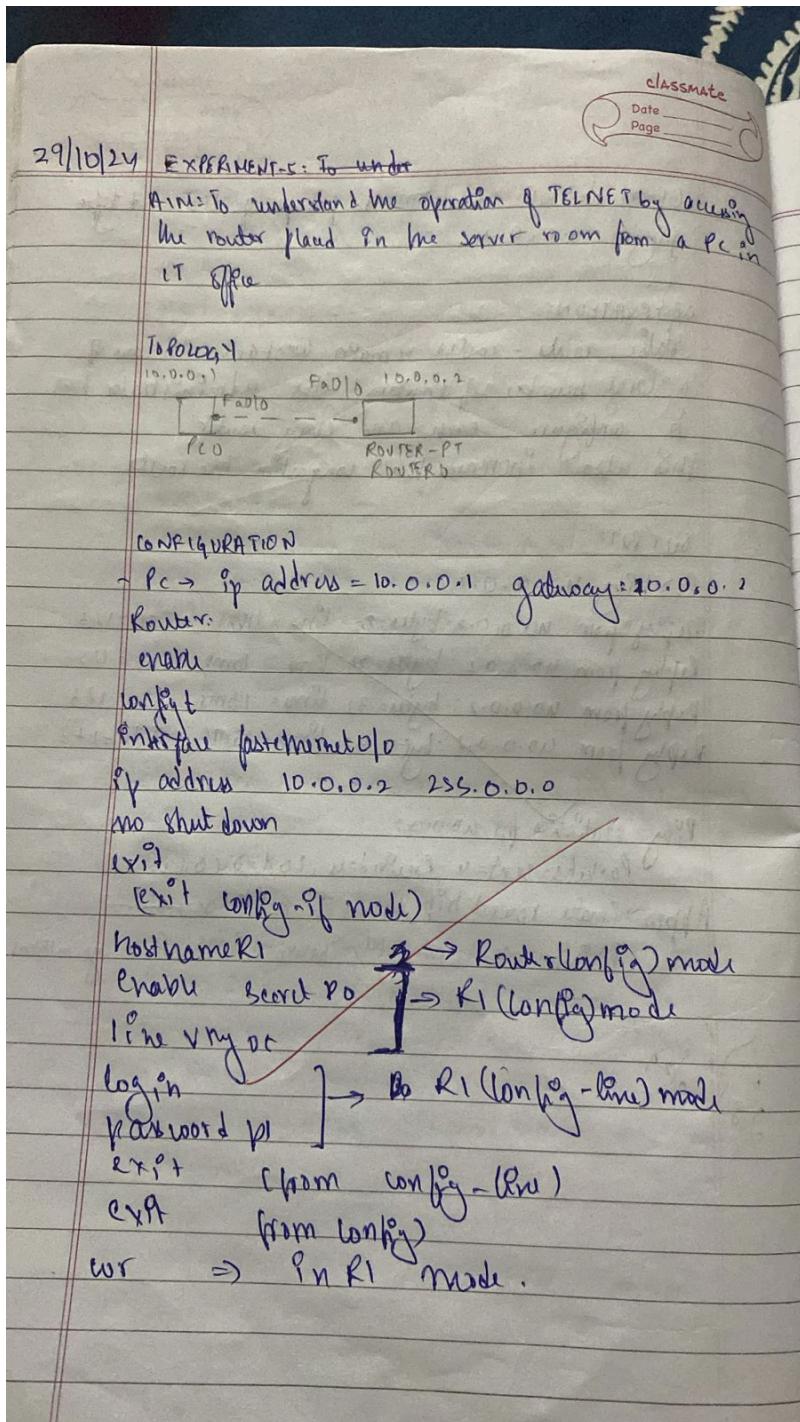


## Program5

**Aim:** To understand the operation of TELNET by accessing the router placed in the server room from a PC in the IT office and TLL

### **Procedure along with the topology**

#### **TELNET**



#### **TLL**

24/10/2021

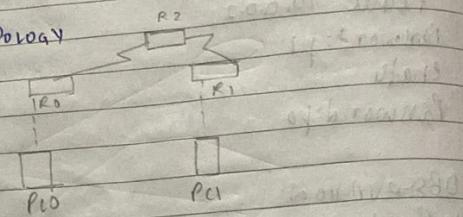
CLASSMATE

Date \_\_\_\_\_

Page \_\_\_\_\_

TTL

LAN TOPOLOGY



UNCONFIGURATION:

Set # the same as Experiment 4

Put simple PDU from P0 to P1

Check hw statistic at each and every router  
and PC in simulation mode.

