Batch: A2 Roll No: 16010121045
Experiment / assignment / tutorial No: 9
Grade: AA / AB / BB / BC / CC / CD /DD
Signature of the Staff In-charge with date

Experiment No.:9

TITLE: Study and configure DHCP & DNS protocol using Cisco Packet tracer

---

AIM: To study and configure **DHCP/DNS** protocol using Cisco Packet tracer

---

Expected Outcome of Experiment:

CO:

Books/ Journals/ Websites referred:

1. A. S. Tanenbaum, “Computer Networks”, Pearson Education, Fourth Edition
2. B. A. Forouzan, “Data Communications and Networking”, TMH, Fourth Edition

---

Pre Lab/ Prior Concepts:

IPv4 Addressing, Subnetting, Link State Protocol, Router configuration Commands

---

New Concepts to be learned: DHCP/DNS Protocol and its configuration.

THEORY:

Dynamic Host Configuration Protocol (DHCP) is a client/server protocol that automatically provides an Internet Protocol (IP) host with its IP address and other related configuration information such as the subnet mask and default gateway.

All computers on the Internet, from your smart phone or laptop to the servers that serve content for massive retail websites, find and communicate with one another by using numbers. These numbers are known as IP addresses. When you open a web browser and go to a website, you don't have to remember and enter a long number. Instead, you can enter a domain name like example.com and still end up in the right place.

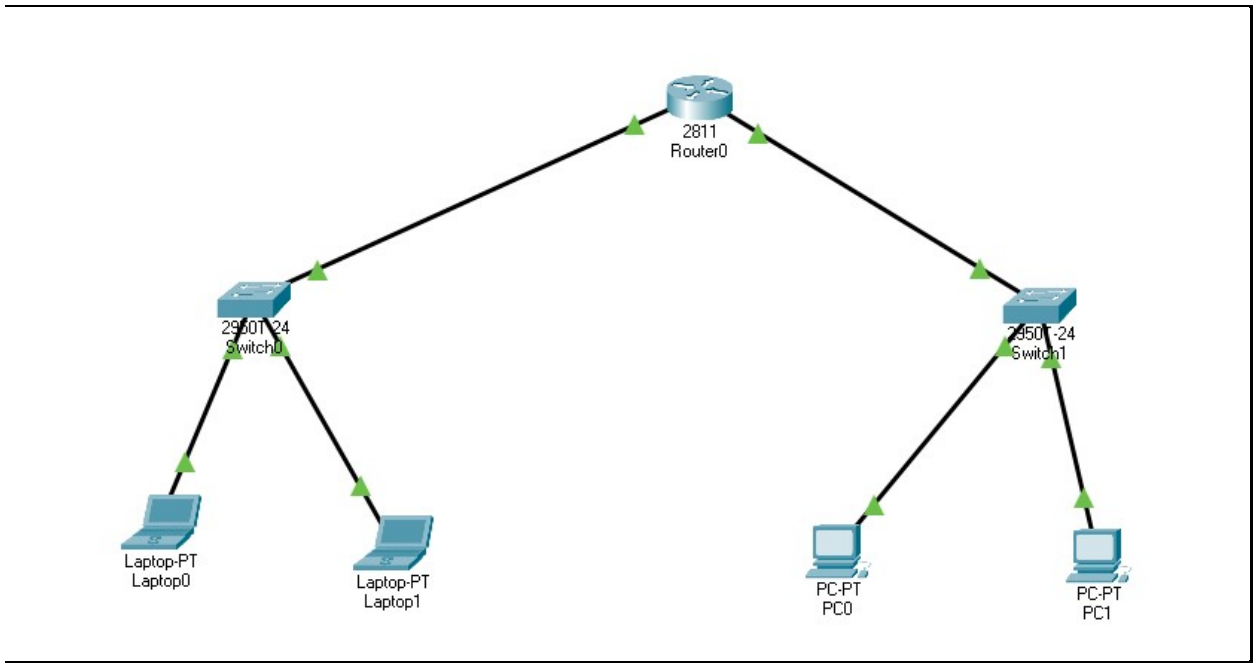
A DNS service such as Amazon Route 53 is a globally distributed service that translates human readable names like www.example.com into the numeric IP addresses like 192.0.2.1 that computers use to connect to each other. The Internet's DNS system works much like a phone book by managing the mapping between names and numbers. DNS servers translate requests for names into IP addresses, controlling which server an end user will reach when they type a domain name into their web browser. These requests are called queries.

