17/11/22

Bajna Gola
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EXPERIMENT 2:

Configuring IP address to Routers in Packet Tracers. Explore the following messages: Ping Responses, Destination unreachable, Request timed out, Reply.

- Routers are sophisticated multi-port devices. They operate at Network layer and use a Routing table to determine which path from source to destination should be selected.

PROCEDURE:

- We select 2 generic end devices from the Device-type selection box. We give the source device IP address as 10.0.0.1 and 20.0.0.1 to the other end device. Subnet mask 255.0.0.0.
- We select a generic Router-PT and connect it to the end devices using copper cross-over connections.
- We see interface between end device & router denoted by a red dot (Network not yet functional).
- We have to configure the interfaces.
- The following commands are executed by right-clicking on the router & selecting CLI.
- Continue with configuration dialog? [yes/no]: no

1st Side Configuration:

Router > enable
Router# config terminal
Router (config)# interface fastEthernet 0/0

Router (config-if) # IP address 10.0.0.10 255.0.0.0
Router (config-if) # no Shutdown.
Router (config-if) # exit.

2nd Side Configuration:

Router (config) # interface fastEthernet 1/0
Router (config-if) # IP address 20.0.0.10 255.0.0.0
Router (config-if) # no Shutdown.
Router (config) # exit.

- The interfaces (represented by red dot) turn green. This indicates that the network is functional.
- We add PDU's to the end devices.
- We select the Source end devices and go to the Command prompt option in Desktop panel.
- Enter the command:

PC> ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

Req, Request timed out
Request timed out
Request timed out
Request timed out.

- Gateway address has to be added for end devices to know where to send PDU when Router is present.
- For Source end-device (IP: 10.0.0.1) enter gateway as interface of IP address: 10.0.0.10.

- for destination end-device (IP: 20.0.0.2) enter gateway as interface IP address : 20.0.0.10.
- Select Source end device and go to Desktop panel, choose Command prompt option.
- Enter the Command:

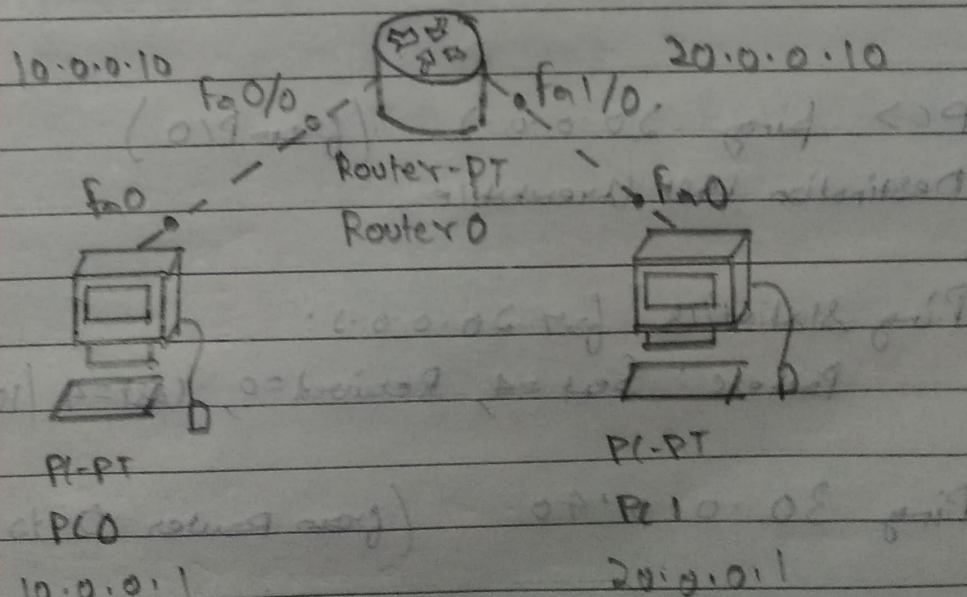
PC > ping 20.0.0.1

Pinging 20.0.0.1 with 32 bytes of data:

