Lab 8: Objective:

DHCP Server Configuration

Lab 8
DHCP Server Configuration

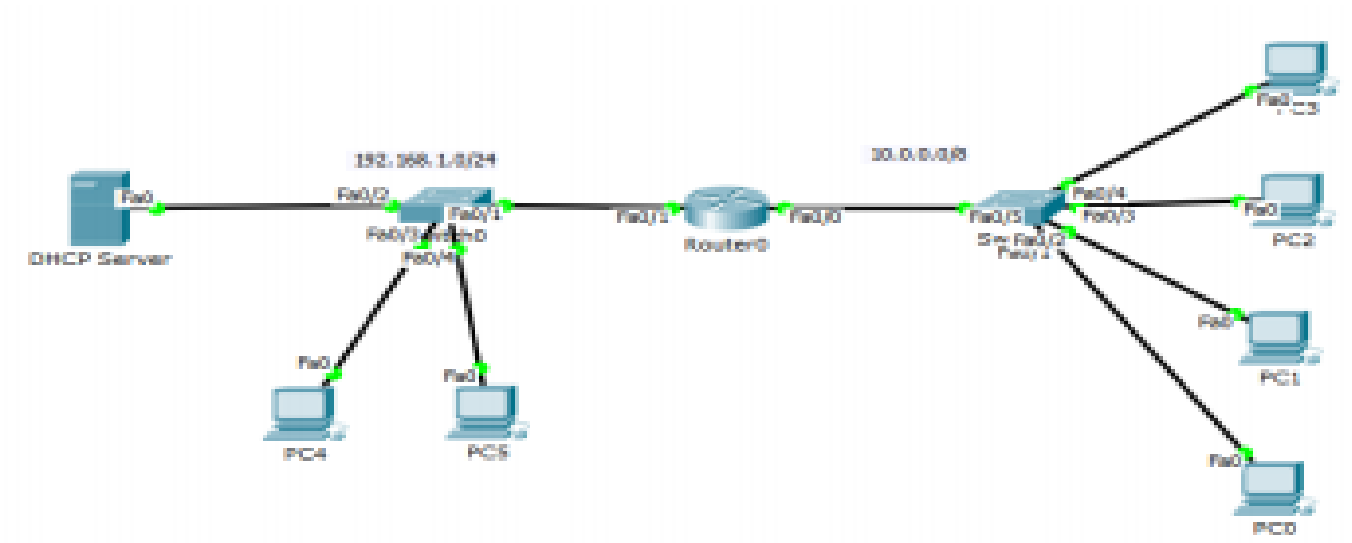

Figure 1

DHCP Server

A DHCP Server is a network server that automatically provides and assigns IP addresses, default gateways and other network parameters to client devices. It relies on the standard protocol known as Dynamic Host Configuration Protocol or DHCP to respond to broadcast queries by clients.

A DHCP server automatically sends the required network parameters for clients to properly communicate on the network. Without it, the network administrator has to manually set up every client that joins the network, which can be cumbersome, especially in large networks. DHCP servers usually assign each client with a unique dynamic IP address, which changes when the client's lease for that IP address has expired.

