



Subject: Computer Networks (01CT0503)

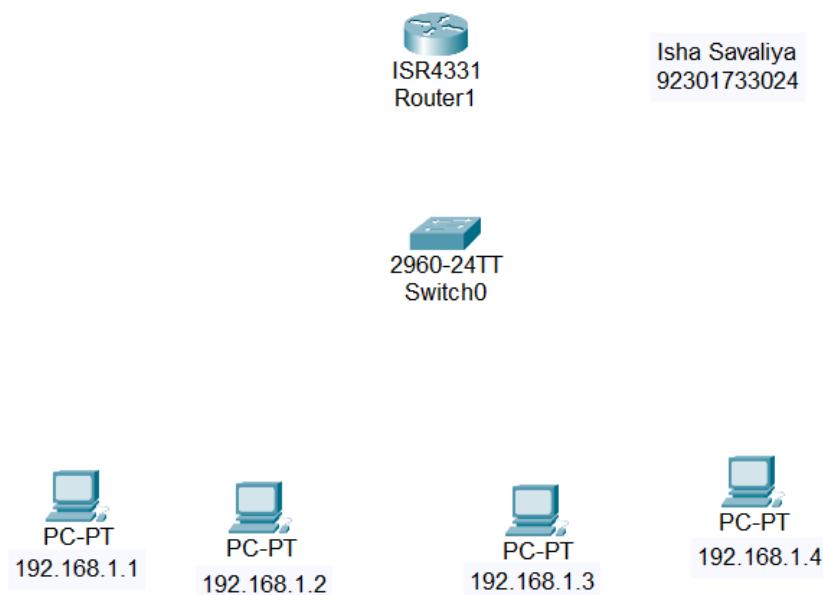
Aim: Configure DHCP server.

Experiment No: 09

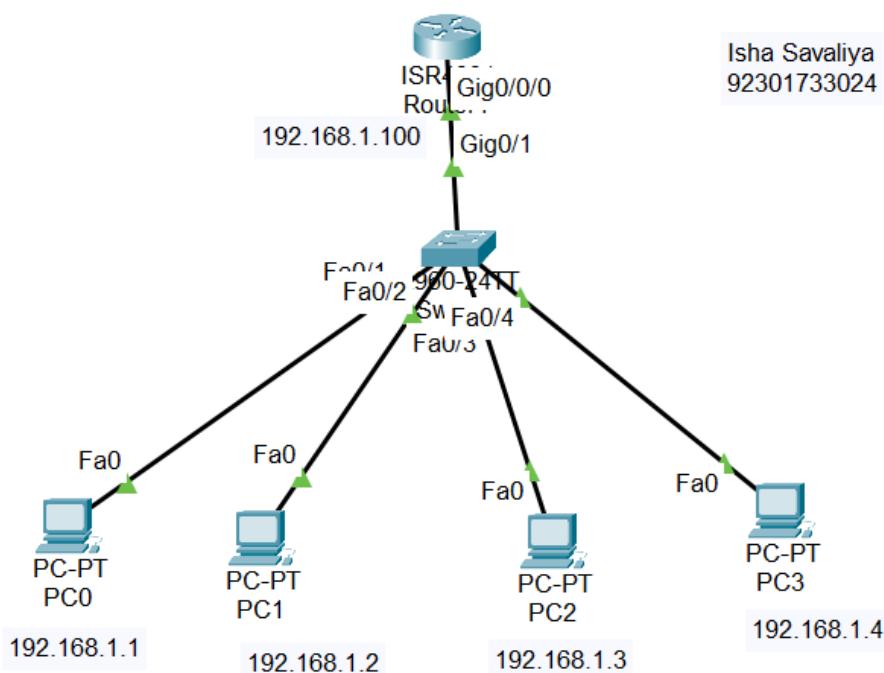
Date: 01-10-2025

Enrolment No: 92301733024

Step – 1:- Open Cisco Packet Tracer and take one Router, one Switch, and four PCs.



Step – 2 : Connect the PCs to the Switch (FastEthernet) and the Switch to the Router (GigabitEthernet) using copper straight-through cables.





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Step – 3 :- Assign the IP Address to the the Routers. Create IP DHCP Pool for network 192.168.1.0

The screenshot shows a terminal window titled "Router1". The tab bar at the top has "Physical", "Config", "CLI" (which is underlined), and "Attributes". The main area is titled "IOS Command Line Interface". The terminal output is as follows:

```
4194304K bytes of physical memory.
3207167K bytes of flash memory at bootflash:.
OK bytes of WebUI ODM Files at webui:.

--- System Configuration Dialog ---

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

Press RETURN to get started!

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int g0/0/0
Router(config-if)#ip address 192.168.1.0 255.255.255.0
Bad mask /24 for address 192.168.1.0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

Router(config-if)#exit
Router(config)#hostname isha
^
% Invalid input detected at '^' marker.

Router(config)#hostname isha
isha(config)#ip dhcp pool ict
isha(dhcp-config)#network 192.168.1.0 255.255.255.0
isha(dhcp-config)#default-router 192.168.1.100
isha(dhcp-config)#dns-server 192.168.1.50
isha(dhcp-config)##DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.3.
%DHCPD-4-PING_CONFLICT: DHCP address conflict: server pinged 192.168.1.4.
```

At the bottom right of the terminal window, there are "Copy" and "Paste" buttons. At the bottom left, there is a "Top" button with a checkbox.



