

CN LAB-3

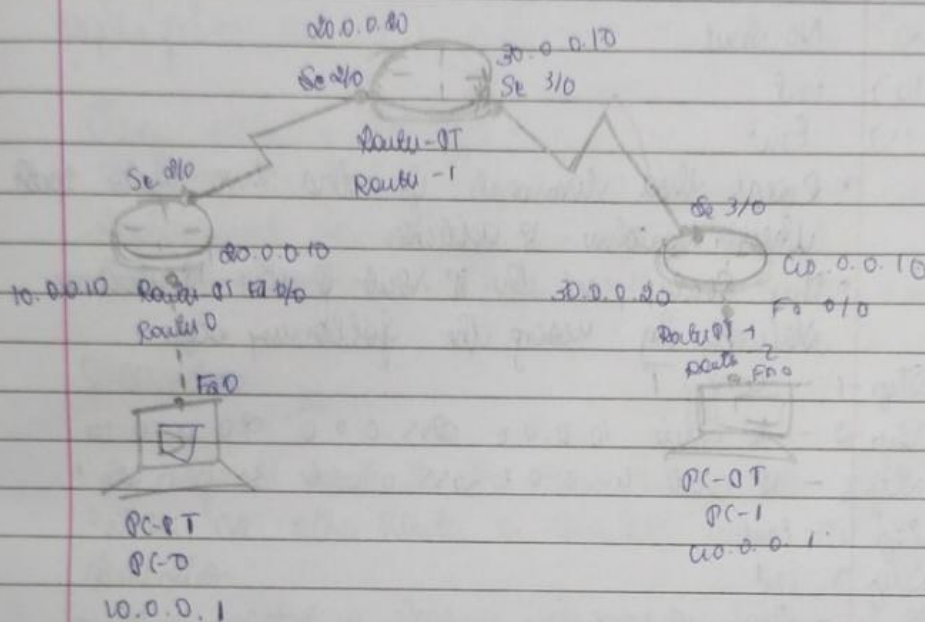
OBSERVATION

21/8/23 CPB-3

Aim:-

Configure default route, static route to the route

Topology:-



Procedure

- Connect 3 routers & 2 PC's using copper cross over cable for PC to router and in serial DCE cable. to connect router to router
- Set the IP address of both PC's and respective gateway numbers
- For all 3 routers set the respective IP address in C&I mode by using these commands

- Step 1) - Enable
- Step 2) - Config T
- Step 3) - Interface FastEthernet 6/6
- Step 4) - IP address 10.0.0.10 255.0.0.0
- Step 5) - No shut
- Step 6) Exit
- Step 7) Interface E0/0
- Step 8) IP address 20.0.0.10 255.0.0.0
- Step 9) No shut
- Step 10) Exit
- Step 11) Exit

- Repeat these commands for other two routers with their respective IP addresses
- For Router 1, set the IP route of other IP addresses statically by using the following steps

- Step 1 - Config T
- Step 2 - IP route 10.0.0.0 255.0.0.0 20.0.0.10
- Step 3 - IP route 40.0.0.0 255.0.0.0 30.0.0.10
- Step 4 - Exit
- Step 5 - Exit
- Step 6 - Show IP route

- For Router 0 & Router 2 we set default IP router which means it can receive any IP address with any subnet mask
- Set the default IP route by following these commands

- Step 1 - Config T
- Step 2 - IP route 0.0.0.0 0.0.0.0 20.0.0.10
- Step 3 - IP route 0.0.0.0 0.0.0.0 30.0.0.10

- Step 2 is given for Router 0 & Step 3 command for Router 1
- Go to PC's command prompt and type ping message to send packets across

Output

Packet Tracer PC Command Line 1.0

PC > Ping 60.0.0.1

Pinging 60.0.0.1 with 32 bytes of data:

Request timed out

Reply from 60.0.0.1: bytes=32 time=2ms TTL=65

Reply from 60.0.0.1: bytes=32 time=16ms TTL=65

Reply from 60.0.0.1: bytes=32 time=9ms TTL=65

Run statistics for 60.0.0.1

Packets: Sent=4, Received=3, Lost=1 (25% loss)

