Lab - 4.

AIM: Configuring DHCP within a LAN in a packet tracer.

Theory:

Dynamic Host Configuration Protocol:

- Dynamically allocate IP address & nodes.
- Used specially in mobile n/w

Follows procedure:

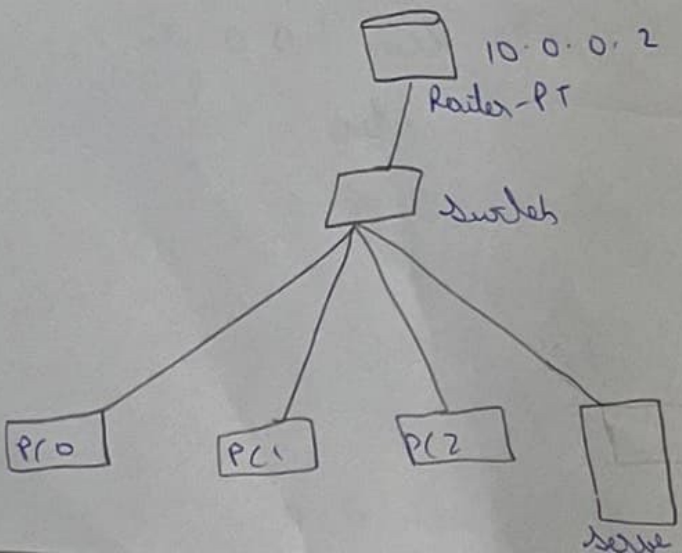
D - Discover - New node for a req to IP

O - Offer - Server(s) respond back with IP address

R - Request New node req. / server for IP

A - Acknowledgement → Server ack the IP address.

Topology:



Procedure :-

i) Place one generic router, switch and 3 PC's in the workspace

ii) Connect the PC's and servers to the switch using copper straight wire

iii) Connect switch and router using fiber

iv) Configure the server by adding IP address, subnet mask and gateway

v) Configure the router by setting IP address, subnet mask. and executing this command in CLI

IP ~~xxxx~~ route 10.0.0.2 255.0.0.0.

vi) Click on the server and go to services tab. Select DHCP switch it on and add the gateway servers IP address and subnet mask.

vii) Click on the first PC and go to IP configuration. Select DHCP. Repeat this for all PCs.

viii) Ping command is executed from 10.0.0.3 to 10.0.0.3.

Observation:

→ A pool of IP addresses exists from which IP addresses can be dynamically allocated

This is called Dynamic Host Configuration Protocol.

Result:

ping 10.0.0.5

pinging 10.0.0.5 with 32 bytes of data:

Reply from 10.0.0.5 bytes=32 time=2ms TTL=128

Reply from 10.0.0.5 bytes=32 time=2ms TTL=128

Reply from 10.0.0.5 bytes=32 time=2ms TTL=128

Reply from 10.0.0.5 bytes=32 time=2ms TTL=128

Ping statistics for 10.0.0.5

Packets sent=4, received=4, lost=0.