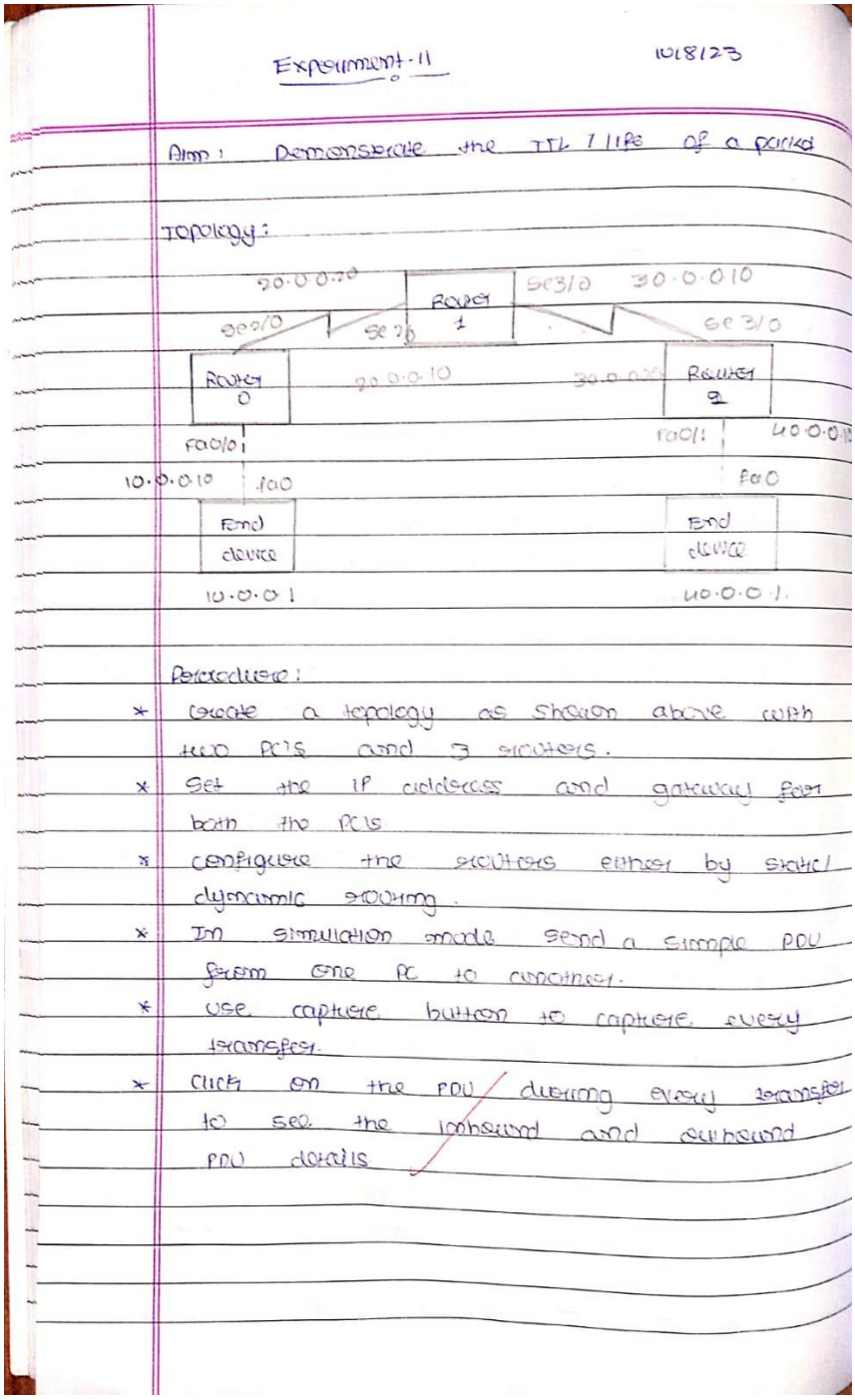
WEEK 11

Demonstrate the TTL/ Life of a Packet.