OBSERVATION:

With each hop the value of TTL decreases

$$P0 = 255$$

$$R0 = 254$$

$$R2 = 253$$

$$R1 = 252$$

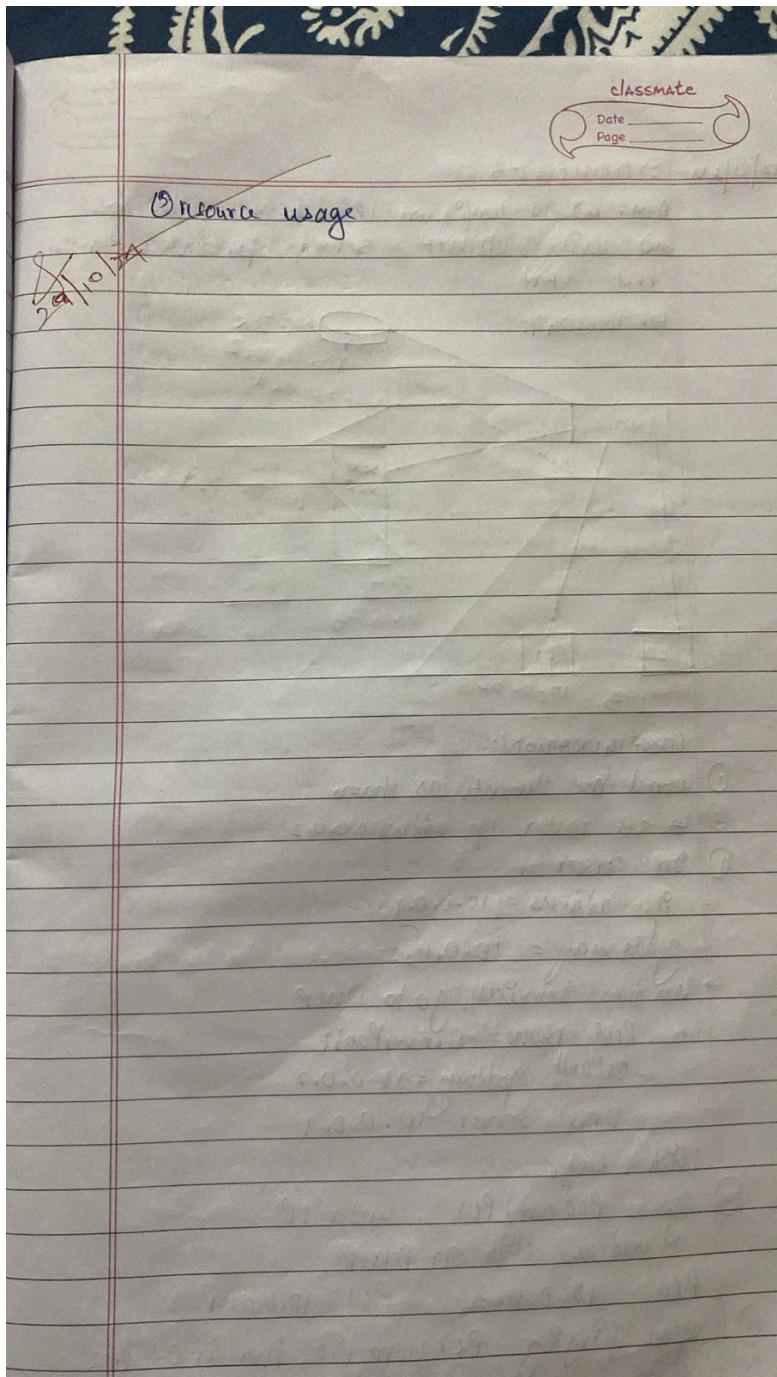
$$P1 = 251$$

~~TTL = time in here = expires in lifetime~~

~~hop limit of a packet in a network prevents indefinite circulation of packet due to routing error or loop.~~

