Batch: A1 Roll No.: 16010123012
Experiment / assignment / tutorial No.: 09
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
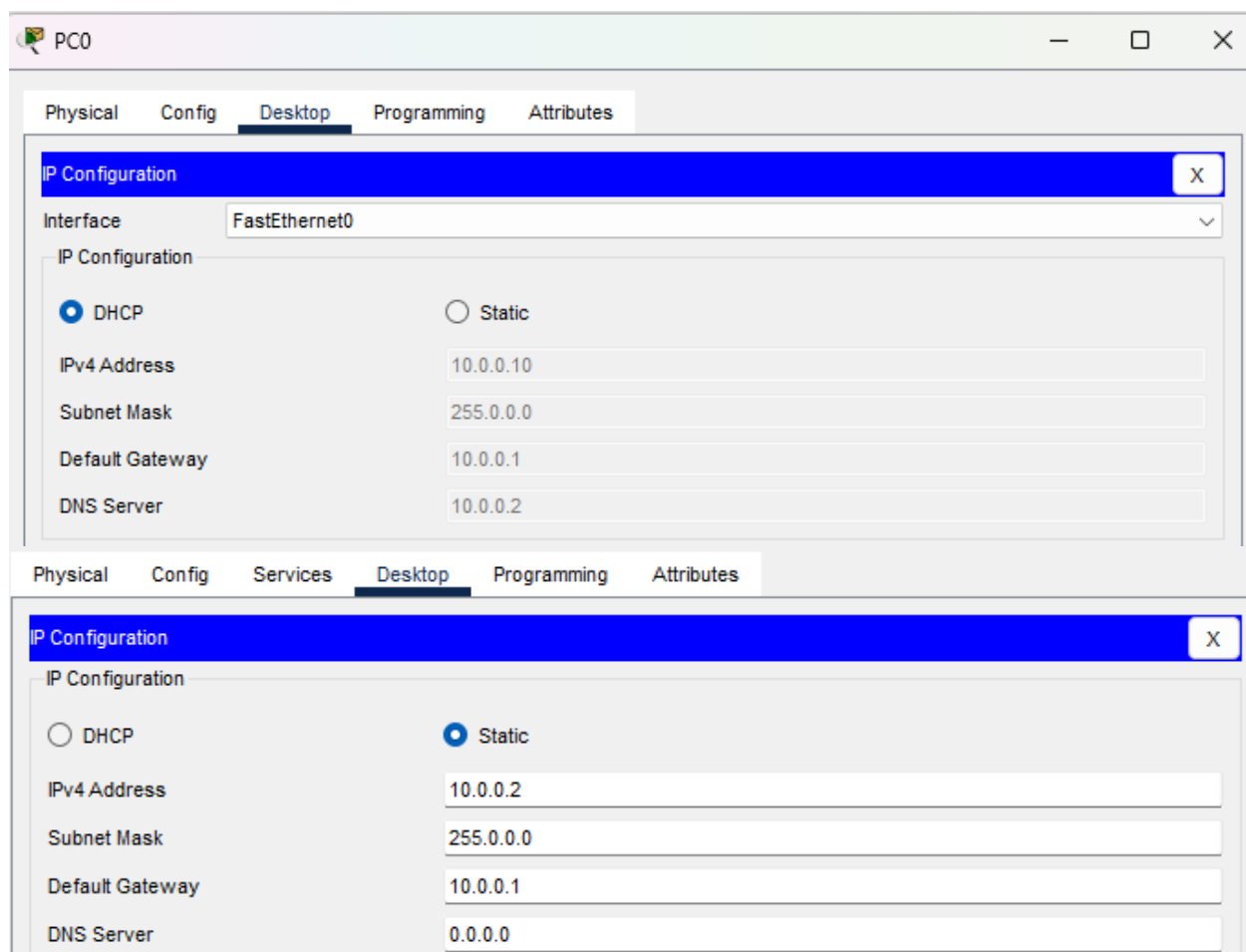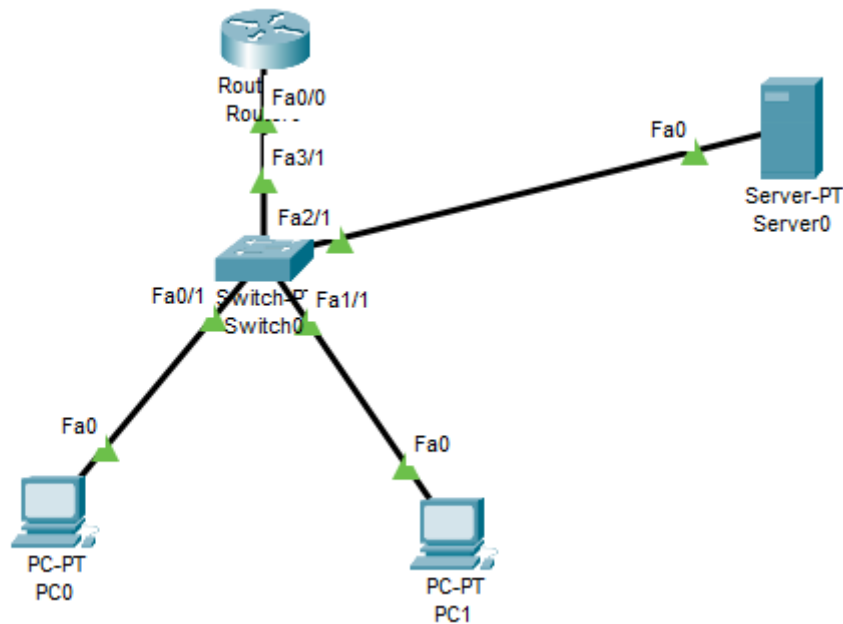
Pre Lab/ Prior Concepts:
IPv4 Addressing, Subnetting, Link State Protocol, Router configuration Commands

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

THEORY:
DHCP (Dynamic Host Configuration Protocol) automatically assigns IP addresses and network settings to devices when they connect, simplifying network management. DNS (Domain Name System) translates easy-to-remember domain names into IP addresses, allowing devices to find and connect to websites. Together, DHCP and DNS help devices communicate smoothly on networks and the internet.

