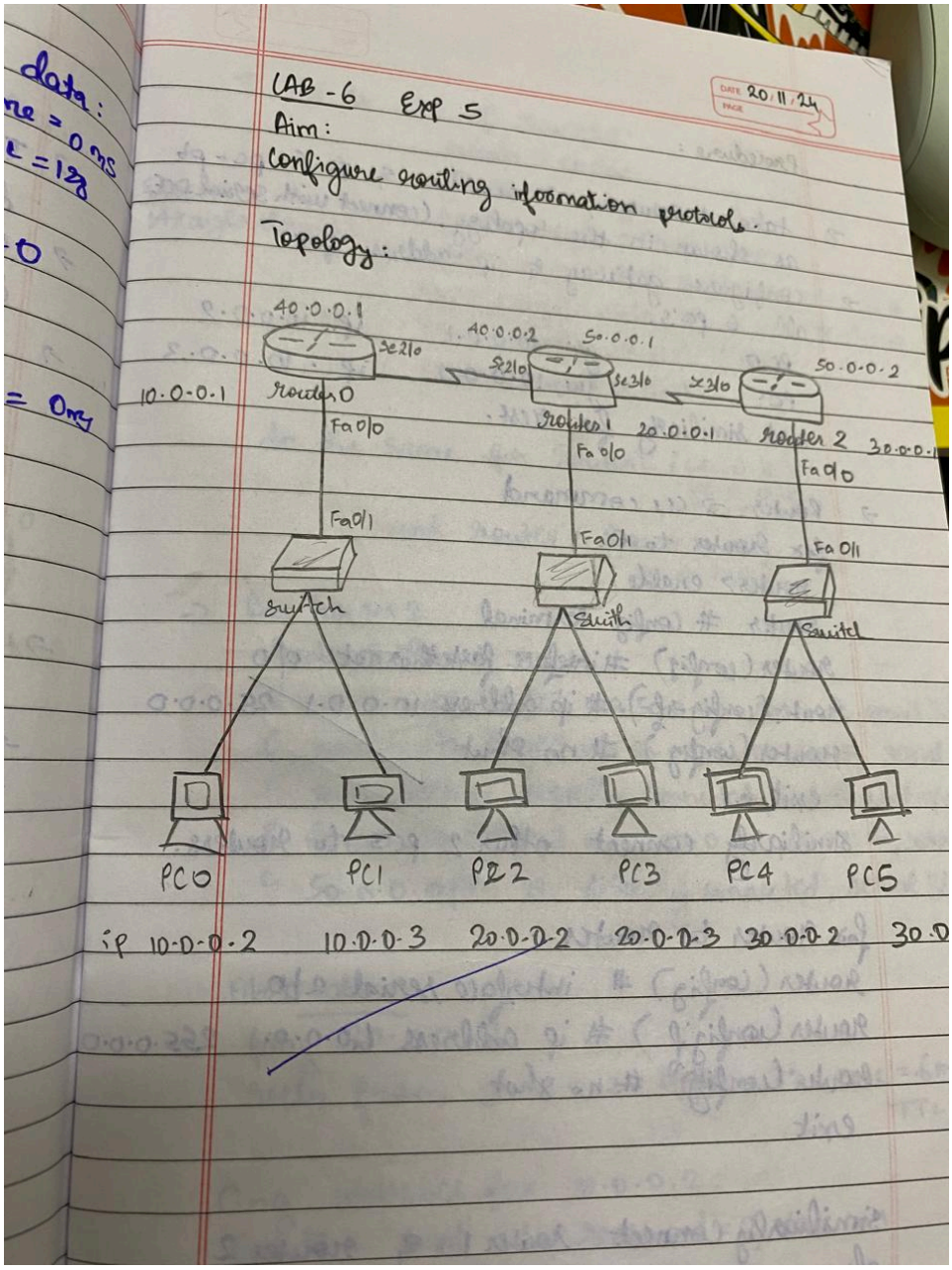
Lab 6 - 20/11/24
Experiment 5



Procedure :

→ take 3 routers, 3 switches & 6 pc-pt as shown in the topology. (connect with serial DCE & copper straight)

→ configure gateway & ip address for all 6 pc's.

PC 0 gw 10.0.0.1 ip. 10.0.0.2

PC 1 gw 10.0.0.1 ip . 10.0.0.3

and similiarly for rest.