Refer to figure 1,

Task 1, Router IP

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Fa0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface Fa0/1
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#exit
```

Task 2, IP on DHCP Server

Assign IP on DHCP Server, as shown in figure 2.

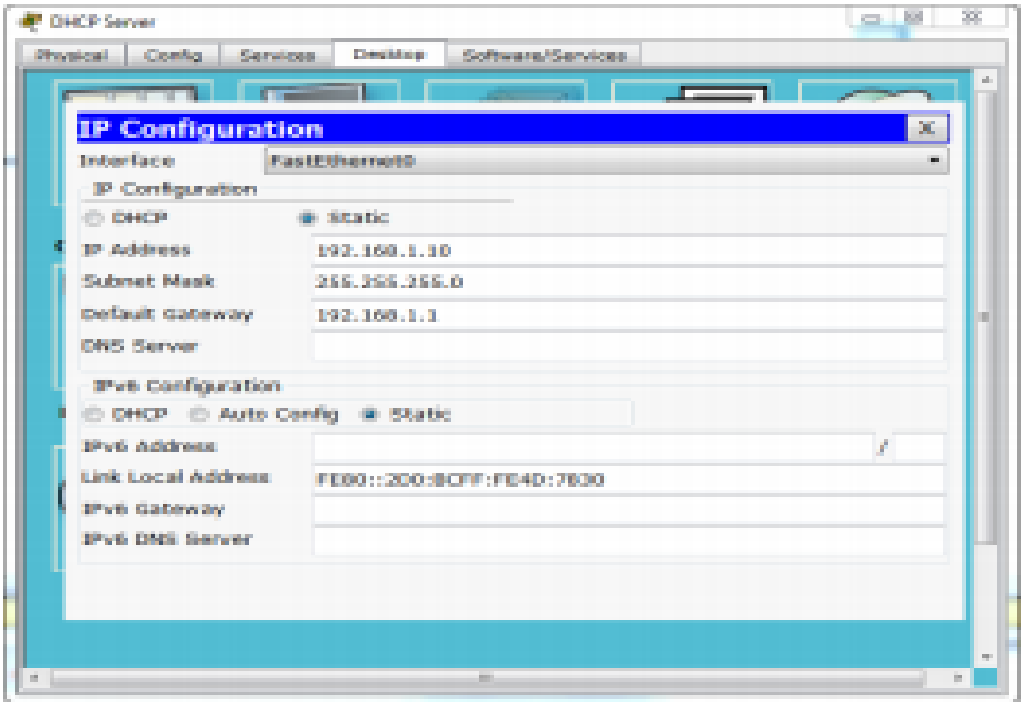

Figure 2

Task 3, DHCP Server

Configure DHCP Server, as shown in figure 3& 4.

Figure 3

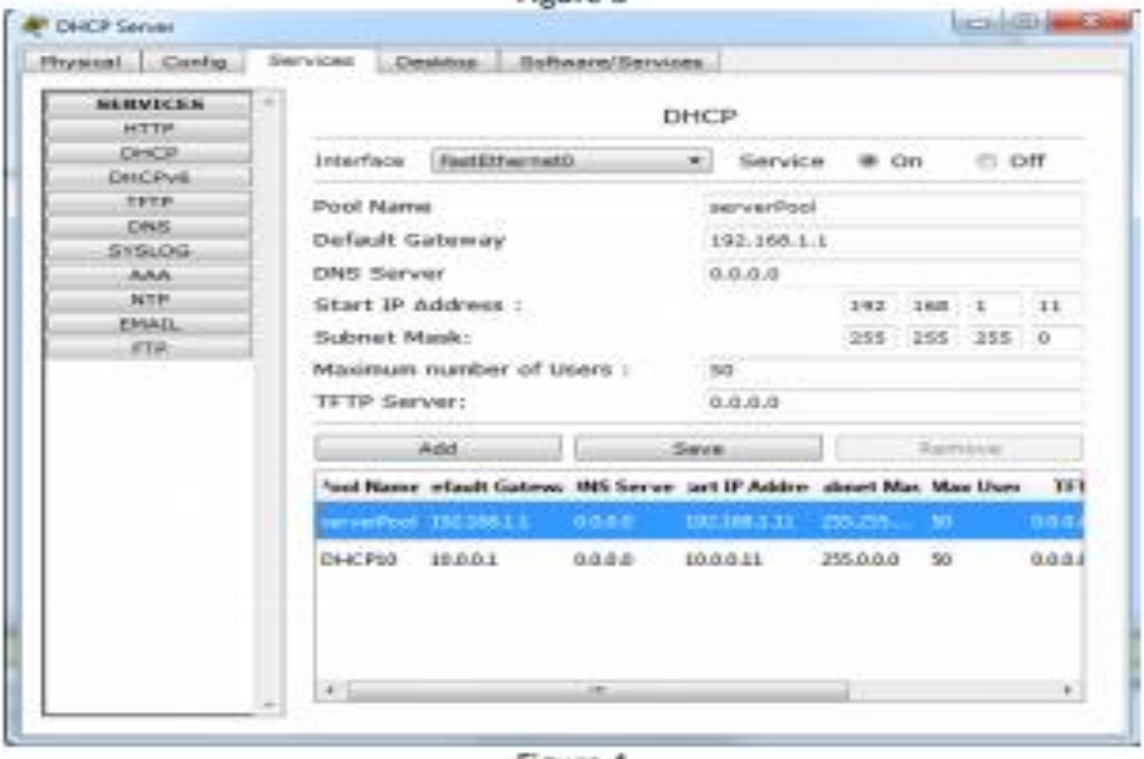

Figure 4

Task 4, Helper Address

Assign helper address IP on attached router.