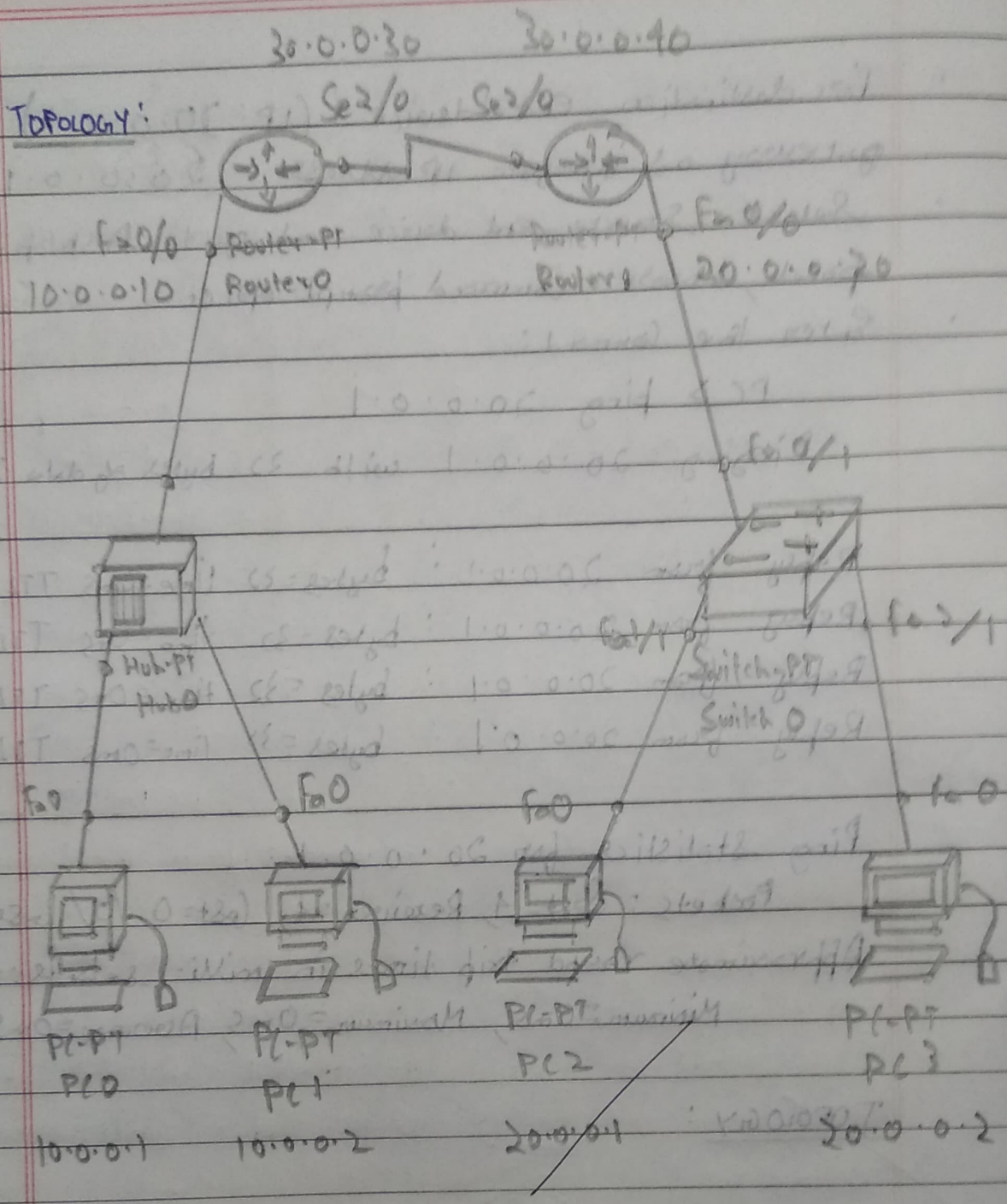
Reply from 20.0.0.1 : bytes=32 time=0ms TTL=127
Reply from 20.0.0.1 : bytes=32 time=0ms TTL=127
Reply from 20.0.0.1 : bytes=32 time=0ms TTL=127
Reply from 20.0.0.1 : bytes=32 time=0ms TTL=127

Ping statistics for 20.0.0.1
Packets : Sent=4, Received=4, Lost=0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum=0ms, Maximum=0ms, Average=0ms.

TOPOLOGY:



TOPOLOGY:



PC> ping 20.0.0.2 (from PC0)

Destination Host Unreachable.

Ping Statistics for 20.0.0.2:

Packets: Sent=4, Received=0, Lost=4 (100% loss).

Ping 30.0.0.40 (from Router 0 to Router 1)

Packets Sent=4, Received=4, Lost=0 (0% loss).

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Router 0 Configuration :

Continue with configuration dialog? [Yes/No]: No.

Router > enable.

Router # config terminal.

Router (config) # interface fastEthernet 0/0.

Router (config-if) # IP address 10.0.0.10 255.0.0.0

Router (config-if) # no shutdown.

Router (config-if) # exit.

Router (config) # interface Serial 2/0.

Router (config-if) # IP address 30.0.0.30 255.0.0.0.

Router (config-if) # no shutdown

Router (config-if) # exit.

Router 1 Configuration :

Continue with configuration dialog? [Yes/No]: No.

Router > enable

Router # config terminal

Router (config) # interface fast Ethernet 0/0

Router (config-if) # IP address 20.0.0.20 255.0.0.0

Router (config-if) # no shutdown

Router (config-if) # exit.

Router (config) # interface Serial 3/0.

Router (config-if) # IP address 30.0.0.40 255.0.0.0.

Router (config-if) # no shutdown

Router (config-if) # exit.