OBSERVATION:



Experiment - 11 1018123

Aim: Demonstrate the TTL / life of a packet

Topology:

Procedure:

* Create a topology as shown above with two PCs and 3 routers.
* Set the IP address and gateway for both the PCs
* Configure the routers either by static/ dynamic routing.
* In simulation mode send a simple PDU from one PC to another.
* Use capture button to capture every transfer.
* Click on the PDU during every transfer to see the inbound and outbound PDU details

1018123

of a packet

0.0.0.10

se 3/0

Router 2

fa0/1 | 40.0.0.10

fa0

End device

40.0.0.1.

above with

gateway for

r by static/

simple PDU

re every

very transfer

outbound

Date __/__/__
Page _____

Output:

IP

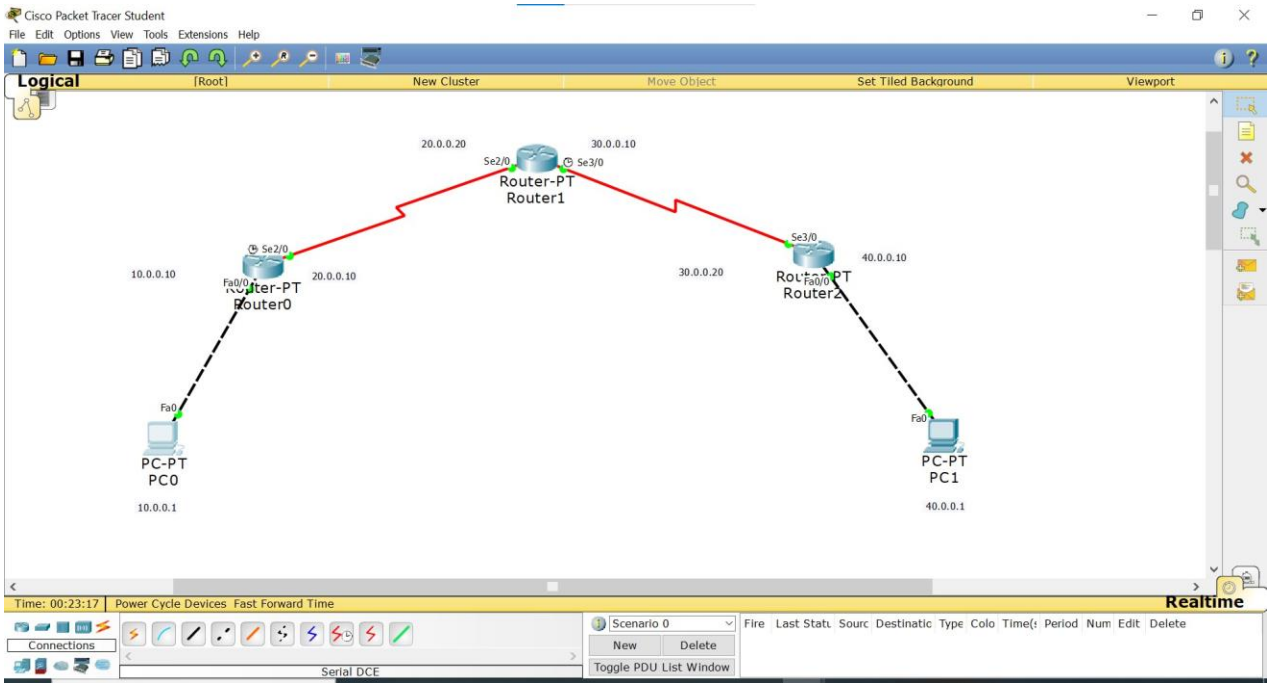
0	4	8	16	19	31
4	IHL	DSCP	TL: 28		
ID: 0x6			0x	0x0	
TTL: 255		PRO: 0x1	CHKSUM		
SRC IP: 10.0.0.1					
DST IP: 40.0.0.1					
OPT 0x0				0x0	
DATA (VARIABLE LENGTH)					

Observation:

