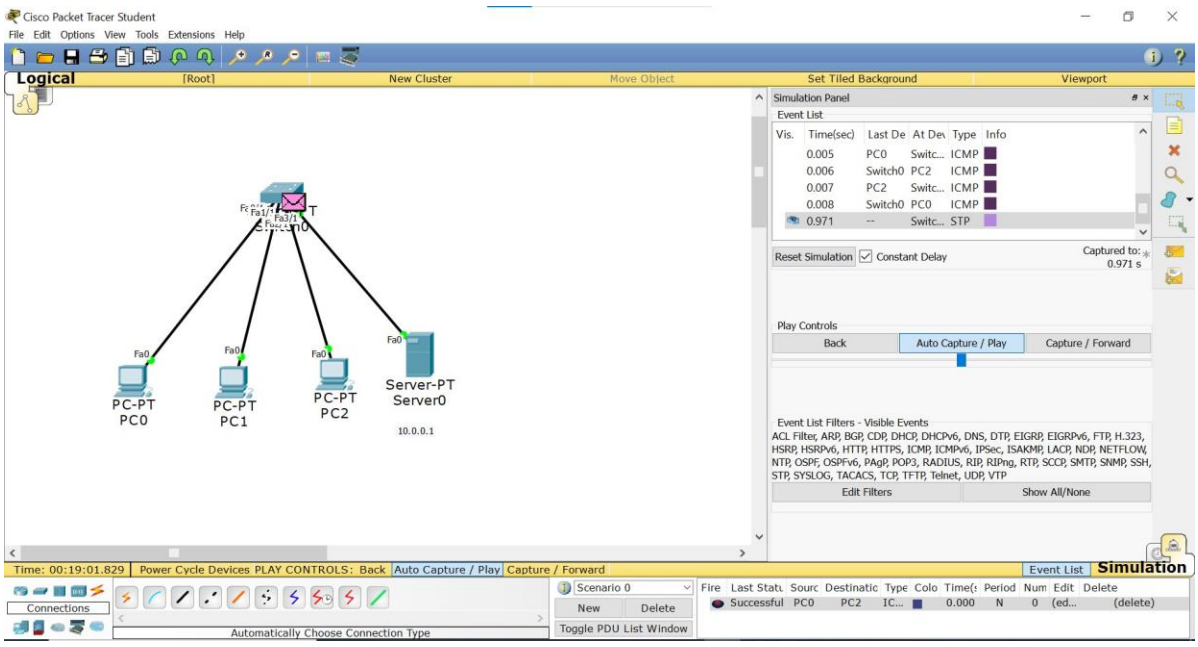
PROGRAM 4.2:



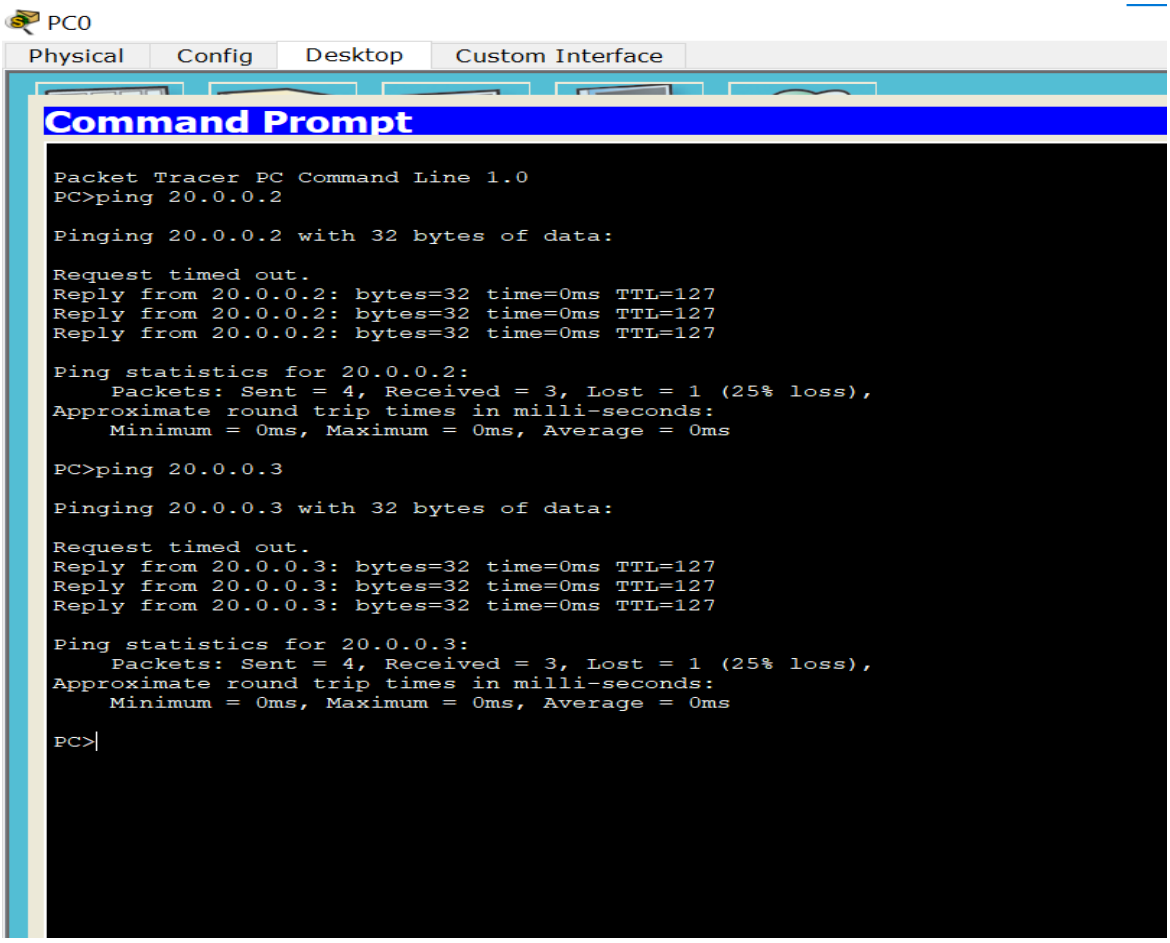
OUTPUT:

