Bafna Gold
Date: Page:

Configure DHCP

Q. Configure DHCP within LAN & outside LAN.

Aim: The aim of this experiment is to automate the assignment of IP addresses to devices on the network. DHCP allows devices to join the network & receive a unique IP address & other necessary configuration.

Procedure:

1) Select 6 PC's & Select 1 Server & 1 router, drag & drop all the de network devices.
2) Connect the network devices using cables.
for Router → Fiber Cable & Copper Straight through
for PC's → Copper Straight through
for Server → Copper Straight through
3) Next for one LAN Set the DHCP (Dynamic host Configuration protocol) IP address & do the same thing to another LAN also.
4) In Server → Select Services → then select DHCP → Create 2 Pools.

Pool 1: Switch 01	Pool 2: Switch 2
Pool name: Switch1	pool name: Switch 2
Default gateway: 10.0.0.1	Default gateway: 20.0.0.1
DNS Server: 10.0.0.0	DNS Server: 20.0.0.0
IP address: 10.0.0.3	IP address: 20.0.0.3
Subnet mask: 255.0.0.0	Subnet mask 255.0.0.0
max users: 100	max user: 100

5) In Router part, Click on Router → CLI → Run the below Commands

→

⇒ LAN 01

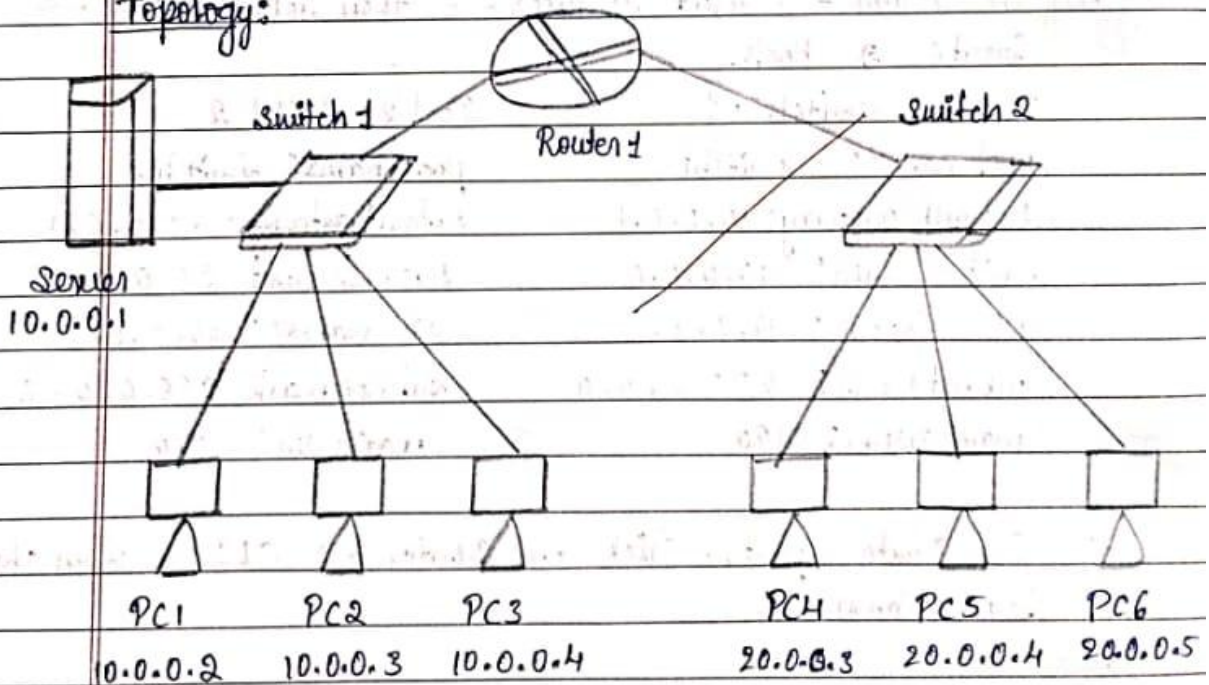
```
enable
config terminal
interface FastEthernet 0/0
ip address 20.0.0.1 255.0.0.0
ip helper-address 20.0.0.2
no shutdown
exit
```

⇒ LAN 02

```
enable
Config terminal
interface FastEthernet 1/0
ip address 10.0.0.1 255.0.0.0
ip helper-address 10.0.0.2
no shutdown
exit
```

Now all connections are over now both the LAN's are connected each other.

Topology:



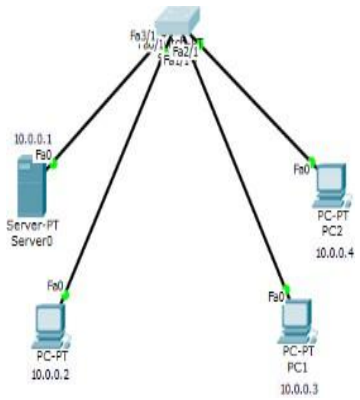
Observation: DHCP automates the assignment of IP address & other network configuration details to devices on a network. It works by leasing IP addresses for a specific duration & can provide additional settings like DNS & gateway information.