→ Router → cli command

for router to PC.

router> enable

router # config terminal

router(config) #inteface fastethernet 0/0

router(config-if) # ip address 10.0.0.1 255.0.0.0

router(config) # no shut

exit

similiarly connect other 2 pc's to routers.

for router to router.

router(config) # interface serial 2/0

router(config-if) # ip address 40.0.0.1 255.0.0.0

router(config) # no shut

exit

similiarly connect router 1 & router 2 also.

6 PC - PC
ith serial DCE

.0.0.2
.0.0.3

.0.0

.0.0

& copper straight through)

→ Go to CLI of router0 -
router > enable
router # config terminal
router(config) # router rip
router(config-router) # network 40.0.0.0
router(config-router) # network 10.0.0.0
router(config-router) # exit
router(config) # exit

do the same for router1 (40.0.0.0
50.0.0.0
20.0.0.0)
and router2 (50.0.0.0
30.0.0.0)

→ for router 2
router # show ip route
R 10.0.0.0/8 [120/2] via 50.0.0.1, 00:00:05, serial 3/0
R 20.0.0.0/8 [120/1] via 50.0.0.1, 00:00:05, serial 3/0
C 30.0.0.0/8 is directly connected, FastEthernet 0/0
R 40.0.0.0/8 [120/1] via 50.0.0.1, 00:00:05, serial 3/0
C 50.0.0.0/8 is directly connected, serial 3/0

Observation:
ping 30.0.0.2
reply from 30.0.0.2 bytes=32 time=6ms
TTL=125

Ping statistics for 30.0.0.2:
Packets: sent = 4, received = 3, loss = 1
Approx. round trip time in ms:
min = 6ms, max = 7ms, Avg = 6 ms.

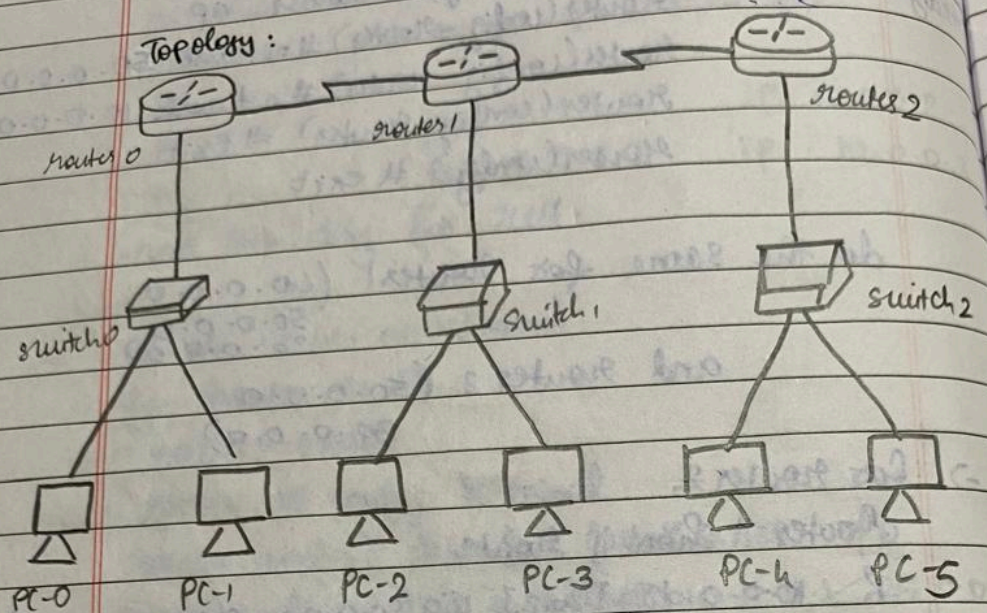
Experiment 7

Exp # 7

Aim:

Demonstrate the TTL or life of a packet.

Topology:



Procedure:

→ Configure as shown.

→ Configure all the routers → router 0, router 1, router 2

→ In simulation layout, we select simple PDU
- In that we select a source PC and a destination PC.
- We then click on Auto Play capture.

