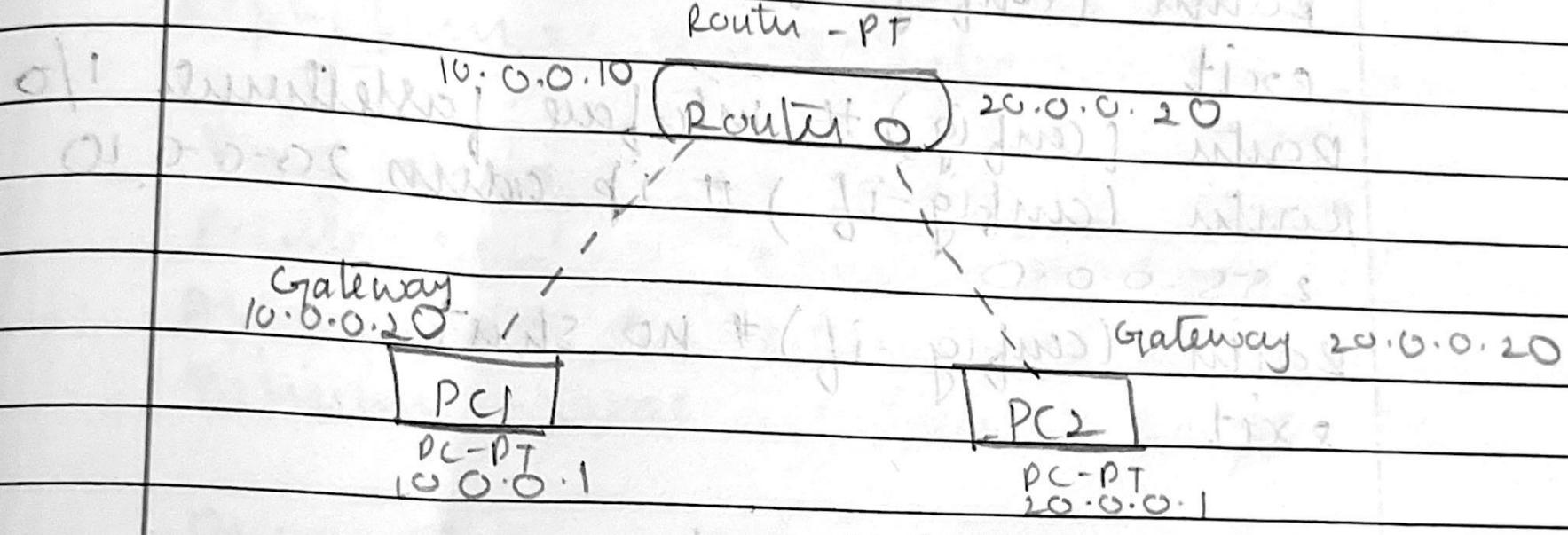


CONFIGURE IP ADDRESS TO ROUTERS IN PACKET TRACERS. EXPLORE THE FOLLOWING MESSAGES. PING, RESPONSES DESTINATION UNREACHABLE, REQUEST TUNED OUT, REPLY.

Configure IP address to routers in packet tracer. Explore the following messages: Ping, responses destination unreachable, request tuned out, reply.

2a Aim: Configuring IP address to router and exploring ping messages.



Procedure

- 1) Select Router-PT and place it in workspace.
- 2) Take 2 end devices as PC-PT and drop them in workplace.
- 3) Connect Fast Ethernet 0% of PC1 to Fast Ethernet 0% of PC2 to Fast Ethernet 0% of Router using copper cross-over.
- 4) Set IP address of PC1 as 10.0.0.1 and PC2 as 20.0.0.1.
- 5) In settings set gateway of PC1 as 10.0.0.10 and PC2 as 20.0.0.1.
- 6) Setup the interface of router using the following steps:
To configure router command line interface (CLI) is used.

Routo CLI	Ping
(Pins N)	Pc
Routu > enable	Pn
Routu > config t	Re
Routu (config) # interface fastethernet 0/0	Repl
Routu (config-if) # ip address 10.0.0.10	Repl
255.0.0.0	Repl
Routu (config-if) # no shut	Repl
exit	Repl
Routu (config) # interface fastethernet 1/0	Pm
Routu (config-if) # ip address 20.0.0.10	Pm
255.0.0.0	Pm
Routu (config-if) # no shut	App
exit	MI
Routu (config) # exit	Gb
Routu #	Or
Show ip route	+l
C 10.0.0.0/8 is directly connected,	4
Fastethernet 0/0	
C 20.0.0.0/8 is directly connected,	
Fastethernet 1/0	
7) Green lights appear on wires when no	
shut commands are written which	
indicate that they are ready for	
data transmission	

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Ping output in PC:-

PC>ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data.

