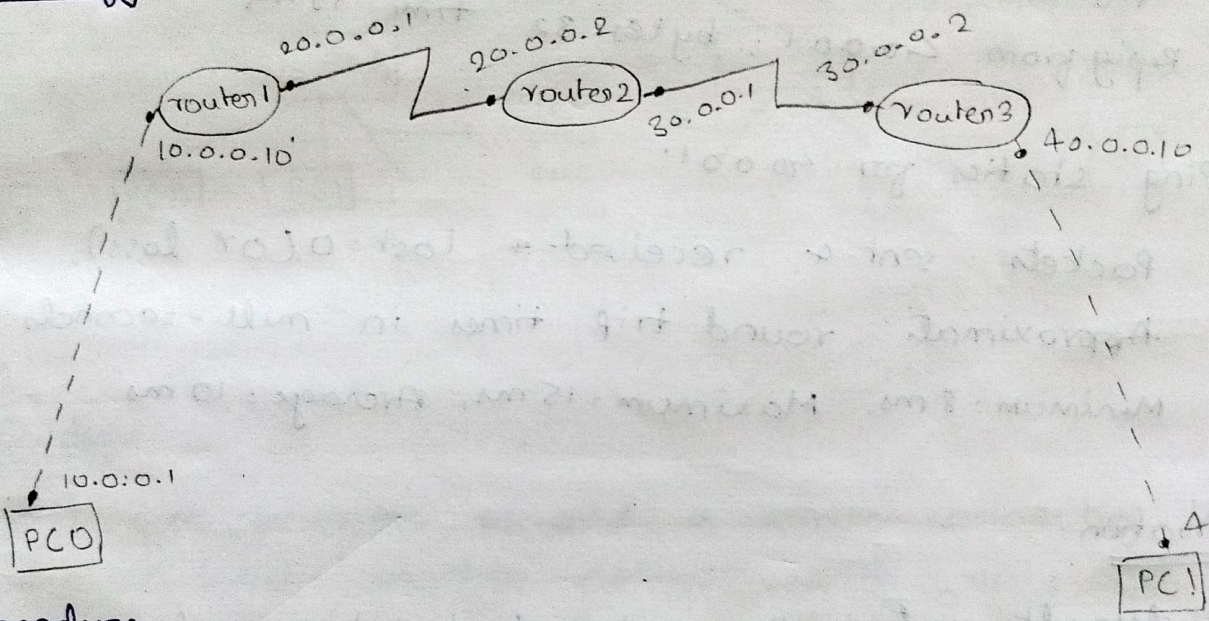
Experiment – 3

Name of the experiment:

Default routing

Aim: To configure IP address to routers and default routing

Topology:



Procedure:

- Configure 2 PCs IP address and gateway
- Configure Routers IP addresses through giving commands in CLI
- Default routing for router 1 →

  router(config)# ip route 0.0.0.0 0.0.0.0 20.0.0.2

  router 3 →

  router(config)# ip route 0.0.0.0 0.0.0.0 30.0.0.1

  Static routing is done for router 2.
- Simple PDA is sent from PC1 to PC0 and

a ping message from PC0 to PC1

Result:

PC>ping 40.0.0.1

pinging 40.0.0.1 with 32 bytes of data:

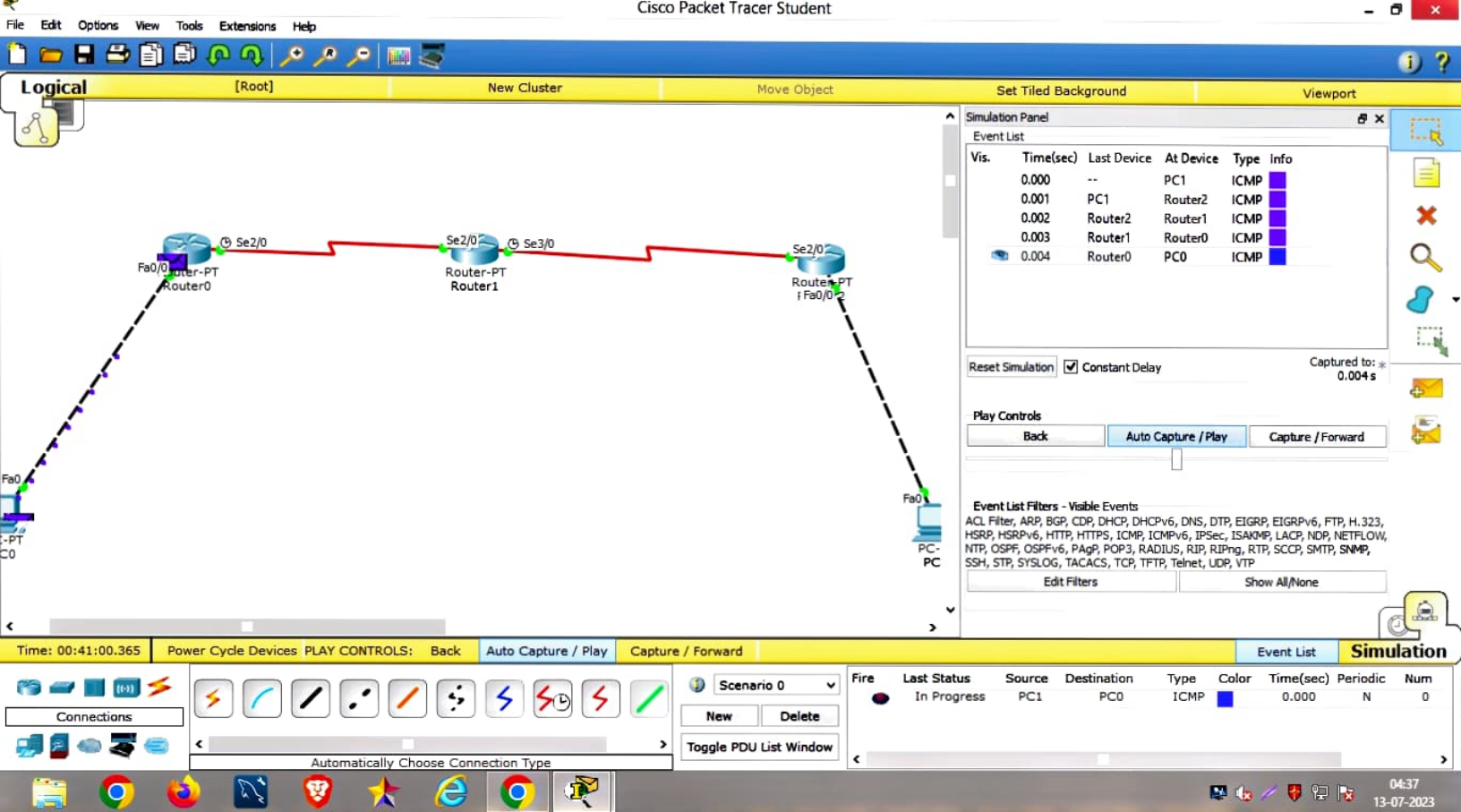
Reply from 40.0.0.1: bytes=32 time=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=8ms TTL=125
Reply from 40.0.0.1: bytes=32 time=15ms TTL=125