Observation:

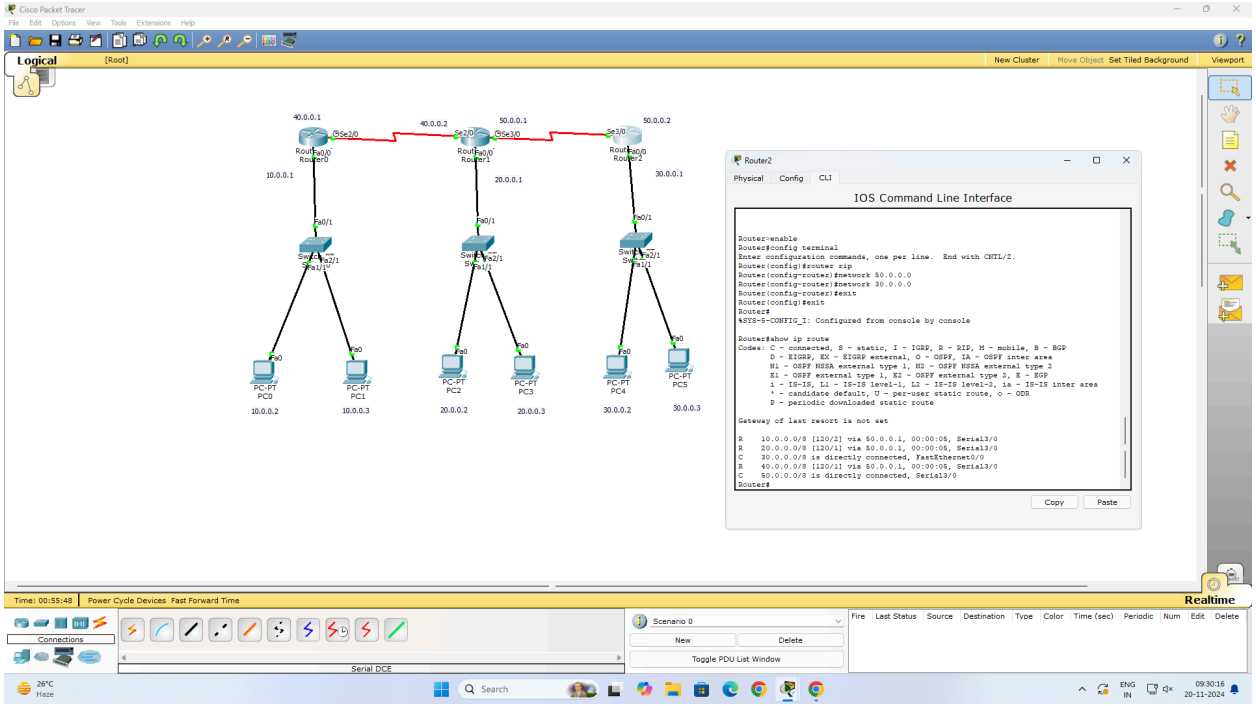
→ when the packet arrives at router 0, the TTL = 255

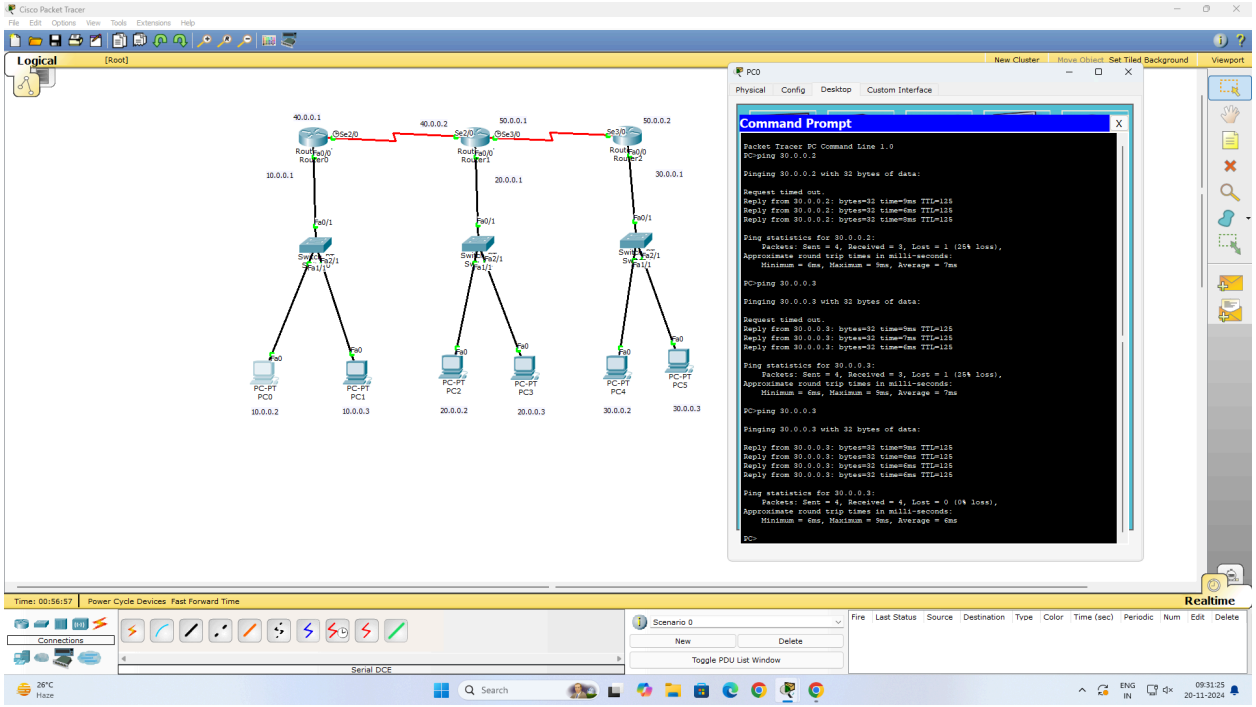
→ when the packet arrives at router 1, the TTL = 254

