EXPERIMENT NUMBER: 8

Date of Performance:

Date of Submission :

Aim: To study and configure DHCP using Cisco packet tracer

Software Used: - PC, Cisco packet tracer

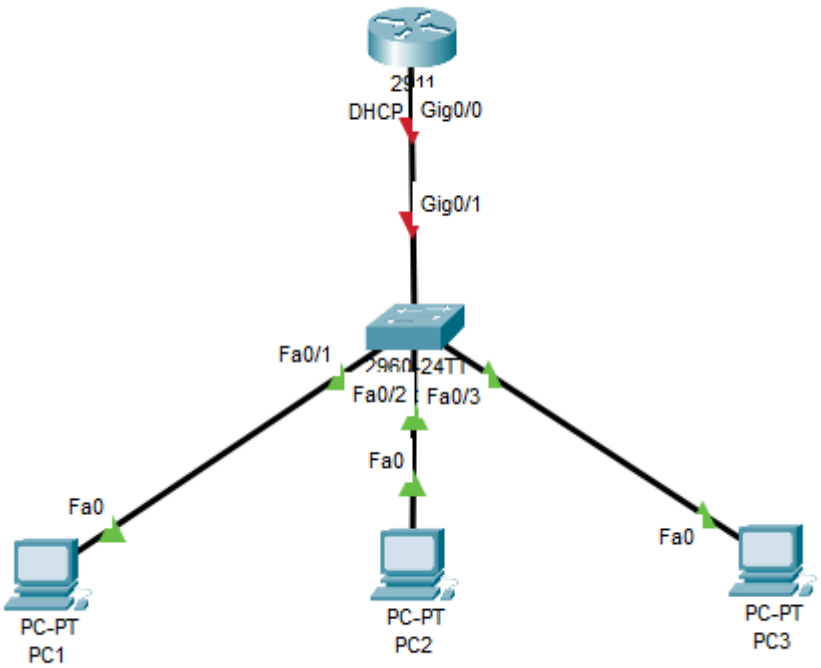
Theory: What is DHCP?

Procedure:

Configure DHCP on the Cisco Router to assign a dynamic IP address to host systems deployed in the network:

Step-1 :

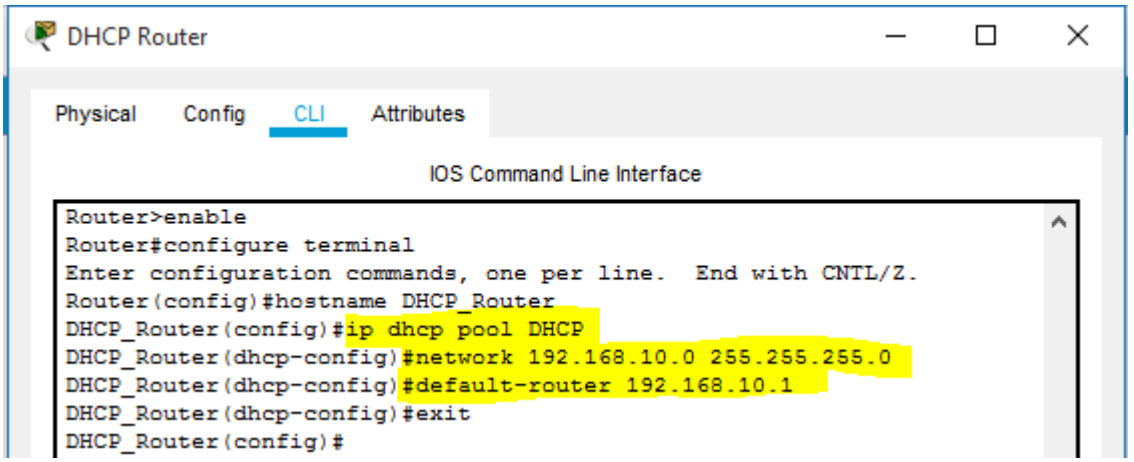
A network topology is created in the Cisco Packet Tracer, which includes a router, a switch, and three host systems connected to a network



Step-2 :

