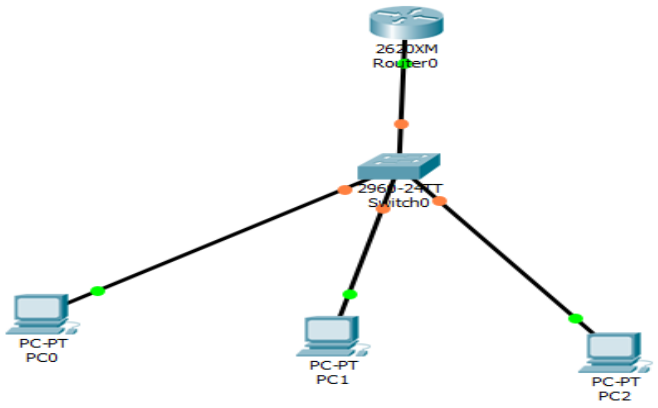
Lab Report No: 09
Lab Report Name: Introduction to DHCP on packet tracer.

Objectives:

- To learn about Dynamic Host Configuration Protocol
- To learn how client/server protocol that automatically provides an Internet Protocol(IP) host with its IP address.

Working Procedure:
Let's apply DHCP on packet tracer.
First, let us make a topology with one router on which we will apply DHCP and several client PCs. More like this one,



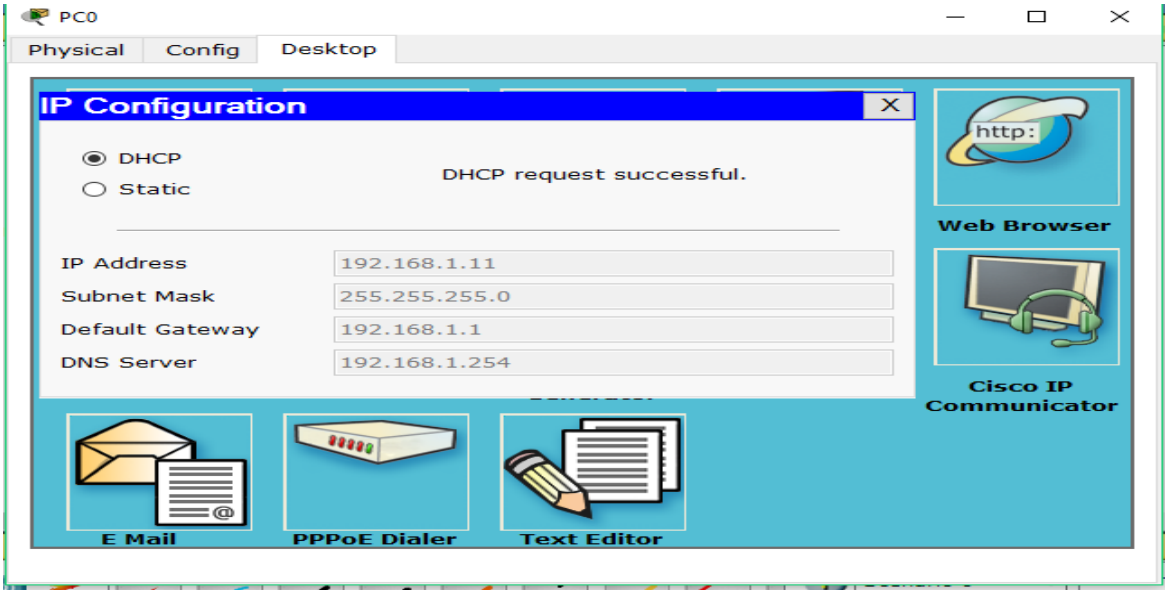
The commands in sequence are as follows.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname DHCP-Router
DHCP-Router(config)#ip dhcp pool CSL
DHCP-Router(dhcp-config)#network 192.168.1.0 255.255.255.0
DHCP-Router(dhcp-config)#default-router 192.168.1.1
DHCP-Router(dhcp-config)#dns-server 192.168.1.254
DHCP-Router(dhcp-config)#exit
DHCP-Router(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10
DHCP-Router(config)#ip dhcp excluded-address 192.168.1.254
DHCP-Router(config)#interface fastEthernet 0/0
DHCP-Router(config-if)#no shutdown
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

```
DHCP-Router(config-if)#ip address 192.168.1.1 255.255.255.0
DHCP-Router(config-if)#exit
DHCP-Router(config)#exit
DHCP-Router#
%SYS-5-CONFIG_I: Configured from console by console
DHCP-Router#show running-config
Building configuration...
Current configuration : 663 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname DHCP-Router
!
!
!
!
ip dhcp excluded-address 192.168.1.1 192.168.1.10
ip dhcp excluded-address 192.168.1.254
!
ip dhcp pool CSL
 network 192.168.1.0 255.255.255.0
 default-router 192.168.1.1
 dns-server 192.168.1.254
!
DHCP-Router#
DHCP-Router#copy running-config startup-config
DHCP-Router#
DHCP-Router#
DHCP-Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
DHCP-Router#show ip dhcp binding
IP address      Client-ID/          Lease expiration       Type
                Hardware address
192.168.1.11    000C.CF91.B463        --                   Automatic
192.168.1.12    000C.CF9E.177E        --                   Automatic
192.168.1.13    0050.0F66.1E90        --                   Automatic
192.168.1.14    0004.9AA5.295C        --                   Automatic
DHCP-Router#
```

Now, open the PC and Click on IP Configuration

Select from Static to DHCP And after DHCP request is completed you will see the following screen



That is all, we have applied DHCP on packet tracer.

OUTPUT:

Successful	PC2	PC1	ICMP		0.000	N	4
Successful	PC1	PC0	ICMP		0.000	N	5
Successful	PC2	PC0	ICMP		0.000	N	6

Conclusion:

DHCP allows a computer to join an IP-based network without having a pre-configured IP address. DHCP is a protocol that assigns unique IP addresses to devices, then releases and renews these addresses as devices leave and re-join the network.