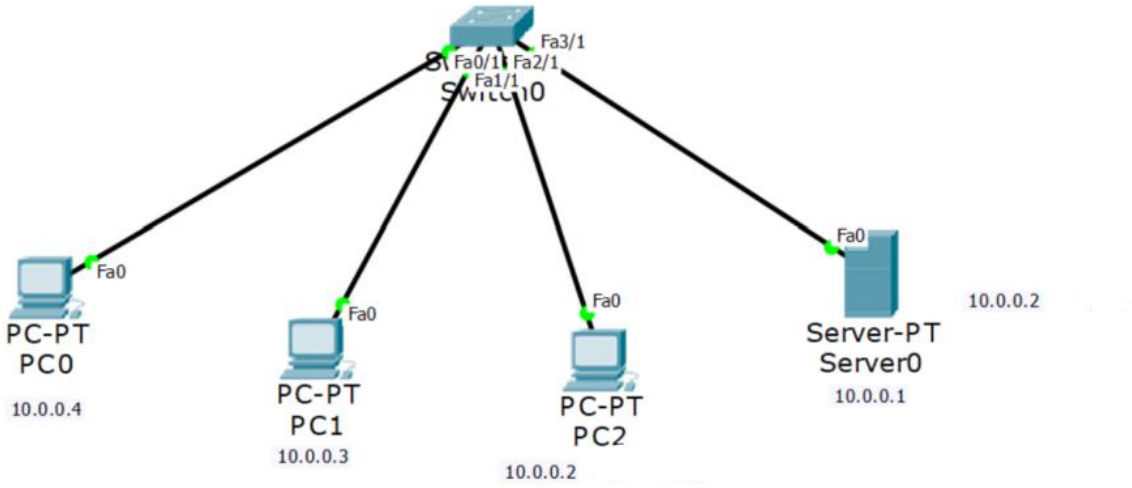
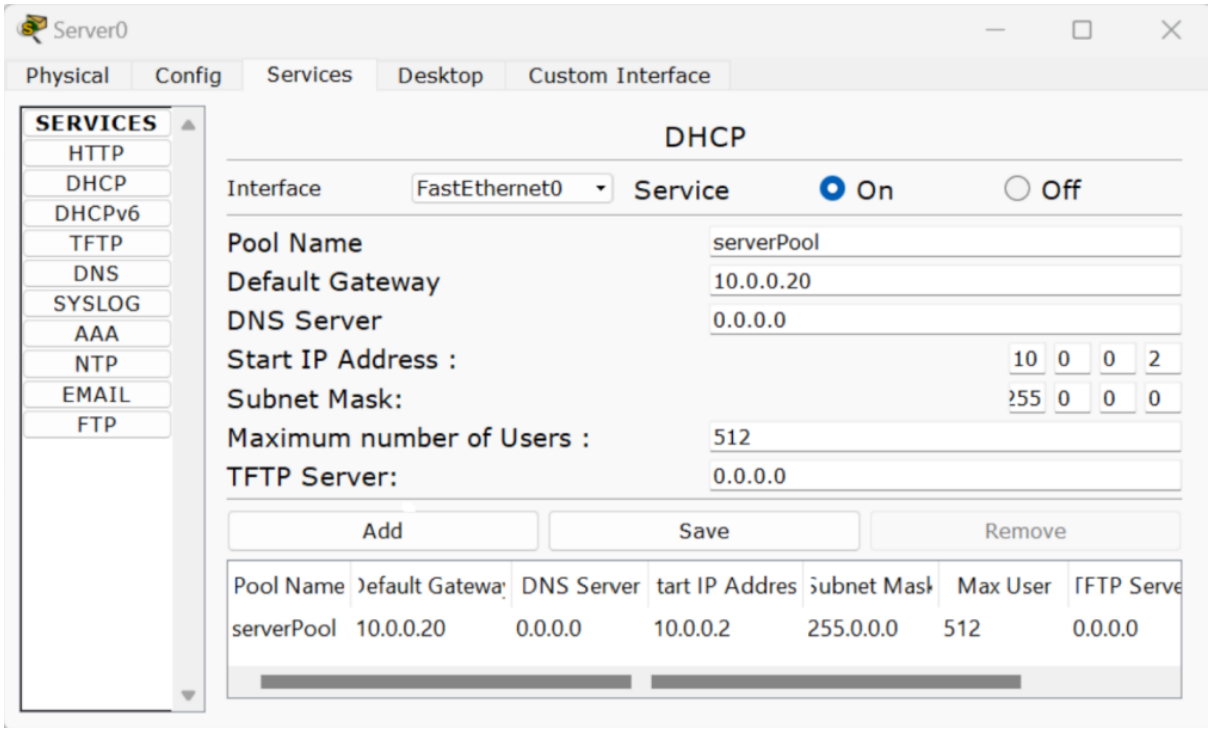
Experiment - 4

Aim: Configure DHCP within a LAN and outside LAN.





Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=1ms TTL=128
Reply from 10.0.0.2: bytes=32 time=1ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=1ms TTL=128
Reply from 10.0.0.3: bytes=32 time=12ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128
Reply from 10.0.0.3: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 12ms, Average = 3ms
```

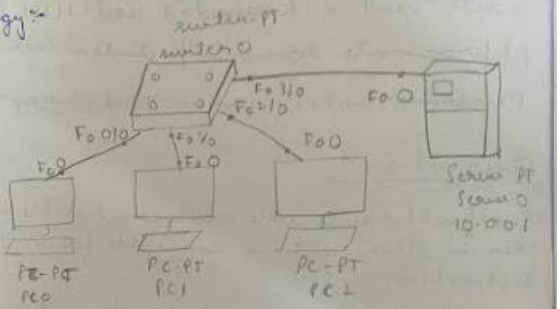
13/9/23

Lab - 4

Program - 4.1

Aim - Configure DHCP within a LAN and outside LAN

Topology :-



Procedure :-

→ Connect 3 PC's and 1 server to a switch using upper straight through cable.

→ Click on server and go to services tab select DHCP and turn on the DHCP service

→ Set the IP address of the start IP address as 10.0.0.2 and click on save button.

→ Before this, set the IP address of server in config Tab under fastEthernet as 10.0.0.1

→ Next click on PC0 and go to desktop tab, here click on IP configuration. Select DHCP here. It will request for an IP address and successfully get the DHCP request also sets the IP address

→ Repeat this steps for other 2 PC's

* To send a packet across PC's, go to PC's command prompt and type ping destination IP address.

Ping output

Packet Tracer PC command Line 10
PC> Ping 10.0.0.3
Pinging 10.0.0.3 with 32 bytes of data

Reply from 10.0.0.3 bytes = 32 time = 0ms TTL = 128

Reply from 10.0.0.3 bytes = 32 time = 0ms TTL = 128
Reply from 10.0.0.3 bytes = 32 time = 1ms TTL = 128
Reply from 10.0.0.3 bytes = 32 time = 0ms TTL = 128

Ping statistics from 10.0.0.3
Packets: sent = 4, Received = 4, Lost = 0, (0% loss)
Approximate round trip times in milli-seconds,
minimum = 0ms, Maximum = 1ms, Average = 0ms

Observation

→ DHCP is used to dynamically assign an IP address to any device or node
→ It is a client-server protocol in which servers manage a pool of unique IP address and also assist client configuration parameters.
→ DHCP enabled clients sends a request to DHCP server when they want to connect to a network.
→ The DHCP server responds to the client request by providing IP configuration information from address pools, previously specified by a network administrator.

31/8/2023