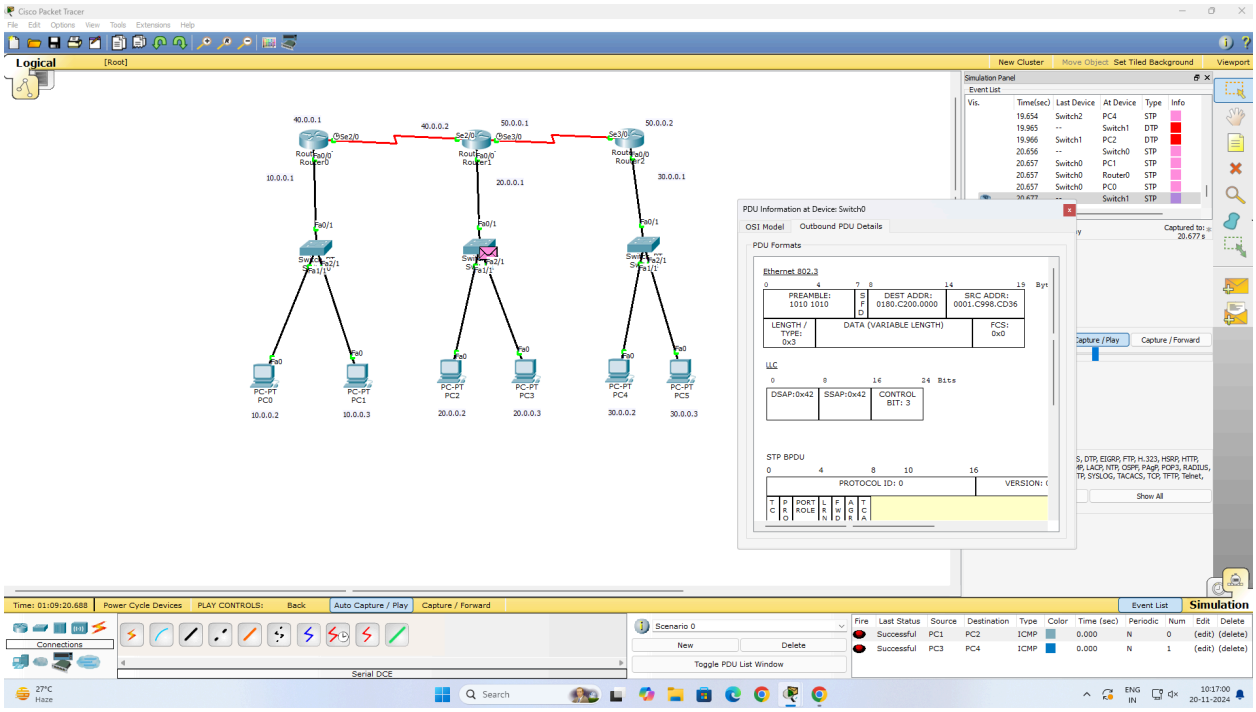
→ when the packet arrives at router 2, the TTL = 253.

so from each router, the TTL reduces by 1.