IMPLEMENTATION:

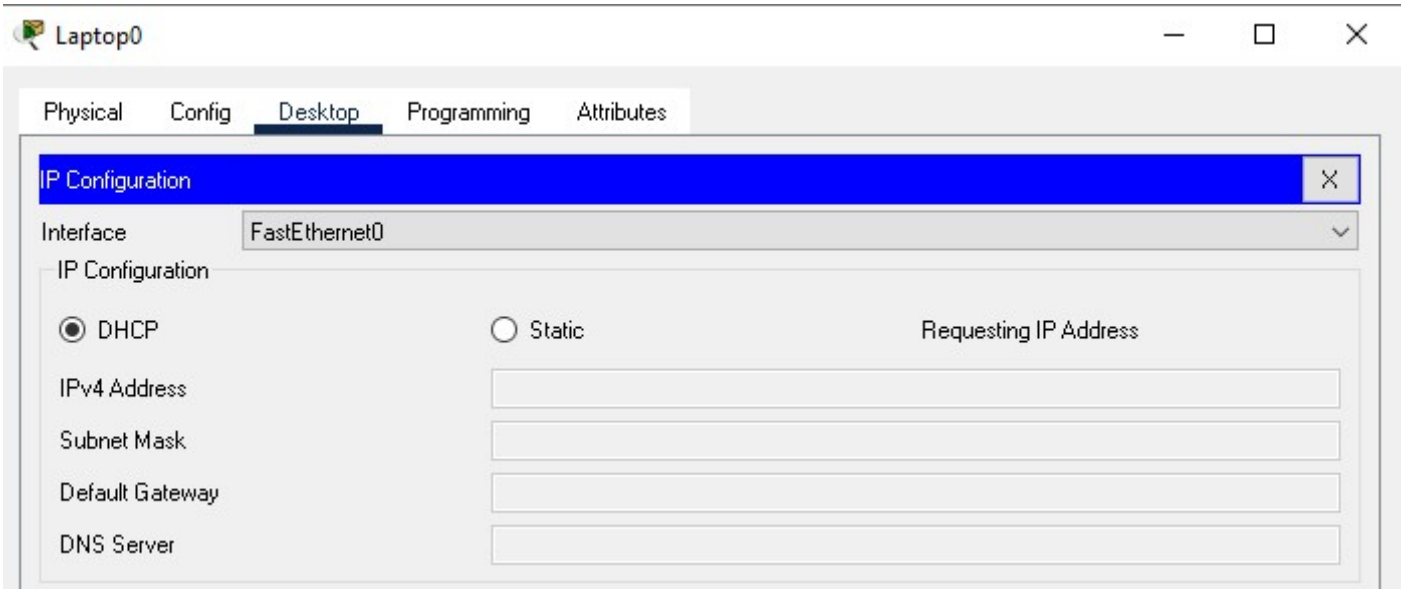
The cli for router 1 assigning the ip range for each fast Ethernet

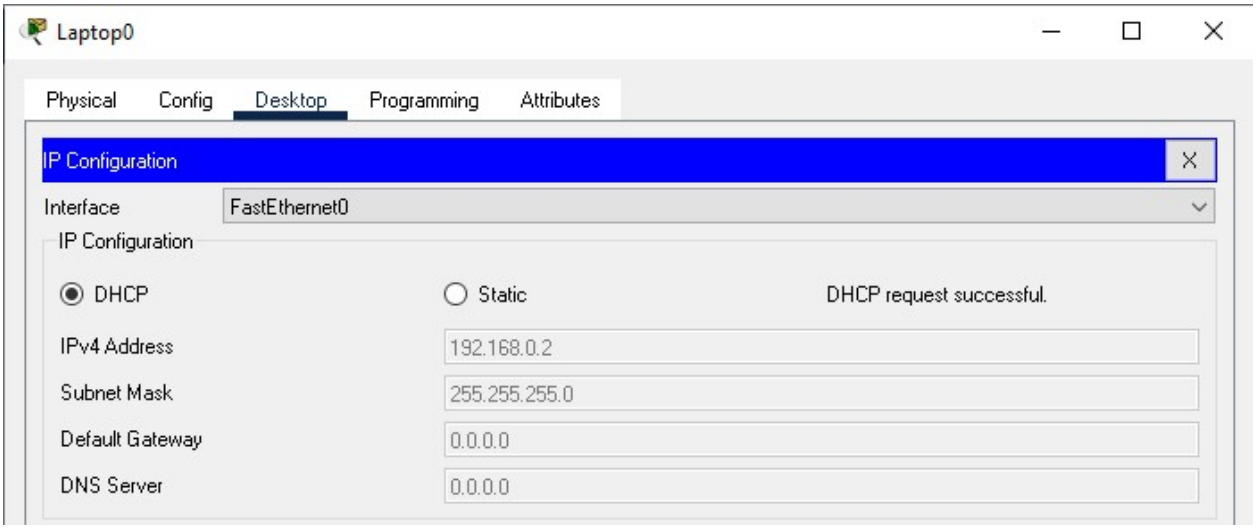
```
Router>    en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fao/0
                    ^
% Invalid input detected at '^' marker.

Router(config)#int fa0/0
Router(config-if)#ip address 192.168.0.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#do write memory
Building configuration...
[OK]
Router(config-if)#ip dhcp pool net1
Router(dhcp-config)#network 192.168.0.1 255.255.255.0
Router(dhcp-config)#exit
Router(config)#
```