Request timed out.

Reply from 20.0.0.1: bytes = 32 Time = 0ms TTL = 127

Reply from 20.0.0.1: bytes = 32 Time = 0ms TTL = 127

Reply from 20.0.0.1: bytes = 32 Time = 0ms TTL = 127

Reply from 20.0.0.1: bytes = 32 Time = 0ms TTL = 127

Ping statistics for 20.0.0.1

Paths: sent = 4, received = 3, losses = 1 (25% loss).

Approximate round trip time in milli seconds

Minimum = 0ms, Maximum = 1ms, Average

Observation

on pinging in PC for the first time

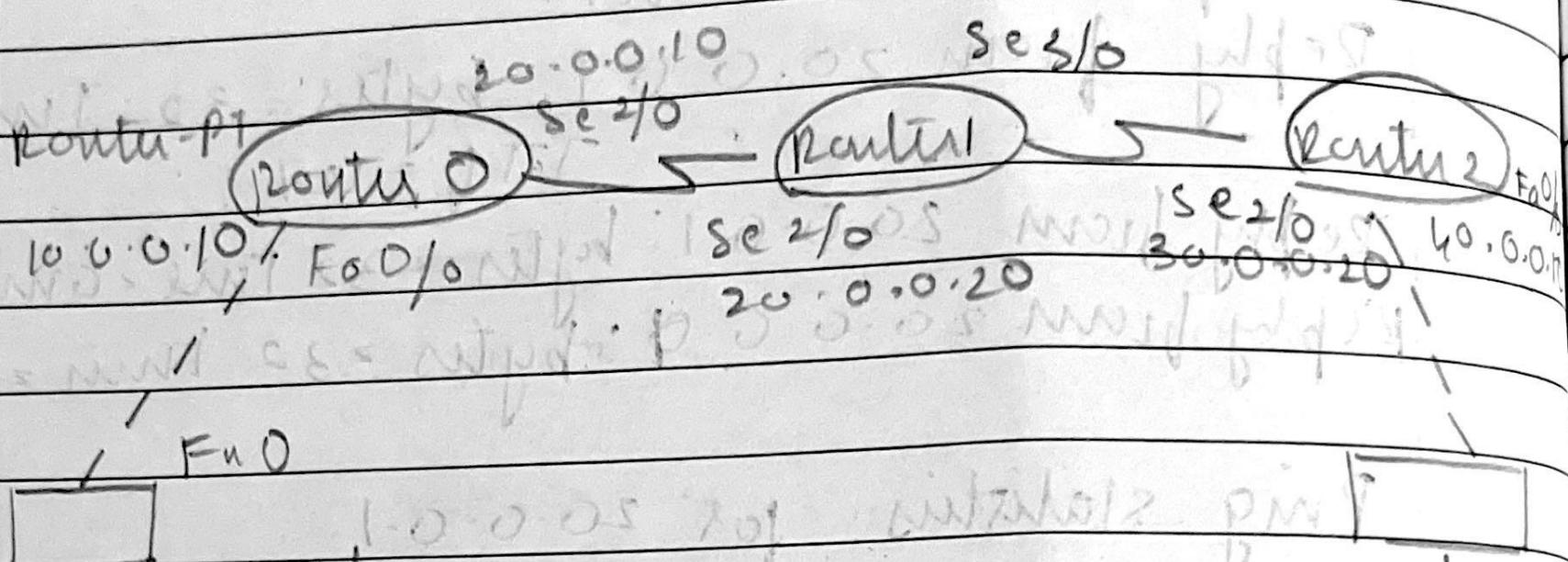
time is a 25% lost

From next ping there are no losses.

