Experiment – 2

Configuring IP address to routers in packet Tracer, Explore the following message Ping Responses, Destination Unreachable, Request timed out, Reply

→ Hubs and switches are used to exchange data within local area network

→ To exchange data outside their own device needs to be able to read IP address Hubs and switch so not read IP address.

→ Router is a network device that routes data from one network to another based on their IP address.
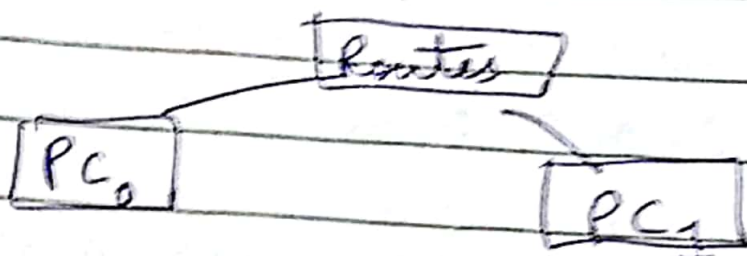
Ping

Ping is a command-line utility that acts as a test to see if a network device is reachable or not.

→ Ping utility uses the echo request and echo reply message within the ICMP, an integral part of IP network.

→ when a ping command is used, an echo request packet is sent to the address specified.

Ping Response

Router

PC₀

PC₁

Step 1, Place the devices and make connection.

step 2 Set IP address of gateway address as 10.0.0.0 , 10.0.0.10 & 20.0.2.0

Step 3 Configure the Router's IP address same as respective gateway address of the desktop.

Step 4 Open Cmd and ping the destination

Ping Response

Ping 10.0.0.10

Pinging 10.0.0.10 with 32 bytes of data

Reply from 10.0.0.10 : bytes =32 time 6 ms   TTL = 128

Observations

→ Host sends 32 bytes of packet to destination and waits for 32 bytes response packet

→ time = 6ms.

Time taken by packet from host to destination and back to Host

The smaller the result is better.

→ TTL refers to amount of time that a packet is set to exists inside a network.

→ TTL makes sure that the packet does not keep looping forever and has an end value.

Ping error: Request timed out

→ Firewall, specific traffic, network congestion lost internet connection

Destination unreachable

The end server is set to reject all or specific traffic.