```
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Fa0/0
Router(config-if)#ip helper-address 192.168.1.10
Router(config-if)#exit
Router(config)#interface Fa0/1
Router(config-if)#ip helper-address 192.168.1.10
Router(config-if)#exit
Router(config)#end
```

Task 5, Dynamic IP's of PC

Now all the attached PC's should be able to get dynamic IP's. (As shown in figure 5 & 6)

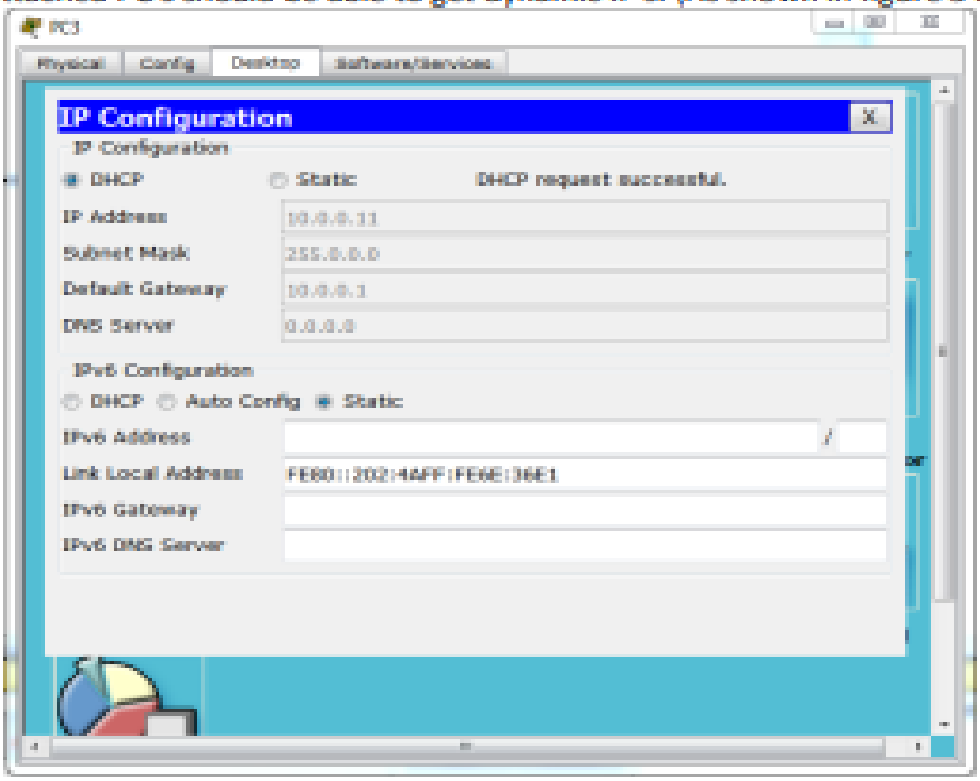

Figure 5

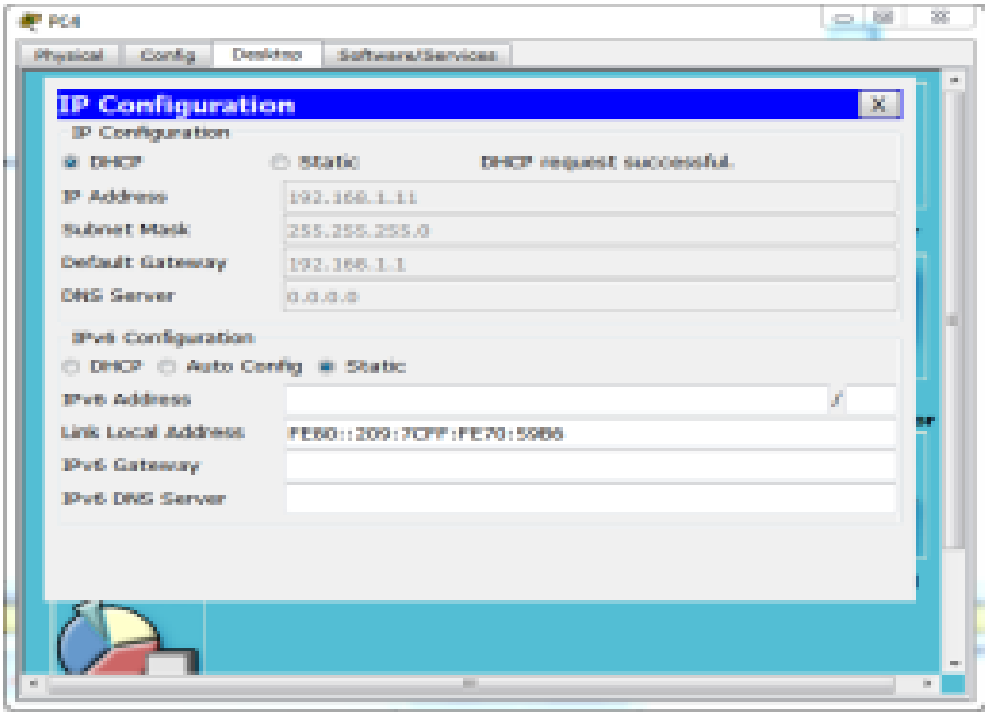

Figure 6

Lab-8 Exercise:

Design a ring network which consists of 3 routers. Attach 3 PC's with each router and also attach a DHCP Server with router 1. At the end of the configuration, all the attached devices should be able to get IPs from DHCP server. Pool name should be on student name.