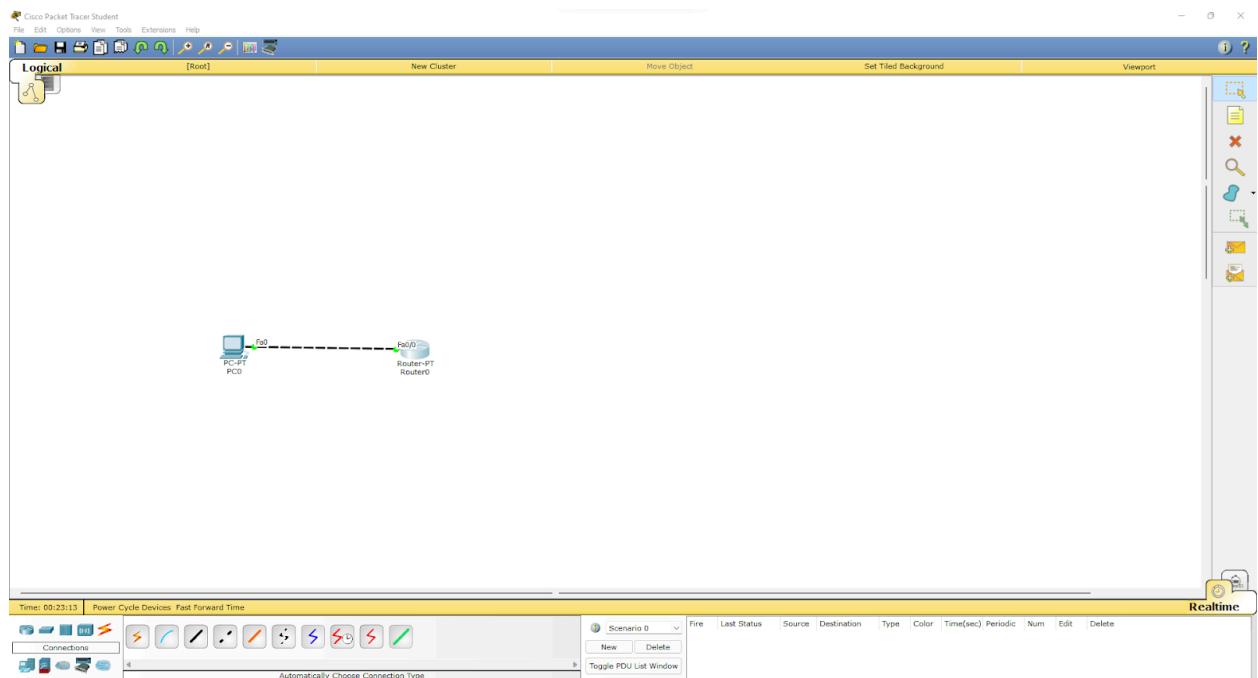
It decreases by 1 for each hop to prevent

- ① end less looping
- ② network longer



Screen shots/ output

**TELENET**



Router0

Physical Config CLI

IOS Command Line Interface

```
cisco Systems, Inc.
170 West Tasman Drive
San Jose, California 95134-1706

Cisco Internetwork Operating System Software
IOS (tm) FT1000 Software (FT1000-I-M), Version 12.2(15)
RELEASE SOFTWARE (fc5)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 2004 by Cisco Systems, Inc.
Compiled Wed 27-Apr-04 15:01 by mswang

PC7 4001 (FSC2000) processor (revision Gm200) with 60416K/6120K bytes of memory
Processor board ID PC7U13 (0123)
FT2005 processor, part number 9, mask 01
Bridge/switch software
PC7 4001 (FSC2000) version 3.0.0
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
24K bytes of NVRAM
6248K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

Continue with configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>enable
Router#enable
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 10.0.0.2 256.0.0.0
Router(config-if)#no shutdown

Router(config-if)#!
<LINE-NUM-CHANGED> Interface FastEthernet0/0, changed state to up
<LINE-NUM-CHANGED> Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#exit
Router(config)#exit
Router(config)#hostname R1
R1(config)#enable secret 0
R1(config)#line vty 0 5
R1(config-line)#login
R1(config-line)#password 123456
R1(config-line)#exit
R1(config)#exit
R1(config)#exit
R1#
R1<0>-CONTIG_1: Configured from console by console
R1#
```

