

## LAB 10

Demonstrate the TTL/ Life of a Packet.

OBSERVATION:

10-8-25  
40

week 8

Demonstrate the TTL/ life of a packet

Aim: Demonstrating the TTL

Topology:

```
graph LR
    PC1[PC 1] --- R0[Router 0]
    R0 --- R1[Router 1]
    R1 --- R2[Router 2]
    R2 --- PC2[PC 2]
```

Router 0: 10.0.0.10 (left), 10.0.0.1 (bottom), 10.0.0.10 (top)

Router 1: 10.0.0.10 (left), 20.0.0.10 (top), 30.0.0.10 (right)

Router 2: 30.0.0.20 (left), 40.0.0.10 (bottom), 40.0.0.1 (bottom)

PC 1: 10.0.0.1

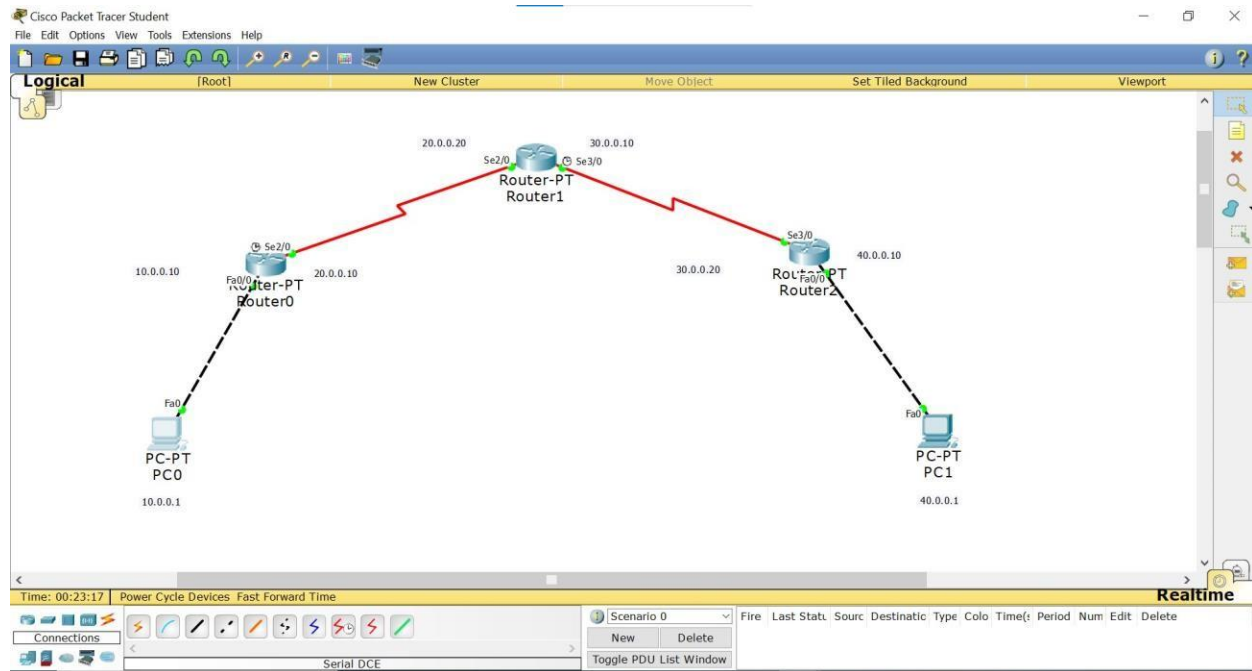
PC 2: 40.0.0.1

Procedure:

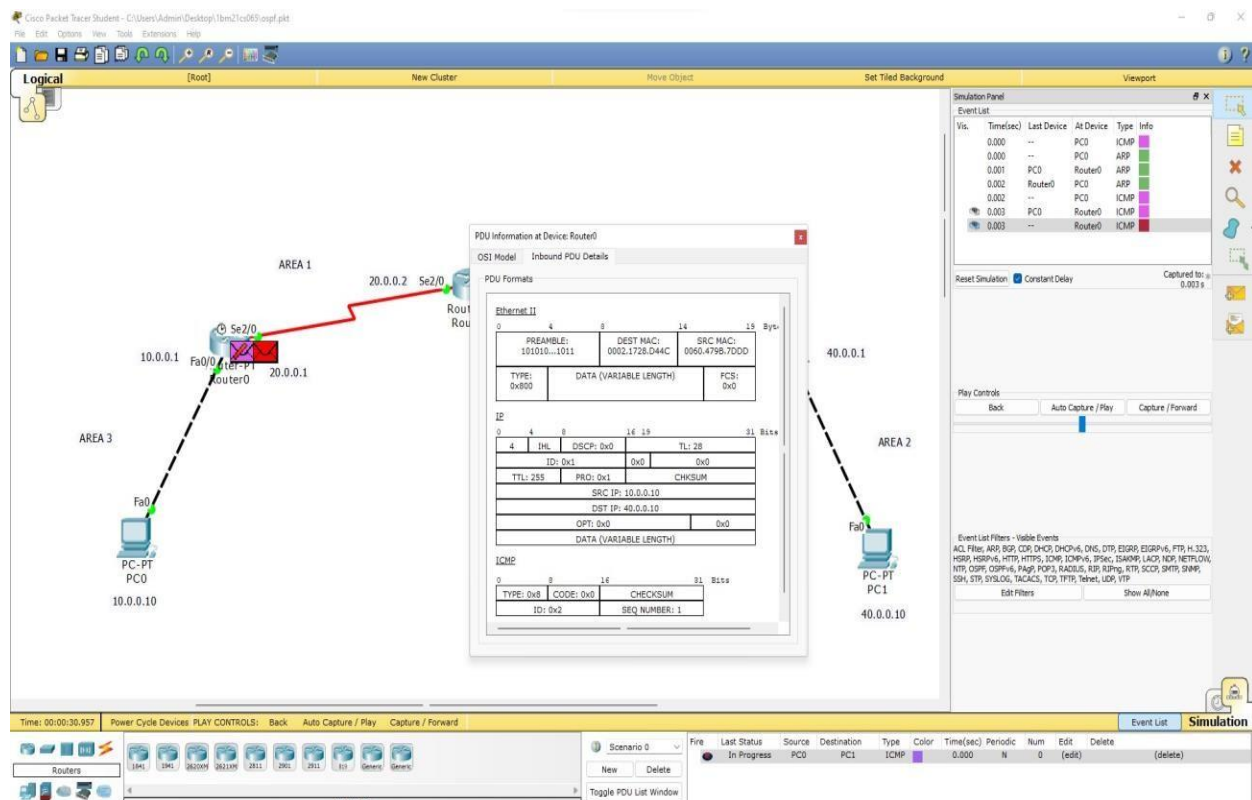
- create a topology as seen above
- configure the device as per static/default/dynamic routing (Same as LAB 3)
- In the simulation mode, send a simple PDU from one PC to another.
- Use capture button to capture every transfer
- click on the PDU during every transfer to see the inbound & outbound PDU details.
- observe that there is a difference of 1 in TTL when it crosses every router.