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2b) Aim: configue using 3 routers and 2 PCs

Topology:



Procedure:

- 1) The network is started by selecting end devices PC0 to PC1 i.e. genuine PCs and placing them in work space.
- 2) Select 3 Router - PT and place them as Router 0, Router 1 and Router 2 in workspace.
- 3) PC0 & PC1 are connected to Router 0 and Router 2 respectively using copper crossover.
- 4) Connect Router 0 to Router 1, Router 1 to Router 2.
- 5) Set up IP address of PC0 to 10.0.0.1
PC to 20.0.0.1. Set gateway of PC0 as 10.0.0.20 PC1 as 30.0.0.10

Configure the router by opening CLI

In router 0

Router > enable

Router # config t

Router (config) # interface fastethernet 0/0

Router (config-if) # ip address 10.0.0.10

255.0.0.0

Router (config-if) # no shut

exit

Router (config) # interface serial 2/0

Router (config) # ip address 20.0.0.10

255.0.0.0

Router (config-if) # no shut

exit

exit

In router,

Router > enable

Router # config t

Router (config) # interface serial 2/0

Router (config-if) # ip address

20.0.0.20 255.0.0.0

Router (config-if) no shut

exit

Router (config) # interface serial 3/0

Router (config-if) # ip address

30.0.0.20 255.0.0.0

Router (config-if) # no shut

exit

Router (config) # exit

on Router 2

Router > enable

Router # config t

Router (config) # interface serial 2/0

Router (config-if) # ip address 30.0.0.10

255.0.0.0

Router (config-if) # no shut

exit

Router (config) # interface fastethernet 0/0

Router (config-if) # ip address 40.0.0.10

255.0.0.0

Router (config-if) no shut

exit

Router (config) exit

IP Router table:

Router>

Router # show ip route

C 10.0.0.0/8 is directly connected,
Fastethernet 0/0.

C 20.0.0.0/8 is directly connected,
Serial 2/0.

Router:

Router # show ip route

C 20.0.0.0/8 is directly connected serial 0/0

C 30.0.0.0/8 is directly connected
fastethernet 0/0

Ping output in PCO

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PCP ping 10.0.0.1

Pingming 10.0.0.1 with 32 bytes of data.

Reply from 10.0.0.10: Destination host unreachable

Reply from 10.0.0.10: Destination host unreachable

Reply from 10.0.0.10: destination host unreachable

Ping statistics for 10.0.0.1:

Packets: sent=4, received=0, loss=4
(100% loss)

Observation

Green lights appear on the wins when no short is written

Now config the router which does not have data of other network. Add the network in CLI. In all 3 routers, CLI write config t then set route

Routers

ip route 30.0.0.0 255.0.0.0 20.0.0.30

ip route 40.0.0.0 255.0.0.0 20.0.0.30

Router 1:

ip route 10.0.0.0 255.0.0.0 20.0.0.10

ip route 40.0.0.0 255.0.0.0 30.0.0.20

Route 2:

1) route 10.0.0.255.0.0.0 30.0.0.10
1) route 20.0.0.255.0.0.0 30.0.0.10

new route table
exit

Route 0:

C 10.0.0.0/8 is directly connected, fast eth0
0/0

C 20.0.0.0/8 is directly connected, serial 2/0

S 30.0.0.0/8 [1/0] via 20.0.0.30

S 40.0.0.0/8 [1/0] via 20.0.0.20

Route 1:

S 10.0.0.0/8 [1/0] via 30.0.0.10

S 20.0.0.0/8 [1/0] via 30.0.0.10

C 30.0.0.0/8 is directly connected, serial 2/0

S 40.0.0.0/8 is directly connected serial 3/0

Route 1:

S 10.0.0.0/8 [1/0] via 20.0.0.10

C 20.0.0.0/8 is directly connected serial 2/0

C 30.0.0.0/8 is directly connected serial 3/0

S 40.0.0.0/8 [1/0] via 30.0.0.20

Ping messages

PC> ping 40.0.0.1

Pinging 40.0.0.1 with 32 bytes of data.

Request timed out

Reply from 40.0.0.1: bytes = 32 time = 2ms
TTL = 125

Reply from 40.0.0.1: bytes = 32 time = 2ms
TTL = 125

Reply from 40.0.0.1: bytes = 32 time = 2ms
TTL = 125

Ping statistics for 40.0.0.1

Packets sent = 4, received = 3, lost = 1
(25% loss)

Approximate round trip times in milliseconds -

Minimum = 2ms, Maximum = 2ms,

Avg = 2ms

Observation

In first ping destination host was unreachable as route 0 has no

knowledge about the network

30.0.0.0 and 40.0.0.0 and the

packets got stuck or lost.

After this if route is explicitly

Now pinging this is 25% loss in
first time, the following ones has no
loss.