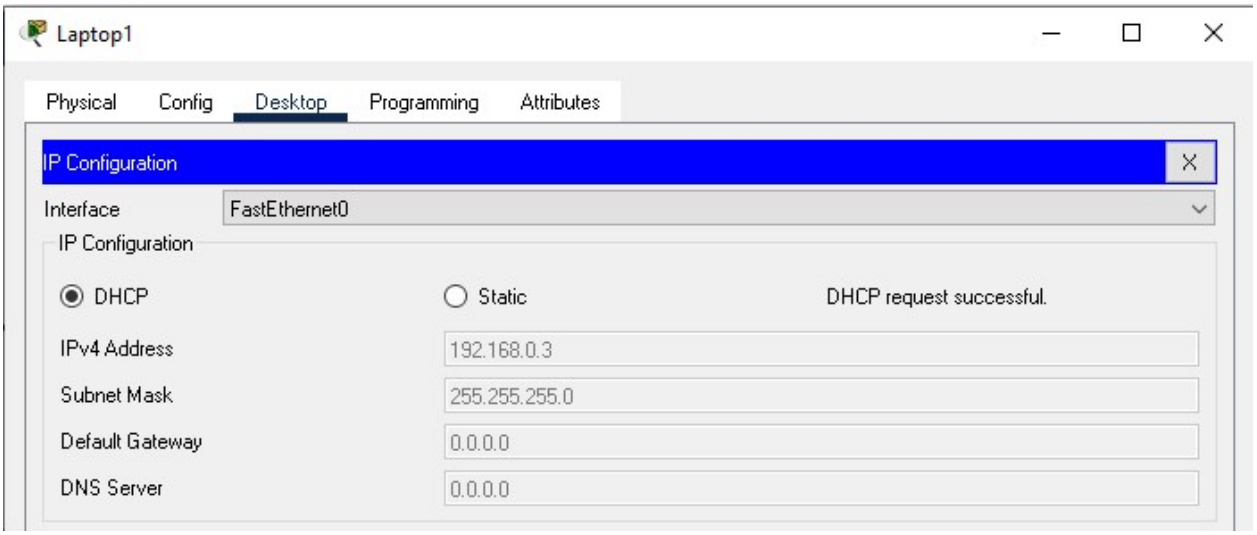
```
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#do write memory
Building configuration...
[OK]
Router(config-if)#ip dhcp pool net2
Router(dhcp-config)#network 192.168.1.1 255.255.255.0
Router(dhcp-config)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

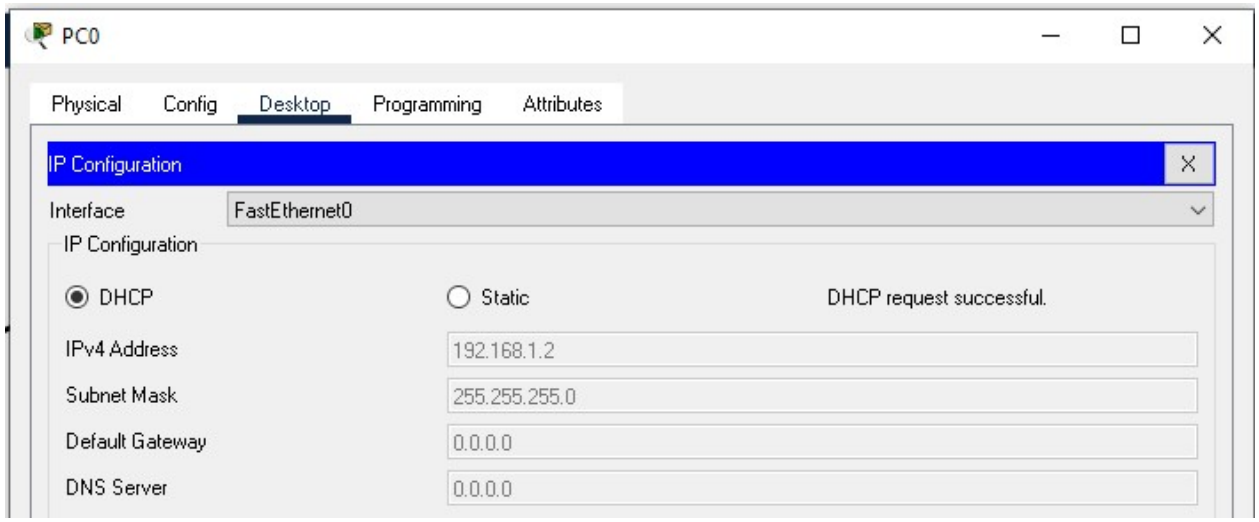


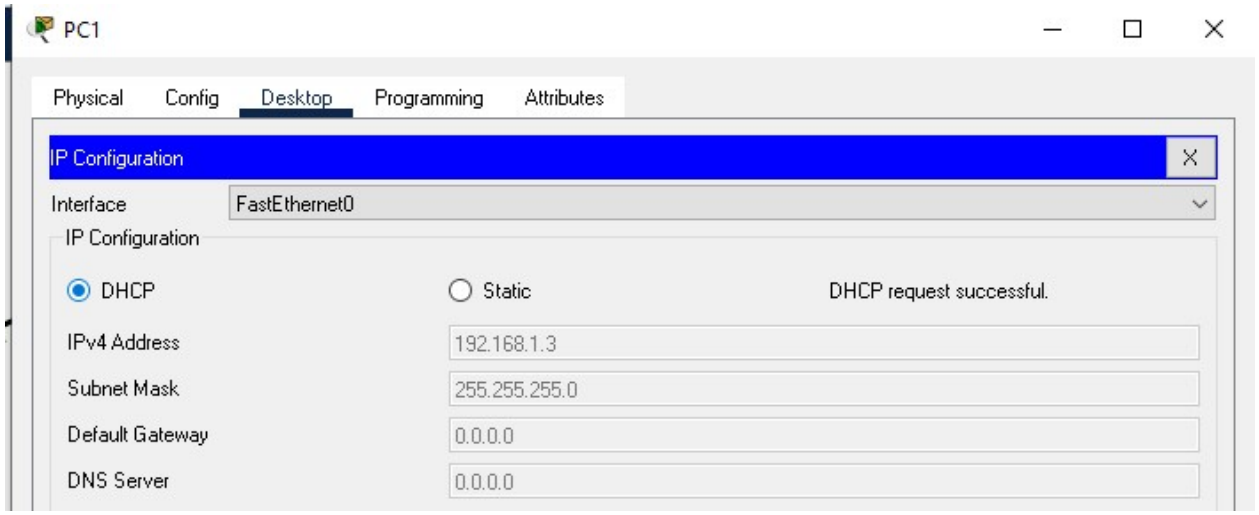
Requesting the IP from DHCP


Laptop0
Physical
Config
Desktop
Programming
Attributes
IP Configuration
Interface
FastEthernet0
IP Configuration
DHCP
Static
Requesting IP Address
IPv4 Address
Subnet Mask
Default Gateway
DNS Server


Laptop0
Physical
Config
Desktop
Programming
Attributes
IP Configuration
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IPv4 Address
192.168.0.2
Subnet Mask
255.255.255.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0


Laptop1
Physical
Config
Desktop
Programming
Attributes
IP Configuration
Interface
FastEthernet0
IP Configuration
DHCP
Static
DHCP request successful.
IPv4 Address
192.168.0.3
Subnet Mask
255.255.255.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0





CONCLUSION:

We successfully studied and configured DHCP/DNS protocol using Cisco Packet tracer

Date: _____ **Signature of faculty in-charge**