20/11/24


Cisco Packet Tracer
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
Router2
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 50.0.0.0
Router(config-router)#network 30.0.0.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
* - candidate default, U - per-user static route, o - ODR
P - periodic downloaded static route
Gateway of last resort is not set
R 10.0.0.0/8 [120/2] via 50.0.0.1, 00:00:05, Serial3/0
R 20.0.0.0/8 [120/1] via 50.0.0.1, 00:00:05, Serial3/0
C 30.0.0.0/8 is directly connected, FastEthernet0/0
R 40.0.0.0/8 [120/1] via 50.0.0.1, 00:00:05, Serial3/0
C 50.0.0.0/8 is directly connected, Serial3/0
Router#
Copy
Paste
Time: 00:55:48
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Serial DCE
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time (sec)
Periodic
Num
Edit
Delete
26°C
Haze
Search
ENG
IN
09:30:16
20-11-2024


Cisco Packet Tracer
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 30.0.0.2
Pinging 30.0.0.2 with 32 bytes of data:
Request timed out.
Reply from 30.0.0.2: bytes=32 time=9ms TTL=125
Reply from 30.0.0.2: bytes=32 time=9ms TTL=125
Reply from 30.0.0.2: bytes=32 time=9ms TTL=125
Ping statistics for 30.0.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 6ms, Maximum = 9ms, Average = 7ms
PC>ping 30.0.0.3
Pinging 30.0.0.3 with 32 bytes of data:
Request timed out.
Reply from 30.0.0.3: bytes=32 time=9ms TTL=125
Reply from 30.0.0.3: bytes=32 time=7ms TTL=125
Reply from 30.0.0.3: bytes=32 time=6ms TTL=125
Ping statistics for 30.0.0.3:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 6ms, Maximum = 9ms, Average = 7ms
PC>ping 30.0.0.3
Pinging 30.0.0.3 with 32 bytes of data:
Reply from 30.0.0.3: bytes=32 time=9ms TTL=125
Reply from 30.0.0.3: bytes=32 time=6ms TTL=125
Reply from 30.0.0.3: bytes=32 time=6ms TTL=125
Reply from 30.0.0.3: bytes=32 time=6ms TTL=125
Ping statistics for 30.0.0.3:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 6ms, Maximum = 9ms, Average = 6ms
PC>
Time: 00:56:57
Power Cycle Devices
Fast Forward Time
Realtime
Connections
Serial DCE
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time (sec)
Periodic
Num
Edit
Delete
26°C
Haze
Search
ENG
IN
09:31:25
20-11-2024


Cisco Packet Tracer
Logical
[Root]
Router0
Router1
Router2
40.0.0.1
40.0.0.2
50.0.0.1
50.0.0.2
10.0.0.1
20.0.0.1
30.0.0.1
PC-PT PC0
PC-PT PC1
PC-PT PC2
PC-PT PC3
PC-PT PC4
PC-PT PC5
10.0.0.2
10.0.0.3
20.0.0.2
20.0.0.3
30.0.0.2
30.0.0.3
PDU Information at Device: Switch0
OSI Model
Outbound PDU Details
PDU Formats
Ethernet 802.3
PREAMBLE: 1010 1010
DEST ADDR: 0180.C200.0000
SRC ADDR: 0001.C998.CD36
LENGTH / TYPE: 0x3
DATA (VARIABLE LENGTH)
FCS: 0x0
LLC
DSAP:0x42
SSAP:0x42
CONTROL BIT: 3
STP BPDU
PROTOCOL ID: 0
Simulation Panel
Event List
Capture / Play
Capture / Forward
Show All
Time: 01:09:20.688
Power Cycle Devices
PLAY CONTROLS:
Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Connections
Serial DCE
Scenario 0
New
Delete
Toggle PDU List Window
Fire
Last Status
Source
Destination
Type
Color
Time (sec)
Periodic
Num
Edit
Delete
Successful PC1 PC2 ICMP 0.000 N 0 (edit) (delete)
Successful PC3 PC4 ICMP 0.000 N 1 (edit) (delete)
27°C Haze
Search
ENG IN
10:17:00 20-11-2024