Output:

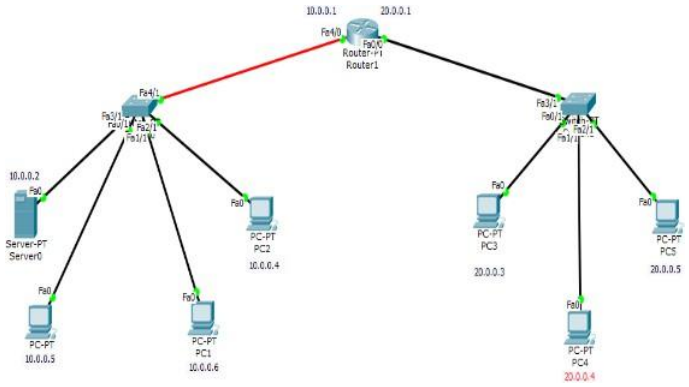
Packet-1 : Sent=4 Received=4 Lost=0 (0% loss),
approximate round trip times in ms.

Topology:

(within Lan)

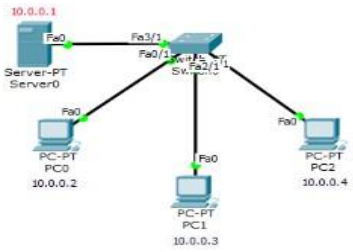


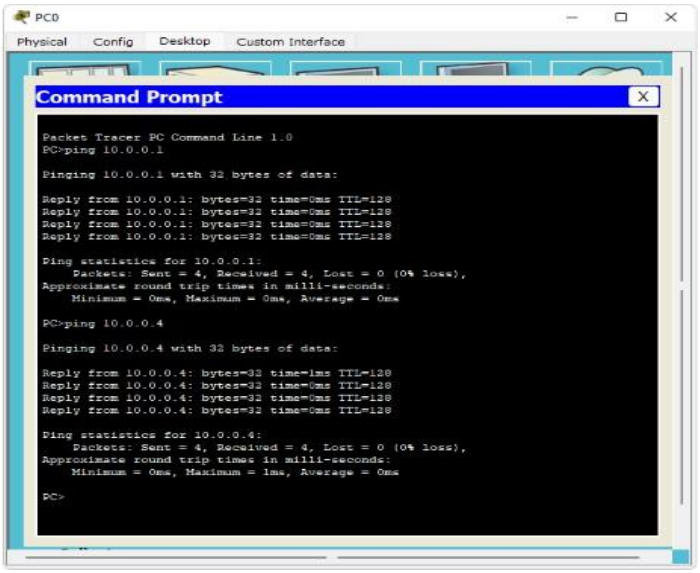
(outside Lan)



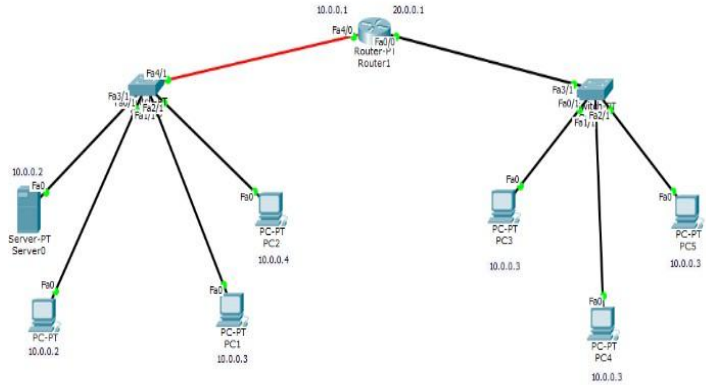
Output:

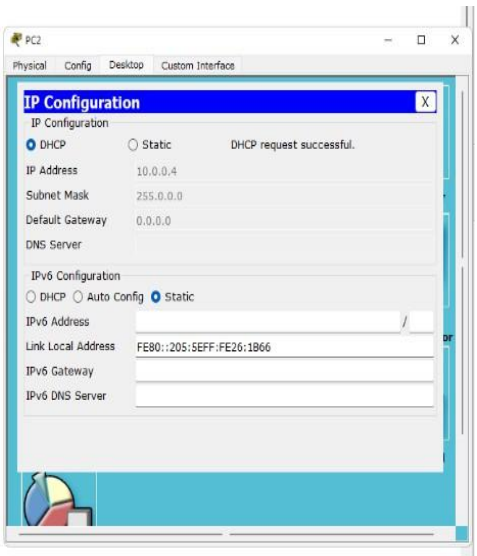
(within LAN)

