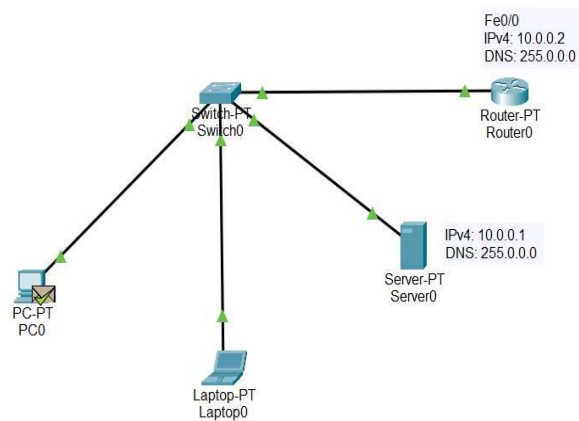


LABORATORY PROGRAM – 7(A)

To Configure IP addresses of the host using DHCP server within a LAN.



Server0

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool1

Default Gateway: 10.0.0.2

DNS Server: 10.0.0.1

Start IP Address: 10.0.0.0

Subnet Mask: 255.0.0.0

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
serverPool1	10.0.0.2	10.0.0.1	10.0.0.0	255.0.0.0	512	0.0.0.0	0.0.0.0

PC0

Physical Config **Desktop** Programming Attributes

GLOBAL

- Settings
- Algorithm Settings
- INTERFACE**
- FastEthernet0
- Bluetooth

FastEthernet0

Port Status: ☒ On

Bandwidth: 100 Mbps 10 Mbps

Duplex: ☒ Full Duplex ☐ Half Duplex

MAC Address: 0005.5EA7.9778

IP Configuration

☒ DHCP ☐ Static

IPv4 Address: 10.0.0.3

Subnet Mask: 255.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::205:5EFF:FEA7:9778

☐ Top

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	Laptop0	ICMP		0.000	N	0	(edit)	

Command Prompt

Cisco Packet Tracer PC Command Line 1.0

C:\>ping 10.0.0.4

Pinging 10.0.0.4 with 32 bytes of data:

Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Reply from 10.0.0.4: bytes=32 time<1ms TTL=128

Ping statistics for 10.0.0.4:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms

Notes

Configure DHCP within LAN and outside LAN

Within LAN:

→ Aim: To be able dynamically assigning IP address to system when the system is on we will assign a IP address to it when the system is off we are not assigning IP address to that system rather it will be given to another active system

→ Topology:

→ Procedural

- 1) Launch Cisco Packet Tracer
- 2) Add 3 end device, 1 switch and 1 server
- 3) Connect all through Copper Straight-Through
- 4) Server → Desktop → IP Config
Static: IP Address: 10.0.0.1
Subnet Mask: 255.0.0.0
Default Gateway: 10.0.0.0

5) Services: DHCP → ON
Pool Name: Switchone
Def Gateway: 10.0.0.1
Start IP Address: 10.0.0.3
Maximum: 100
Users

6) Now go to PC's → Desktop → IP Config → DHCP

IP will be dynamically allocated on IP address

PC	IP	Subnet Mask	Default Gateway
PC0	10.0.0.2	255.0.0.0	0.0.0.0
PC1	10.0.0.3	255.0.0.0	0.0.0.0
PC2	10.0.0.4	255.0.0.0	0.0.0.0

→ Observation: ~~to~~ Generally we assign IP address to our system. What if that system in future is never used then "Dynamic Host Configuration Protocol" DHCP comes into picture. DHCP dynamically allocates IP address to the system means when the system is on it will be assigned an IP address but if the system is off that IP address will be given to another system.

When we set up a Server and create a pool of IP address whichever PCs are connected to the server will be assigned an IP address dynamically.

→ PC0 → Command Prompt → ping 10.0.0.4
Sent=4, Received=4, Lost=0
→ ping 10.0.0.3
Sent=4, Received=4, Lost=0