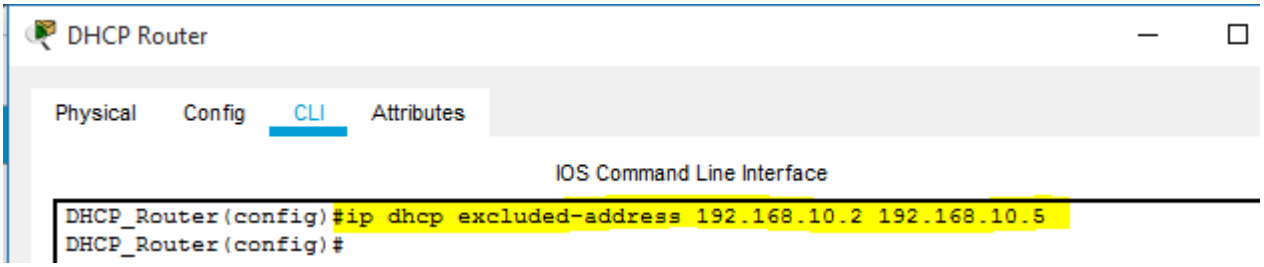
Command Line Interface(CLI) of the router is accessed and high-lighted commands are executed to successfully configure the DHCP. At first, the 'IP DHCP

pool pool_name' command is executed. After this, the network address is defined along with its subnet mask. And further, the 'default-router IP-address' command is used to define the default route address.



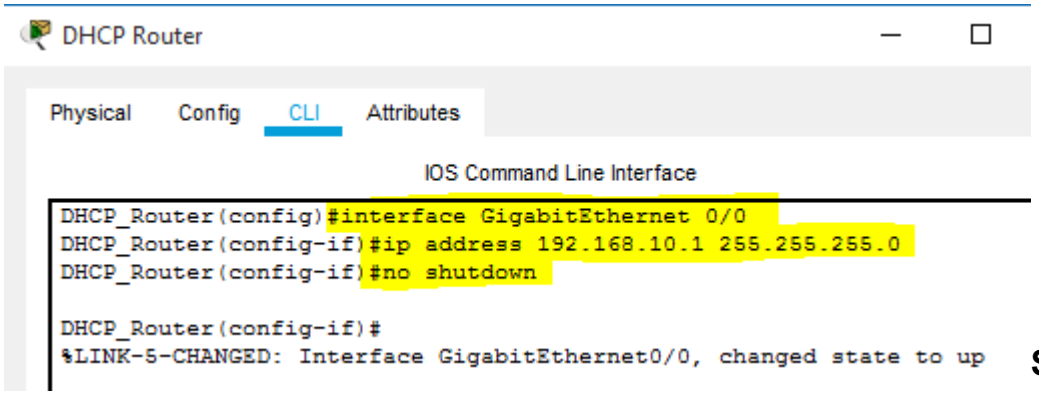
Step-3 :

In this step, a range of IP addresses is excluded from the addresses defined in the subnet mask of the DHCP pool. Excluded IP addresses will be not assigned to any host system in the network.



Step-4 :

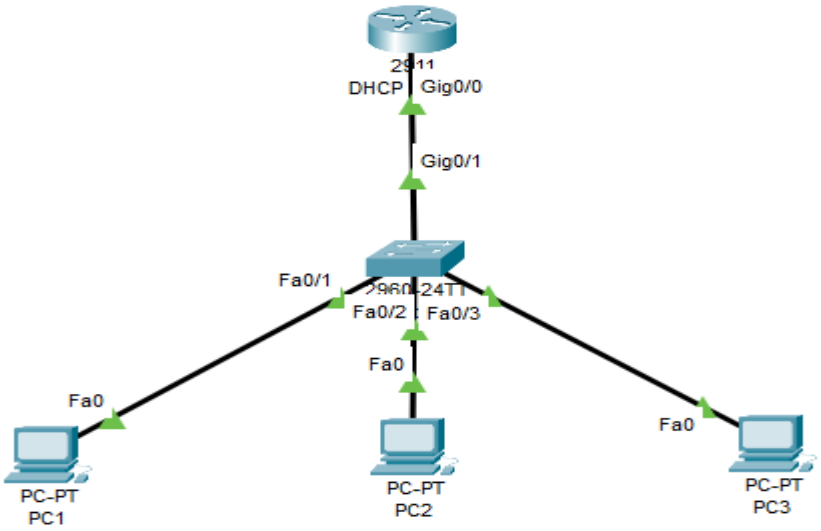
The interface of the router connected with the switch is assigned with the IP address defined as the default router during the DHCP configuration. This route will be taken by the data packets to reach their destination system. Also, the 'no shutdown command is used to change the state of the connected interface to up.