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IMPLEMENTATION:

Router0 — ☐ ✕

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Would you like to enter the initial configuration dialog? [yes/no]: n


Press RETURN to get started!



Router>EN
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa 0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
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)#ex
Router(config)#ip dhcp pool comps
Router(dhcp-config)#network 10.0.0.0 255.0.0.0
Router(dhcp-config)#default 10.0.0.1
Router(dhcp-config)#dns-server 10.0.0.2
Router(dhcp-config)#ex
Router(config)#ip dhcp excluded 10.0.0.1 10.0.0.9
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#
```
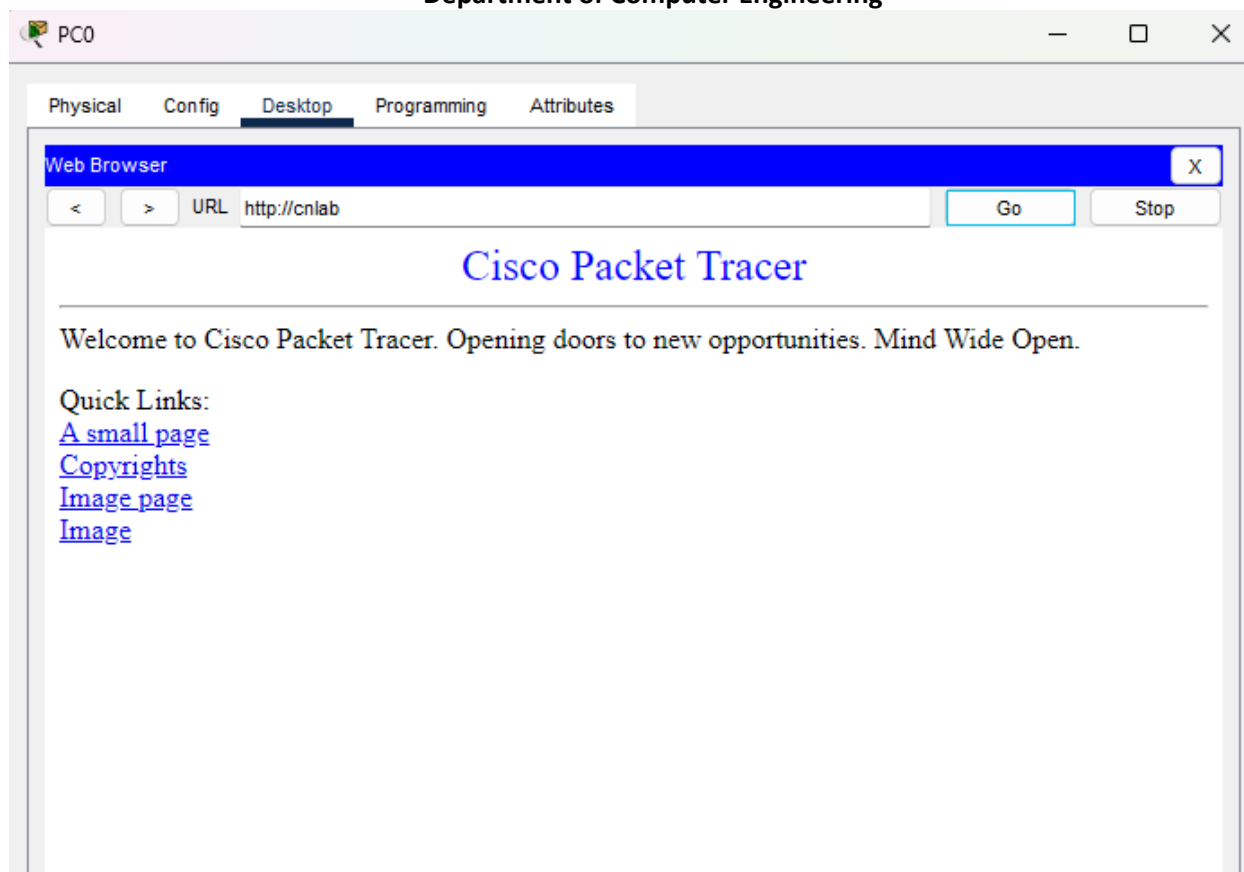
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CONCLUSION:

In this experiment, we successfully studied and configured DHCP and DNS protocols using Cisco Packet Tracer. DHCP automated the assignment of IP addresses and network settings to devices, reducing manual configuration and potential errors. DNS enabled the resolution of domain names to IP addresses, facilitating easier access to network resources. This practical exercise enhanced our understanding of how these protocols work together to manage network communication efficiently.

Date:16/10/2025   **Signature of faculty in-charge**

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