Observation: Difference of 1 in TTL when the PDU crosses every router.

# TOPOLOGY:



# OUTPUT:



Cisco Packet Tracer Student - C:\Users\Admin\Desktop\1bm21c065\ospf.pkt

File Edit Options View Tools Extensions Help

Logical [root] New Cluster Move Object Set Tiled Background Viewport

PC-PT PC0 10.0.0.10

PC-PT PC1 40.0.0.10

Router0: Fa0/0 10.0.0.1, Se2/0 20.0.0.1

Router1: Se2/0 20.0.0.2, Fa0/0 40.0.0.1

PDU Information at Device: Router1

OSI Model Inbound PDU Details Outbound PDU Details

PDU Formats

PPP

0	8	16	24	40	48	56	64
FLG: 0111	ADR: 0x0f	CTR: 0x3	PROTOCOL: 0x21	LCP: (VARIABLE LENGTH)	PCS: 0x0	FLG: 0111	1110

IP

0	4	8	16	24	32
4	THL	DISCP: 0x0	TL: 28		
ID: 0x3					
TTL: 254	PRO: 0x1	CHKSUM			
SRC IP: 10.0.0.10					
DST IP: 40.0.0.10					
OPT: 0x0					
DATA (VARIABLE LENGTH)					

ICMP

0	8	16	32
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	Router0	ICMP	
	0.001	PC0	Router0	ICMP	
	0.002	Router0	Router1	ICMP	

Reset Simulation Constant Delay Captured to: 0.002 s

Play Controls Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events

AQ, Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, LACP, NTP, NETFLOW, NTP, OSPF, OSPFv6, PAgg, POP3, RADIUS, RDP, RDPv6, RDP, RDPv6, RDP, RDPv6, SSH, STP, SYSLOG, TACACS, TFTP, TFTPv6, Telnet, UDP, VTP

Edit Filters Show All/None

Time: 00:00:37.256 Power Cycle Devices PLAY CONTROLS: Back Auto Capture / Play Capture / Forward

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)

Cisco Packet Tracer Student - C:\Users\Admin\Desktop\1bm21c065\ospf.pkt

File Edit Options View Tools Extensions Help

Logical [root] New Cluster Move Object Set Tiled Background Viewport

PC-PT PC0 10.0.0.10

PC-PT PC1 40.0.0.10

Router0: Fa0/0 10.0.0.1, Se2/0 20.0.0.1

Router1: Se2/0 20.0.0.2, Fa0/0 40.0.0.1

PDU Information at Device: Router2

OSI Model Inbound PDU Details Outbound PDU Details

PDU Formats

PPP

0	8	16	24	40	48	56	64
FLG: 0111	ADR: 0x0f	CTR: 0x3	PROTOCOL: 0x21	LCP: (VARIABLE LENGTH)	PCS: 0x0	FLG: 0111	1110

IP

0	4	8	16	24	32
4	THL	DISCP: 0x0	TL: 28		
ID: 0x3					
TTL: 253	PRO: 0x1	CHKSUM			
SRC IP: 10.0.0.10					
DST IP: 40.0.0.10					
OPT: 0x0					
DATA (VARIABLE LENGTH)					

ICMP

0	8	16	32
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	Router0	ICMP	
	0.001	PC0	Router0	ICMP	
	0.002	Router0	Router1	ICMP	
	0.003	Router1	Router2	ICMP	

Reset Simulation Constant Delay Captured to: 0.003 s

Play Controls Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events

AQ, Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, LACP, NTP, NETFLOW, NTP, OSPF, OSPFv6, PAgg, POP3, RADIUS, RDP, RDPv6, RDP, RDPv6, RDP, RDPv6, SSH, STP, SYSLOG, TACACS, TFTP, TFTPv6, Telnet, UDP, VTP

Edit Filters Show All/None

Time: 00:00:37.257 Power Cycle Devices PLAY CONTROLS: Back Auto Capture / Play Capture / Forward

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)