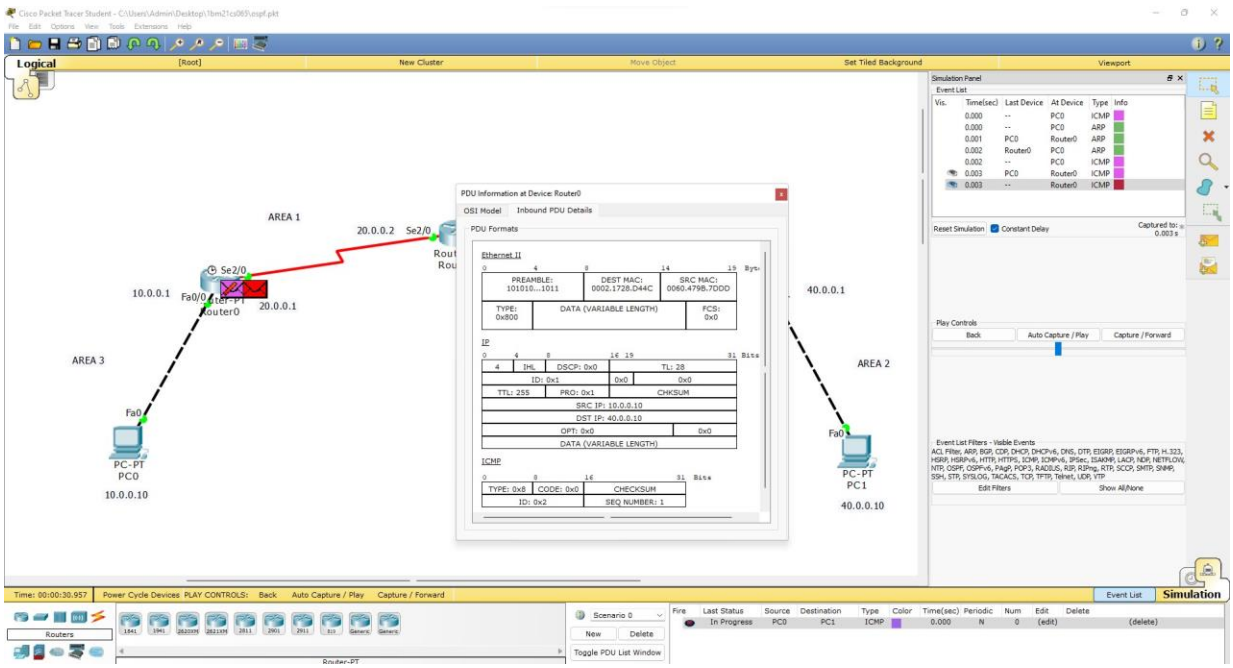
* The no of hops the packet travel before being discarded is recorded as TTL.
* Datagrams TTL field is set by sender and reduced by each router along the path to its destination.
* The router reduces TTL value by one while forwarding the packets.
* When TTL value is 0, the router discards it and sends ICMP message.