Copy Paste

PCD

Physical Config Desktop Custom Interface

Command Prompt

```
Packets Tracer PC Command Line 1.0
PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:
Reply from 10.0.0.2: bytes=32 time=1ms TTL=255

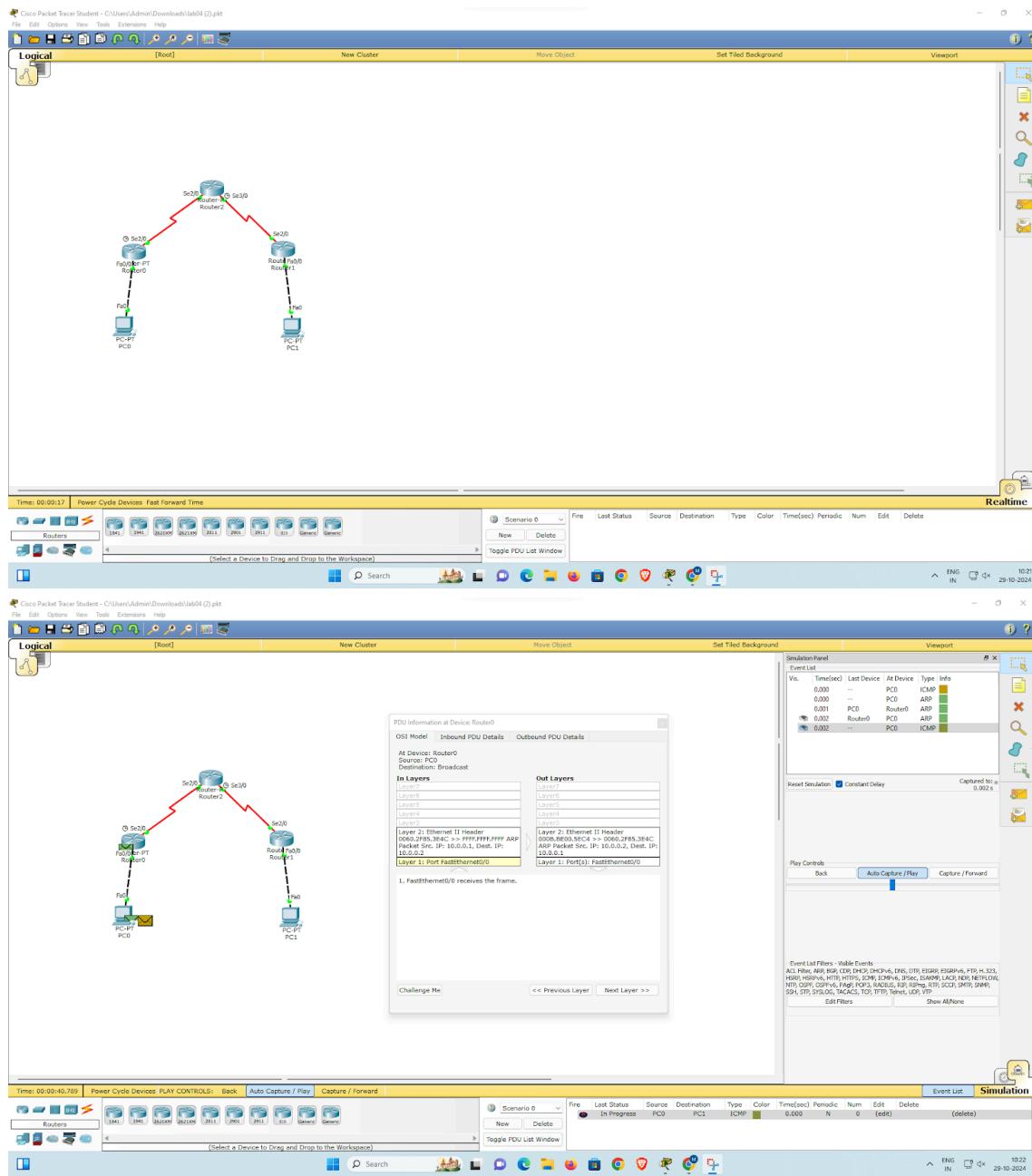
Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms

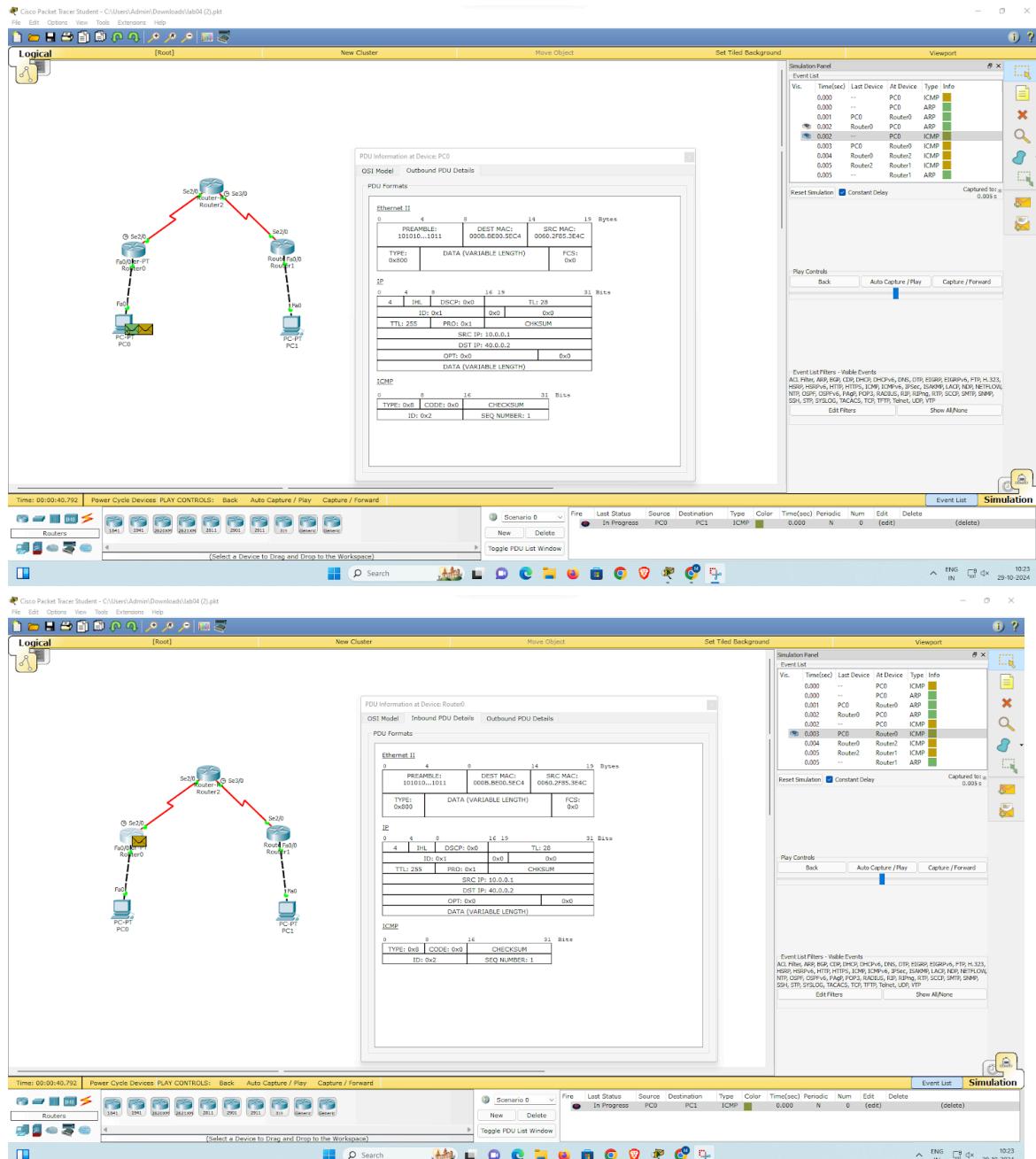