PROGRAM 4.1:





PROGRAM 4.2:


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 20.0.0.2
Pinging 20.0.0.2 with 32 bytes of data:
Request timed out.
Reply from 20.0.0.2: bytes=32 time=0ms TTL=127
Reply from 20.0.0.2: bytes=32 time=0ms TTL=127
Reply from 20.0.0.2: bytes=32 time=0ms TTL=127
Ping statistics for 20.0.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
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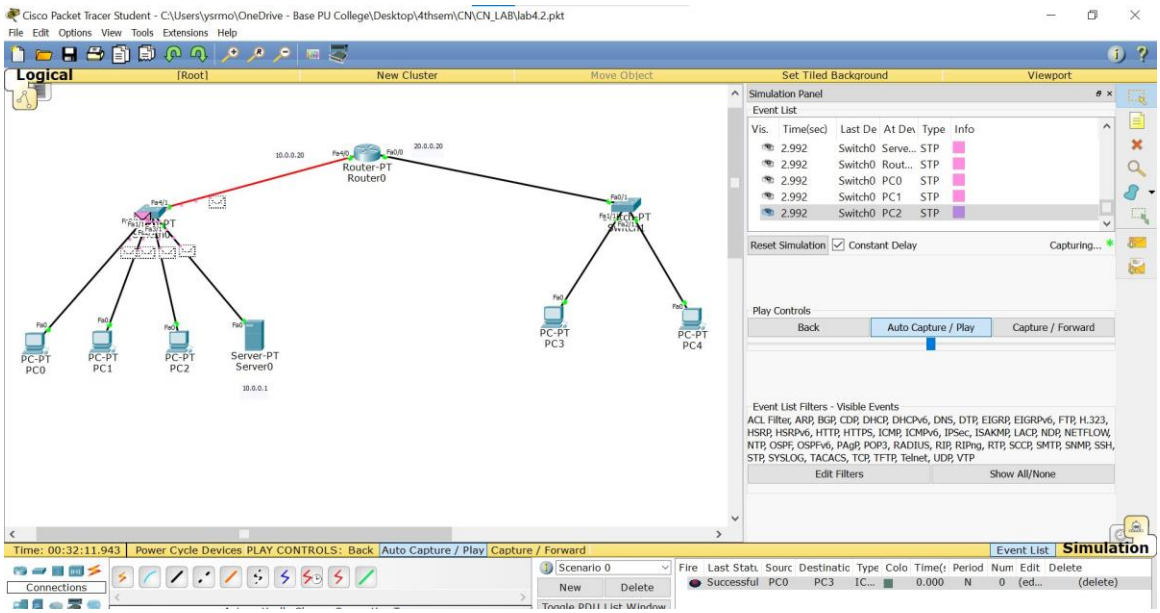
PC>


Cisco Packet Tracer Student - C:\Users\ysrmo\OneDrive - Base PU College\Desktop\4thsem\CN\CN_LAB\lab4.2.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router-PT
Router0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
Server-PT
Server0
PC-PT
PC3
PC-PT
PC4
Simulation Panel
Event List
Reset Simulation
Constant Delay
Capturing...
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
Edit Filters
Show All/None
Time: 00:32:11.943
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Scenario 0
New
Delete