



PLATINUM JUBILEE
Celebrating 75 years of WCE & 20 years of Department



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Department of Information Technology

Computer Networks Lab

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Experiment Number: 4

Experiment Name: Implement class A or B or C network with auto IP configuration using DHCP protocol on router and observe IP configuration on host machine (PC).


Contents:

Problem Statement : Implement class A or B or C network with auto IP configuration using DHCP protocol on router and observe IP configuration on host machine (PC).

Platform : CISCO packet tracer

Devices Required : PC , Switch (2960-24TT), Router (1841) .

- i) Create the topology as shown in the above image.
- ii) After creating the topology configure the network

 Router0

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
Router>
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip address 10.10.0.1 255.255.0.0
      ^
% Invalid input detected at '^' marker.

Router(config)#ip ad
Router(config)#interface fa
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 10.10.0.1 255.255.0.0
Router(config-if)#no shutdown

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

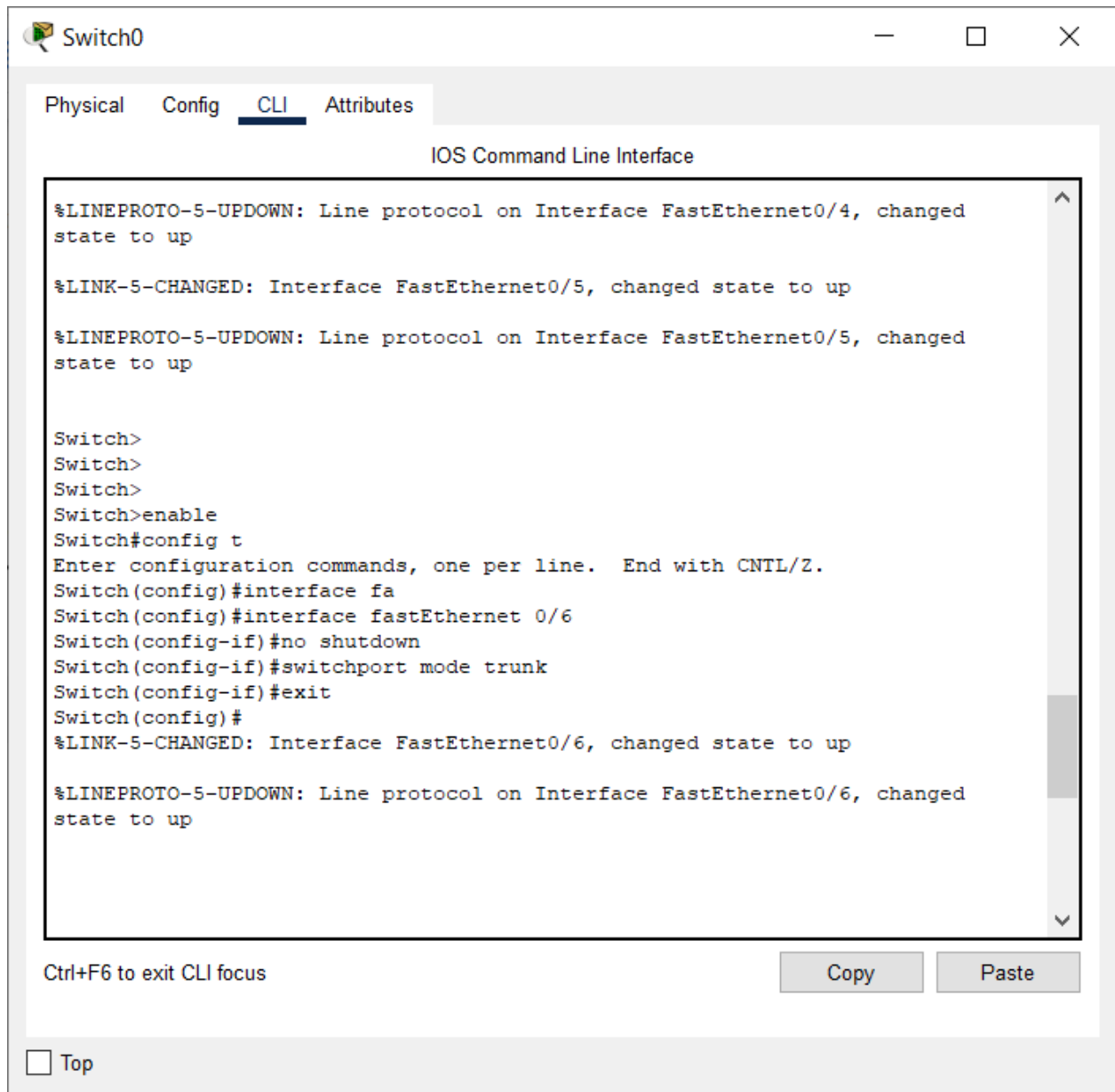
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed
state to up

Router(config-if)#
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#ip dhcp pool poolbyraptor
Router(dhcp-config)#network 10.10.0.1 255.255.0.0
Router(dhcp-config)#exit
Router(config)#
Router(config)#%DHCPD-4-PING_CONFLICT: DHCP address conflict:  server pinged
10.10.0.1.
```

Ctrl+F6 to exit CLI focus

CopyPaste

☐ Top



iii) Configure the server and turn on the DHCP, add server pool to the server.

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DHCP

Interface **FastEthernet0** Service ☒ On ☐ Off

Pool Name omspool

Default Gateway 10.10.0.1

DNS Server 0.0.0.0

Start IP Address : 10 10 0 2

Subnet Mask: 255 255 0 0

Maximum Number of Users : 512

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add

Save

Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0	512	0.0.0.0	0.0.0.0



iv) Turn on the DHCP in every system to give the ip to the computers.

The image shows a configuration window for a device labeled "PC4". The window has tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes", with "Desktop" currently selected. Inside the "Desktop" tab, there is a sub-tab "IP Configuration" which is highlighted in blue. Below this, a dropdown menu shows "FastEthernet0" as the selected interface. The "IP Configuration" section contains two main parts: "IPv4 Configuration" and "IPv6 Configuration". In the "IPv4 Configuration" section, the "DHCP" radio button is selected, and a message "DHCP request successful." is displayed. Below this, fields for "IPv4 Address" (10.10.0.6), "Subnet Mask" (255.255.0.0), "Default Gateway" (0.0.0.0), and "DNS Server" (0.0.0.0) are shown. The "IPv6 Configuration" section has the "Static" radio button selected. It includes fields for "IPv6 Address" (empty), "Link Local Address" (FE80::2D0:97FF:FED6:C737), "Default Gateway" (empty), and "DNS Server" (empty). Below these is the "802.1X" section, which has a checkbox for "Use 802.1X Security" that is unchecked. Under this checkbox, there are fields for "Authentication" (set to MD5), "Username" (empty), and "Password" (empty). At the bottom left of the window, there is a "Top" button.

PC4

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IPv4 Address 10.10.0.6

Subnet Mask 255.255.0.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:97FF:FED6:C737

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Results: DHCP protocols gives the IP to every end system in the network.

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(Course Teacher)