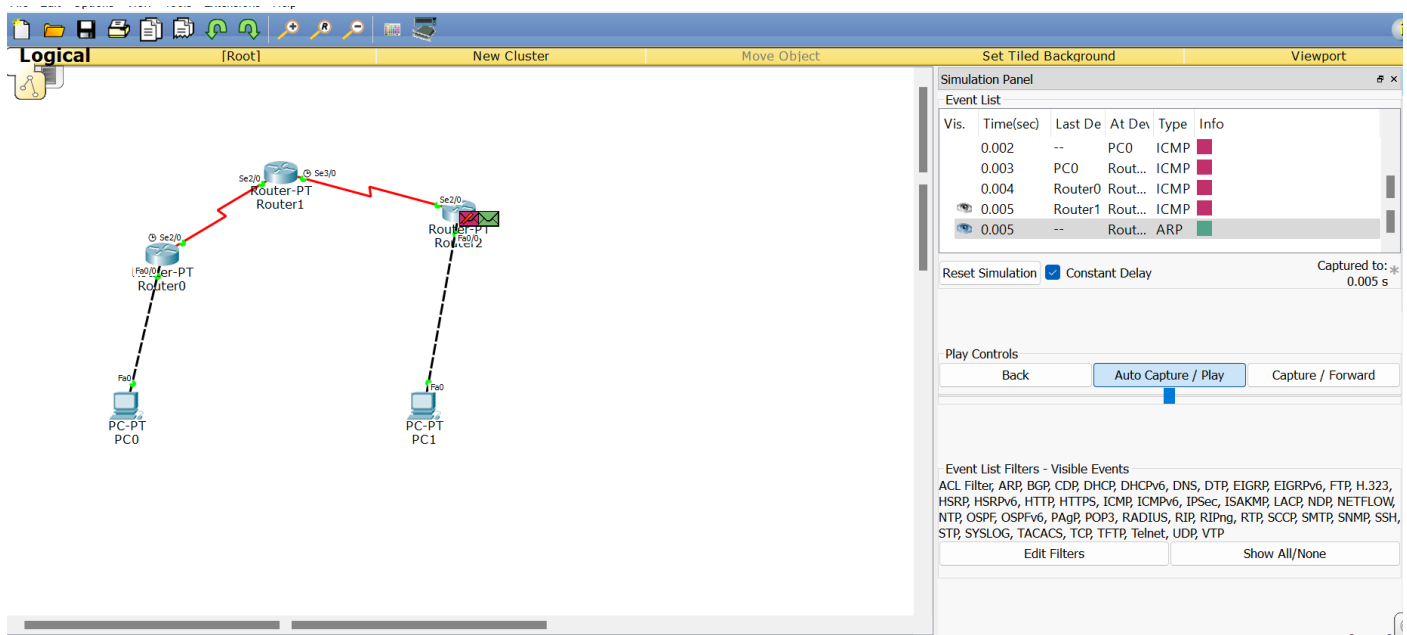
Approximate round trip times in milli seconds:

Minimum=2ms, Maximum=16ms, Average=6ms

Observation

- A default route is the route which takes effect when no other routes are available for an IP address destination
- If a packet is received, the device first checks the IP destination address is not local, the device checks its routing table
- If the remote destination subnet is not listed then the packet is forwarded to the next hop towards the destination using the default route
- The process repeats until the packet is delivered

TOPOLOGY & OUTPUT



The image shows the Packet Tracer Logical View and Simulation Panel. The Logical View displays a network topology with three routers (Router0, Router1, Router2) and two PCs (PC0, PC1). Router0 is connected to Router1, and Router1 is connected to Router2. PC0 is connected to Router0, and PC1 is connected to Router2. The Simulation Panel on the right shows the Event List, which includes a table of events and a section for Play Controls.

Vis.	Time(sec)	Last De	At Dev	Type	Info
	0.002	--	PC0	ICMP	
	0.003		PC0	Rout...	ICMP
	0.004		Router0	Rout...	ICMP
	0.005		Router1	Rout...	ICMP
	0.005	--	Rout...	ARP	

Reset Simulation ☒ Constant Delay Captured to: 0.005 s

Play Controls: Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events: ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgp, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters Show All/None

Command Prompt

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Packet Tracer PC Command Line 1.0
PC>ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data:

Reply from 40.0.0.1: bytes=32 time=12ms TTL=125
Reply from 40.0.0.1: bytes=32 time=13ms TTL=125
Reply from 40.0.0.1: bytes=32 time=7ms TTL=125
Reply from 40.0.0.1: bytes=32 time=8ms TTL=125

Ping statistics for 40.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 13ms, Average = 10ms

PC>
```