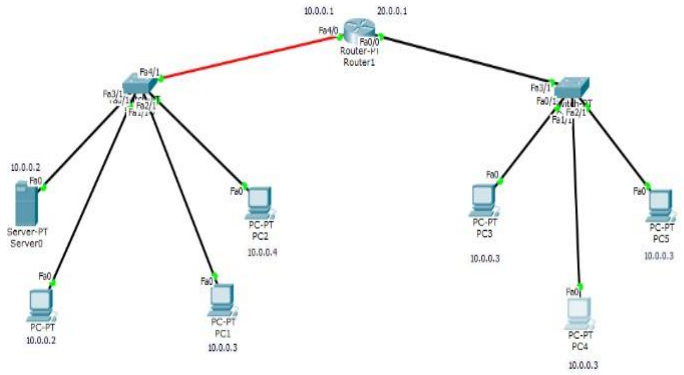


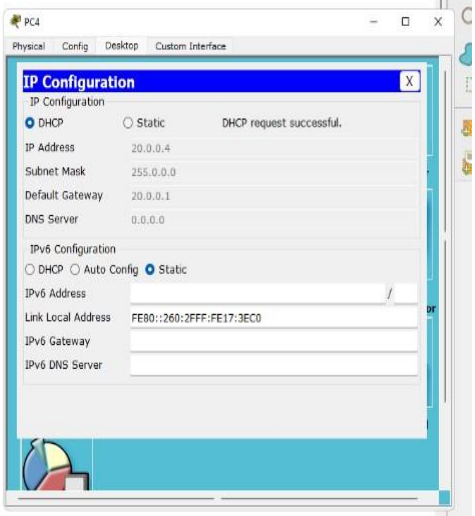


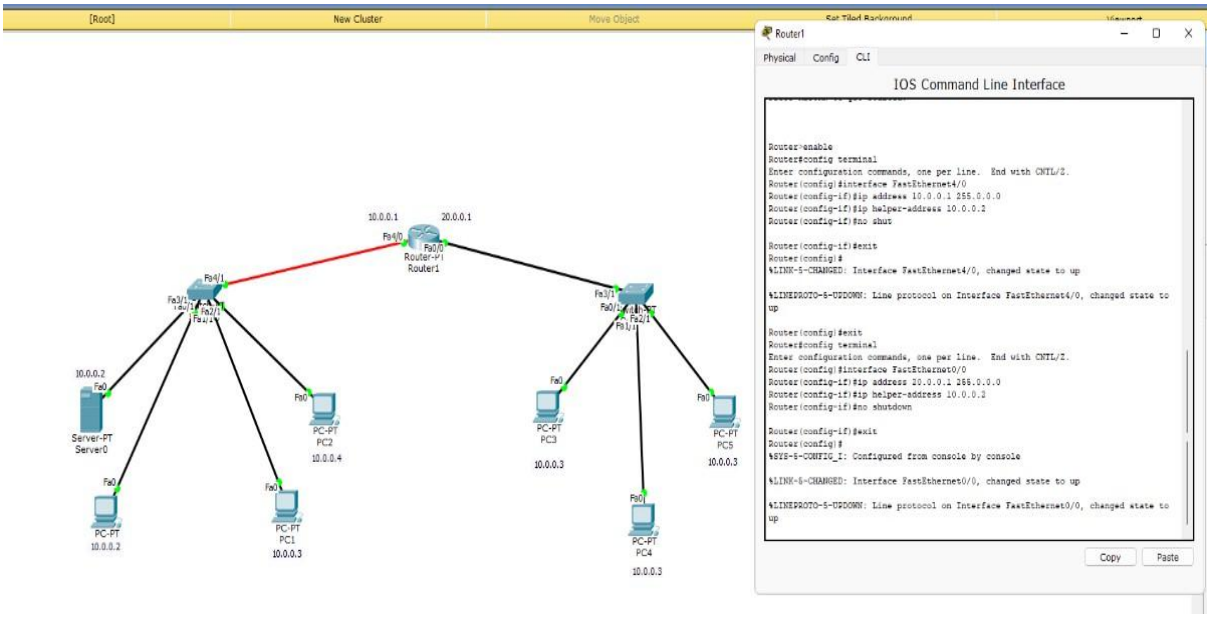
(outside LAN)






10.0.0.1
20.0.0.1
Router-PT
Router1
Server-PT
Server0
10.0.0.2
PC-PT
PC1
10.0.0.3
PC-PT
PC2
10.0.0.4
PC-PT
PC3
10.0.0.3
PC-PT
PC4
10.0.0.3
PC-PT
PC5
10.0.0.3


PC4
Physical
Config
Desktop
Custom Interface
IP Configuration
IP Configuration
DHCP
Static
DHCP request successful.
IP Address
20.0.0.4
Subnet Mask
255.0.0.0
Default Gateway
20.0.0.1
DNS Server
0.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::260:2FFF:FE17:3EC0
IPv6 Gateway
IPv6 DNS Server


[Root]
New Cluster
Move Object
Router1
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet4/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config-if)#ip helper-address 10.0.0.2
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#
%LINK-5-CHANGED: Interface FastEthernet4/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet4/0, changed state to up
Router(config)#exit
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config-if)#ip helper-address 10.0.0.2
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#
%SYS-5-CONFIG_I: Configured from console by console
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Copy
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