PC>telnet 10.0.0.2
Trying 10.0.0.2 ...Open

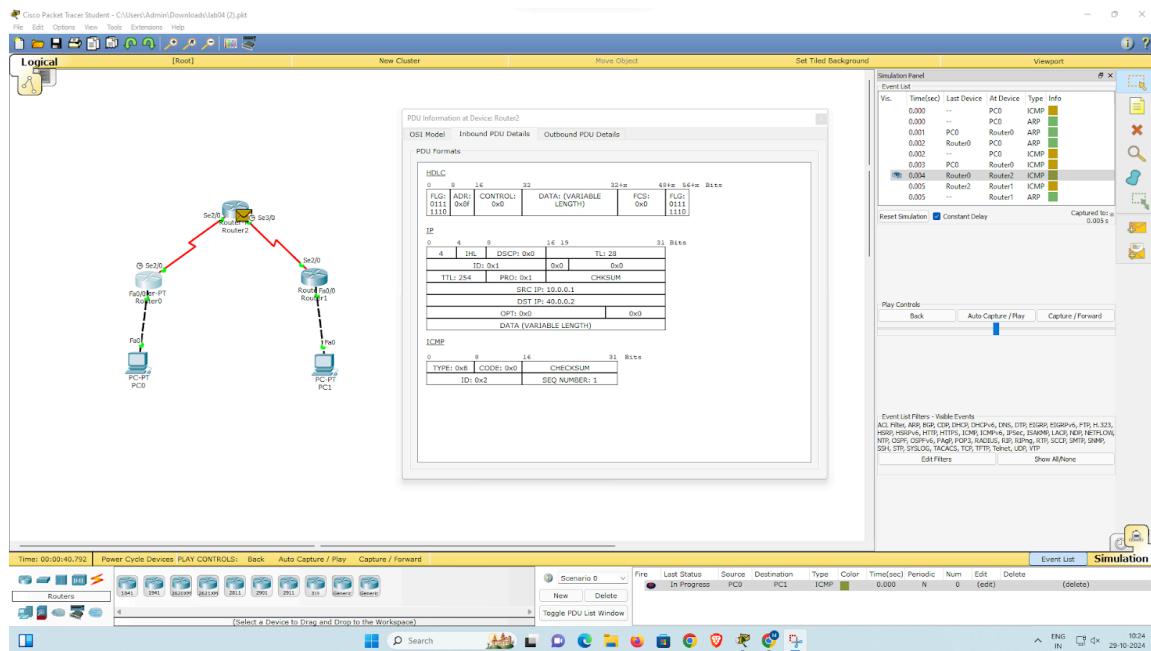
User Access Verification

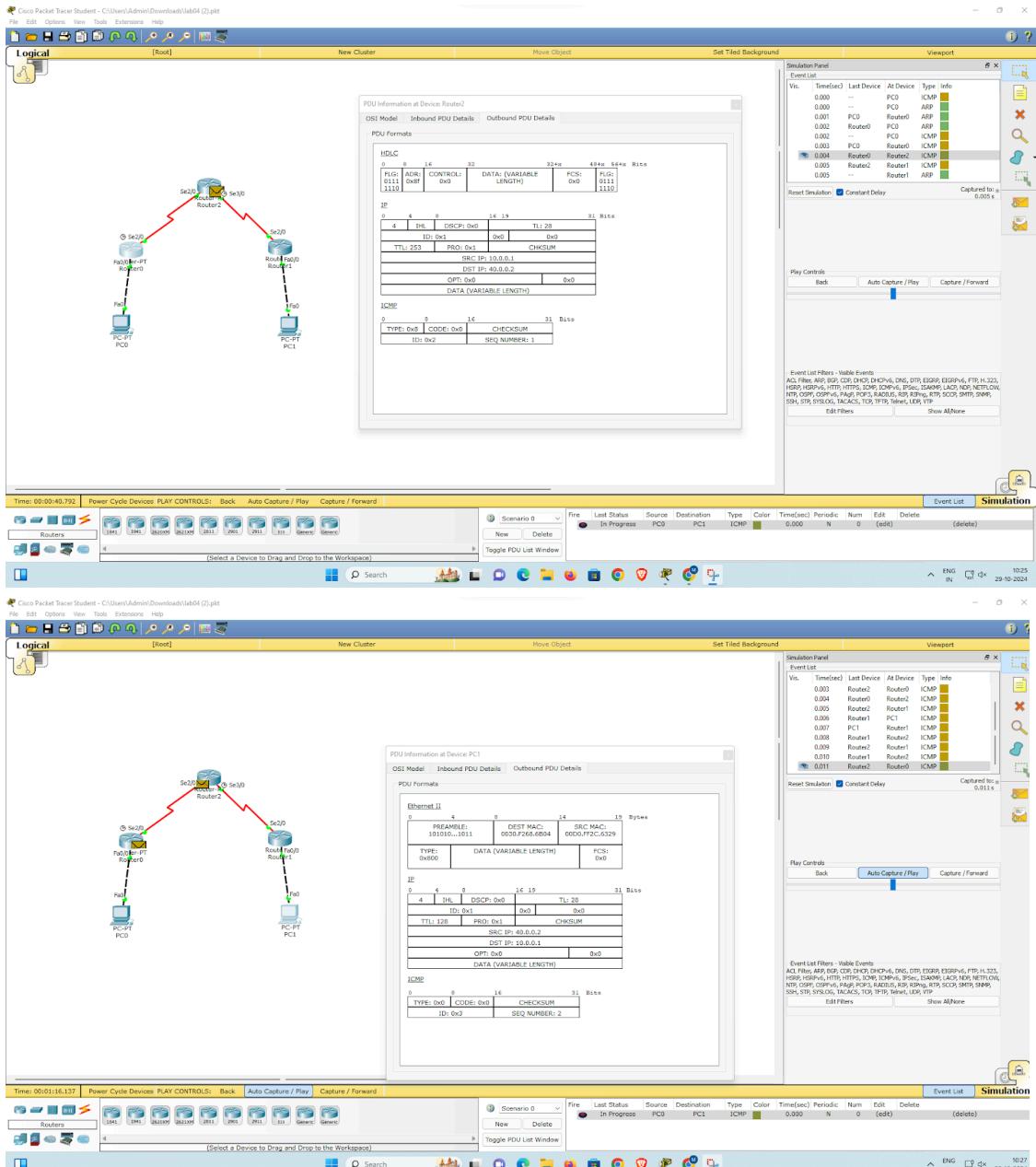
Password:
R1>enable
R1>enable
R1>enable
R1#
```

TLL









**OBSERVATION:**

Using telnet command router placed in the server room port can be accessed from PC in it.

Upon ping to the router from PC.

Ping to 10.0.0.2 with 32 bytes of data:  
 Reply from 10.0.0.2 bytes=32 time=2ms TTL=255  
 Ping statistics for 10.0.0.2/  
 Packets: sent=4 received=4 lost=0 (0%)  
 Approximate round trip times in ms:  
 Min=0ms Max=3ms Avg=0ms

Upon Telnet connection to 10.0.0.2/  
 password: p1  
 enable  
 password: p0  
 #

## TLL

**OBSERVATIONS:**

① With each hop the value of TTL decreases  
 T1 = 251  
 R0 = 250  
 R1 = 253  
 R2 = 252  
 R3 = 251  
 TTL drops to zero : signifies the lifetime of a packet  
 hop limit of a packet in a network prevents indefinite circulation of packet due to routing after too large

It indicates hop 1 for each hop to prevent  
 ① link layer  
 ② network congestion