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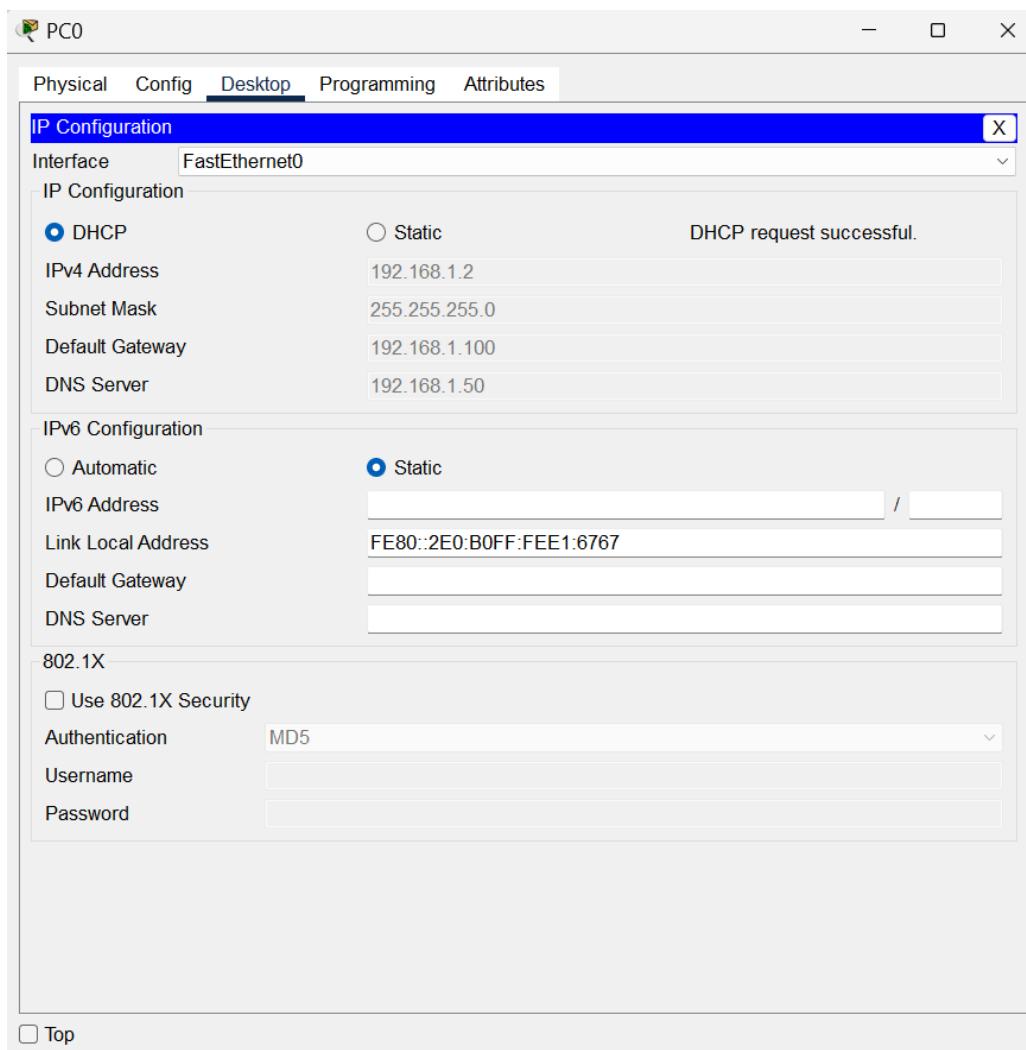
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- **ip dhcp pool iict:-** This command creates a new DHCP pool called iict. A DHCP pool is a range of IP addresses that can be assigned dynamically to clients on the network.
- **network 192.168.1.0 255.255.255.0 :-** This command specifies the network address and the subnet mask for the DHCP pool. In this case, the network is 192.168.1.0 with a subnet mask of 255.255.255.0. The DHCP server has the provision to assign an IP address to any of the clients connecting to it within the range of 192.168.1.1-192.168.1.254.
- **default-route 192.168.1.100 :-** this command specifies the default gateway.
- **dns-server 192.168.1.50 :-** this will provide the address of DNS server.

Step – 9 :- Configure the PCs to obtain their IP addresses using DHCP.





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Step – 10 :- Use the release IP address command to test reassignment.

```
C:\>ipconfig/renew
Invalid Command.

C:\>config/release
Invalid Command.

C:\>ipconfig

FastEthernet0 Connection:(default port)

  Connection-specific DNS Suffix...:
  Link-local IPv6 Address.....:: FE80::2E0:BOFF:FE1:6767
  IPv6 Address.....:: ::
  IPv4 Address.....:: 192.168.1.2
  Subnet Mask.....:: 255.255.255.0
  Default Gateway.....:: ::
                           192.168.1.100

Bluetooth Connection:

  Connection-specific DNS Suffix...:
  Link-local IPv6 Address.....:: ::
  IPv6 Address.....:: ::
  IPv4 Address.....:: 0.0.0.0
  Subnet Mask.....:: 0.0.0.0
  Default Gateway.....:: ::
                           0.0.0.0

C:\>ipconfig /release

  IP Address.....:: 0.0.0.0
  Subnet Mask.....:: 0.0.0.0
  Default Gateway.....:: 0.0.0.0
  DNS Server.....:: 0.0.0.0

C:\>ipconfig /renew

  IP Address.....:: 192.168.1.2
  Subnet Mask.....:: 255.255.255.0
  Default Gateway.....:: 192.168.1.100
  DNS Server.....:: 192.168.1.50

C:\>
```

Conclusion :-

By performing this experiment,i learned how to configure a router as a DHCP server. We created an IP pool, assigned a range of IP addresses, set the DNS server address, and defined the default gateway. This helped us establish successful communication while ensuring efficient use of IP addresses and minimizing wastage.