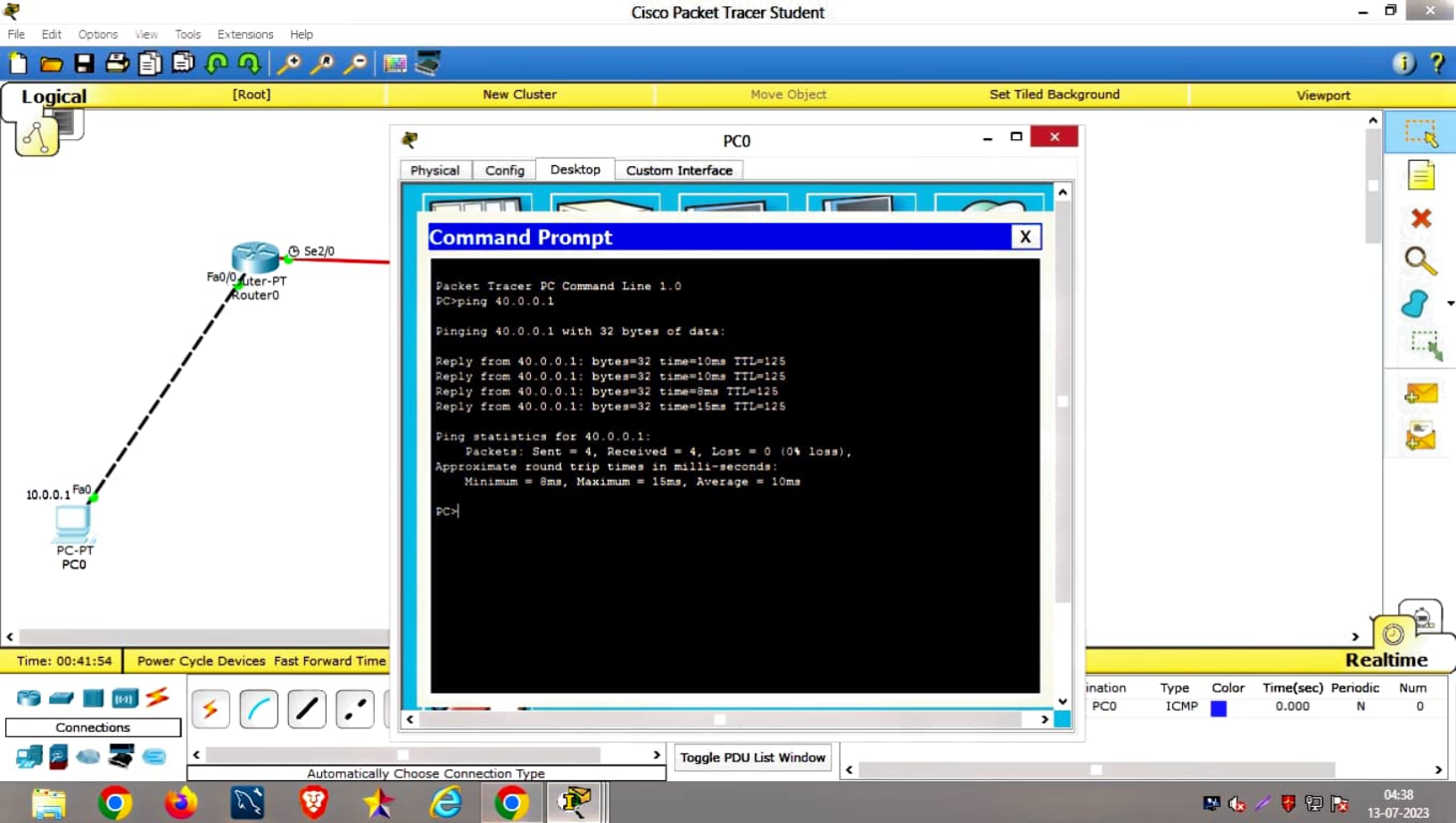
Ping statics for 40.0.0.1:

Packets: sent=4, received=4, lost=0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum=8ms, Maximum=15ms, Average=10ms

Observation:

- A default route is the route which takes effect when no ther route is available for an IP address destination
- if a packet is received, the device first checks the IP destination address, if 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.


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical [Root] New Cluster Move Object Set Tiled Background Viewport
Router-PT Router0
Router-PT Router1
Router-PT
PC-PT PC
Se2/0
Se3/0
Fa0/0
Fa0
Simulation Panel
Event List
Vis. Time(sec) Last Device At Device Type Info
0.000 -- PC1 ICMP
0.001 PC1 Router2 ICMP
0.002 Router2 Router1 ICMP
0.003 Router1 Router0 ICMP
0.004 Router0 PC0 ICMP
Reset Simulation
Constant Delay
Captured to: 0.004 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
Time: 00:41:00.365
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Automatically Choose Connection Type
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Status Source Destination Type Color Time(sec) Periodic Num
In Progress PC1 PC0 ICMP 0.000 N 0
04:37
13-07-2023


Cisco Packet Tracer Student
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
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=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=10ms TTL=125
Reply from 40.0.0.1: bytes=32 time=8ms TTL=125
Reply from 40.0.0.1: bytes=32 time=15ms 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 = 8ms, Maximum = 15ms, Average = 10ms
PC>
Se2/0
Fa0/0
Router-PT
Router0
10.0.0.1
Fa0
PC-PT
PC0
Time: 00:41:54
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Automatically Choose Connection Type
Toggle PDU List Window
Type
Color
Time(sec)
Periodic
Num
PC0
ICMP
0.000
N
0
04:38
13-07-2023