Step-5 :

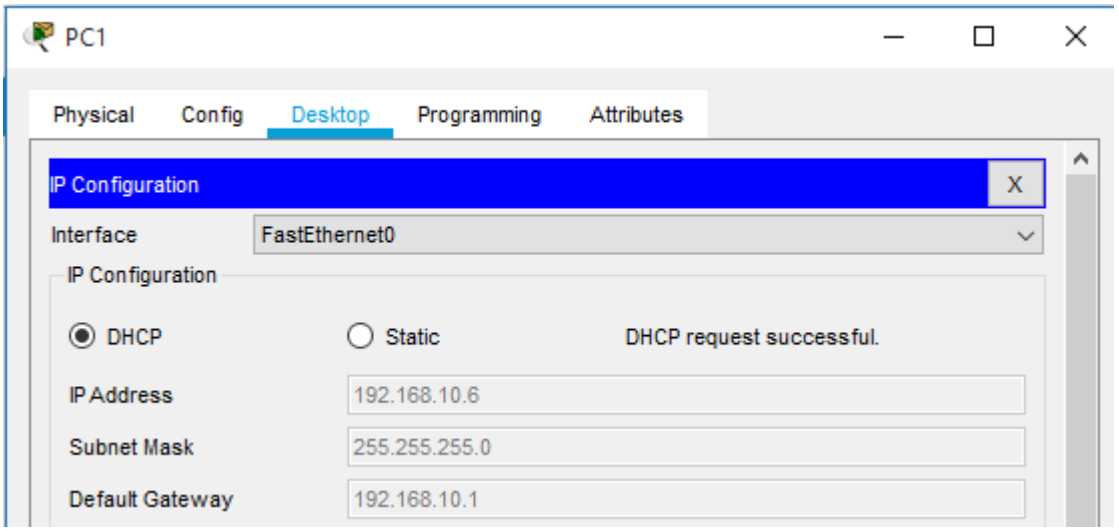
A successful connection is established between all the devices connected in a network. In further

steps, host systems in the network are assigned with dynamic IP and default gateway address by the DHCP service configured on the router.



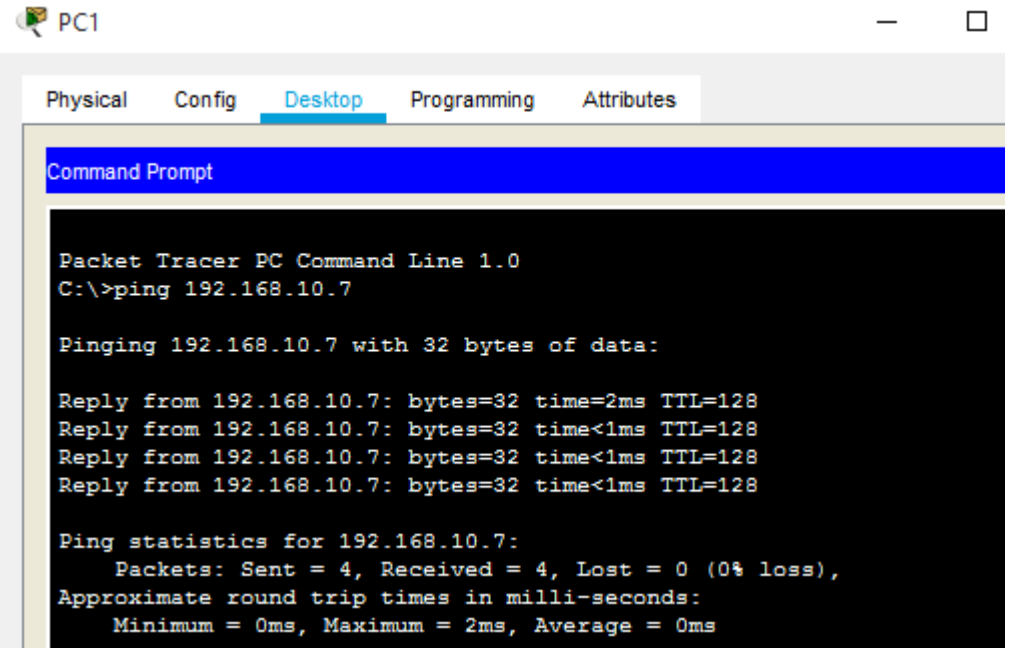
Step-6 :

Desktop settings of a host system are accessed and the DHCP option is selected. DHCP request forwarded by the system is acknowledged and IP address, associated subnet mask, and default gateway address are assigned to it.



Step-7 :

To check the connectivity between the host systems, the ‘ping’ command is used to exchange data packets. All the data packets are successfully transferred, which ensures that a communication channel is established.



Conclusion:

MARKS & SIGNATURE:

R1 (3 Marks)	R2 (5 Marks)	R3 (4 Marks)	R4 (3 Marks)	Total (15 Marks)	Signature