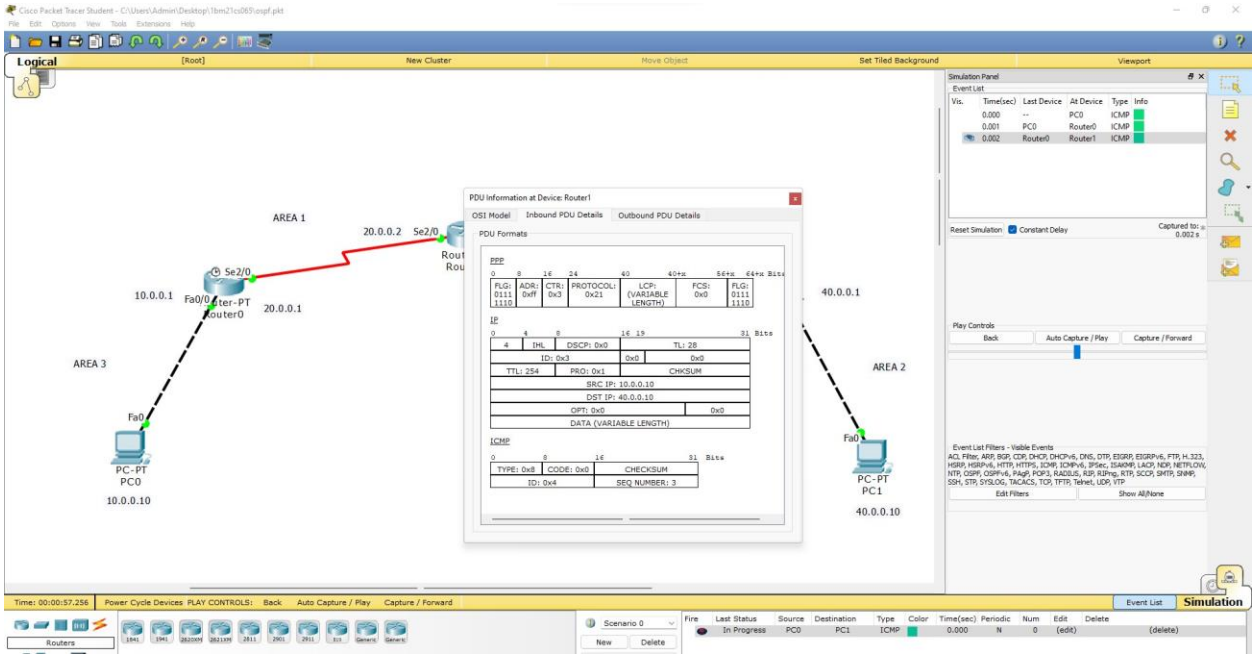
31/5/23

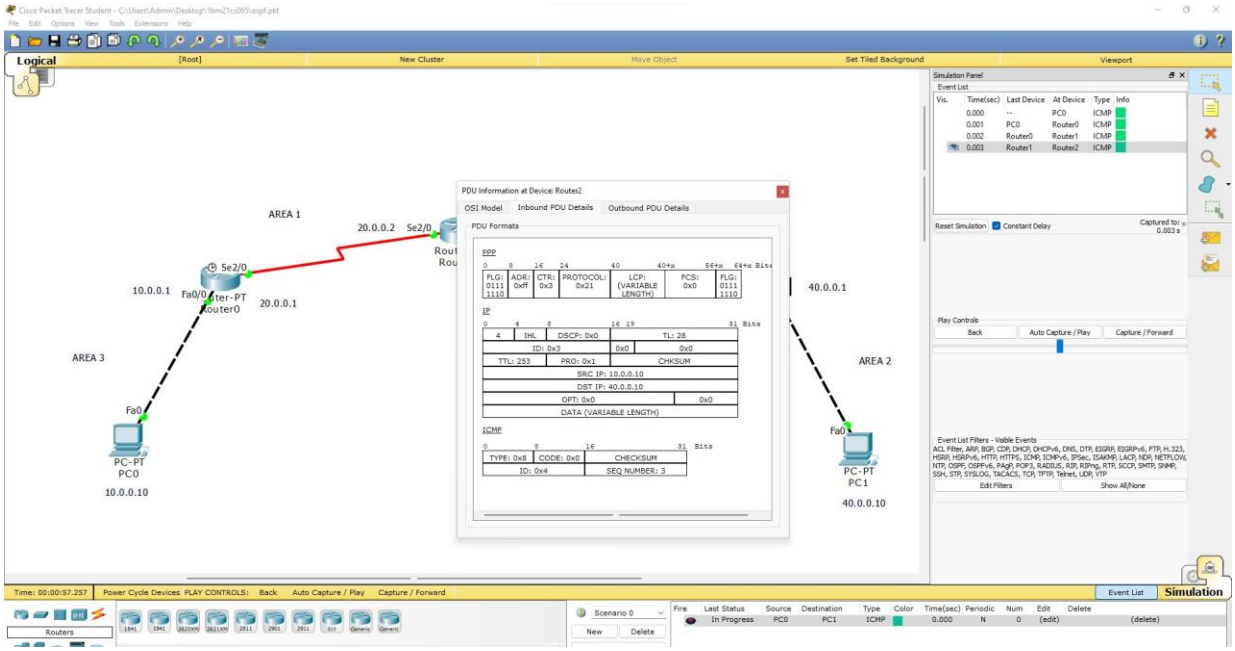
TOPOLOGY:

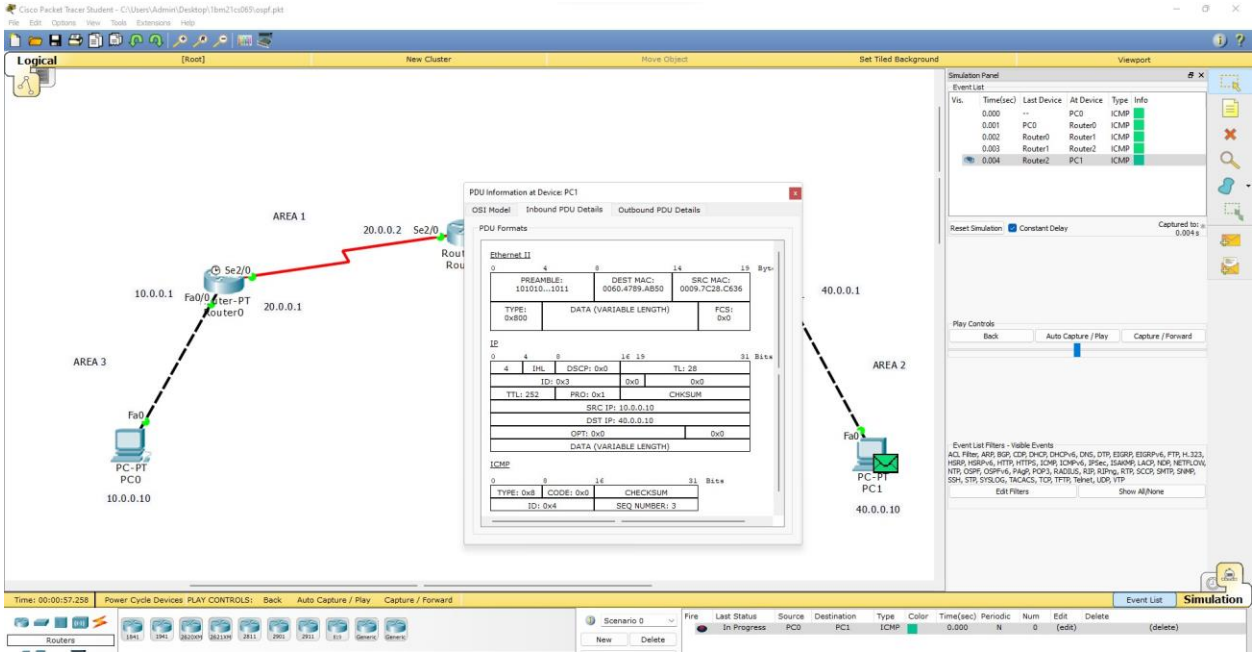


OUTPUT:




Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
AREA 1
AREA 2
AREA 3
20.0.0.2
Se2/0
10.0.0.1
Fa0/0
20.0.0.1
40.0.0.1
Fa0
PC-PT
PC0
10.0.0.10
PC-PT
PC1
40.0.0.10
PDU Information at Device: Router1
OSI Model
Inbound PDU Details
Outbound PDU Details
PDU Formats
PPP
IP
ICMP
Simulation Panel
Event List
Play Controls
Back
Auto Capture / Play
Capture / Forward
Time: 00:00:57.256
Power Cycle Devices
PLAY CONTROLS:
Event List
Simulation


Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
AREA 1
AREA 2
AREA 3
20.0.0.2
Se2/0
10.0.0.1
Fa0/0
20.0.0.1
40.0.0.1
Fa0
PC-PT
PC0
10.0.0.10
PC-PT
PC1
40.0.0.10
PDU Information at Device: Router2
OSI Model
Inbound PDU Details
Outbound PDU Details
PDU Formats
PPP
IP
ICMP
Simulation Panel
Event List
Play Controls
Back
Auto Capture / Play
Capture / Forward
Time: 00:00:57.257
Power Cycle Devices
PLAY CONTROLS:
Event List
Simulation


Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
AREA 1
20.0.0.2
Se2/0
Se2/0
10.0.0.1
Fa0/0
20.0.0.1
AREA 3
AREA 2
40.0.0.1
Fa0
PC-PT
PC0
10.0.0.10
Fa0
PC-PT
PC1
40.0.0.10
PDU Information at Device: PC1
OSI Model
Inbound PDU Details
Outbound PDU Details
PDU Formats
Ethernet II
PREAMBLE: 101010...1011
DEST MAC: 0060.4789.AB50
SRC MAC: 0009.7C28.C636
TYPE: 0x800
DATA (VARIABLE LENGTH)
FCS: 0x0
IP
DSCP: 0x0
TL: 28
ID: 0x3
TTL: 252
PRO: 0x1
CHKSUM
SRC IP: 10.0.0.10
DST IP: 40.0.0.10
OPT: 0x0
DATA (VARIABLE LENGTH)
ICMP
TYPE: 0x8
CODE: 0x0
CHECKSUM
ID: 0x4
SEQ NUMBER: 3
Simulation Panel
Event List
Vis.
Time(sec)
Last Device
At Device
Type
Info
0.000 -- PC0 ICMP
0.001 PC0 Router0 ICMP
0.002 Router0 Router1 ICMP
0.003 Router1 Router2 ICMP
0.004 Router2 PC1 ICMP
Reset Simulation
Constant Delay
Play Controls
Back
Auto Capture / Play
Capture / Forward
Edit Filters
Show All/None
Time: 00:00:57.258
Power Cycle Devices
PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Routers
Scenario 0
New
Delete
Fire
Last Status
Source
Destination
Type
Color
Time(sec)
Periodic
Num
Edit
Delete
In Progress
PC0
PC1
ICMP
0.000
N
0
(edit)
(delete)