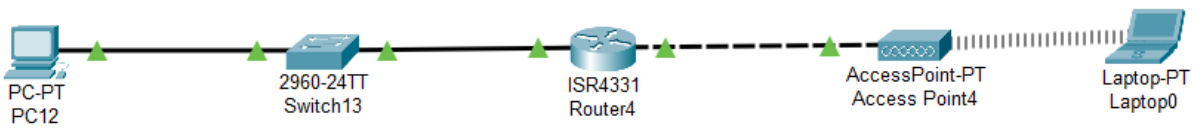
Practical No. 03

Setup a WAN which contains wired as well as wireless LAN by using a packet tracer tool. Demonstrate transfer of a packet from LAN 1 (wired LAN) to LAN2 (Wireless LAN).

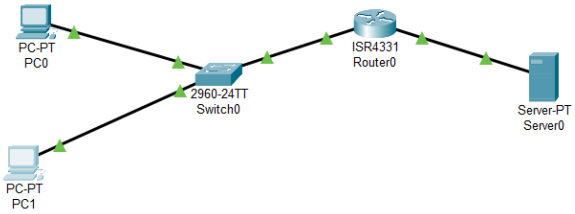
```
r1#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0/0   192.168.1.1     YES manual up                    up
GigabitEthernet0/0/1   192.168.1.1     YES manual administratively down down
GigabitEthernet0/0/2   unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
r1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
r1(config)#interface GigabitEthernet0/0/1
r1(config-if)#ip address 192.168.2.1 255.255.255.0
r1(config-if)#no shutdown

r1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to up

r1(config-if)#exit
r1(config)#exit
r1#
%SYS-5-CONFIG_I: Configured from console by console
show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0/0   192.168.1.1     YES manual up                    up
GigabitEthernet0/0/1   192.168.2.1     YES manual up                    up
GigabitEthernet0/0/2   unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
r1#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to up
```

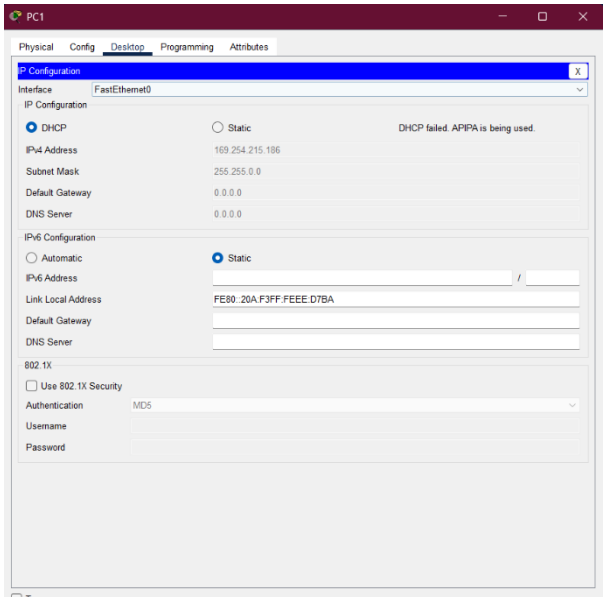


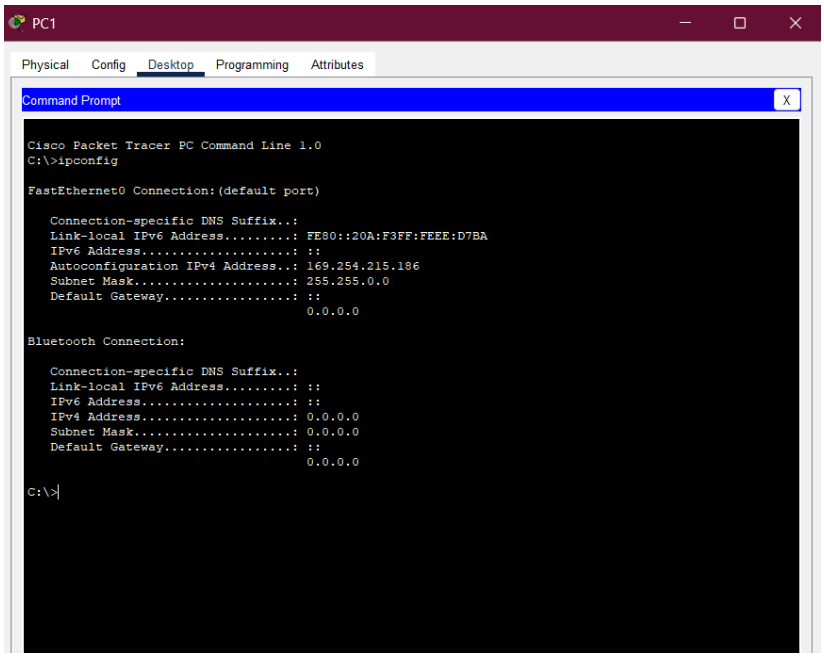
Practical No. 11

Installing and configuring DHCP server and assign IP addresses to client machines using DHCP server.

Output:-







Practical No. 12

Write a program for DNS lookup. Given an IP address input, it should return URL and vice versa.

Program:

```
import java.net.*;
import java.util.Scanner;

public class DNSLookup {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Mr.AB");
      System.out.println("Enter '1' for Domain to IP lookup");
      System.out.println("Enter '2' for IP to Domain lookup");
      System.out.print("Your choice: ");
      int choice = sc.nextInt();
      sc.nextLine(); // consume newline

      try {
         if (choice == 1) {
            System.out.print("Enter domain name (e.g., www.google.com): ");
            String domain = sc.nextLine();
            InetAddress ip = InetAddress.getByName(domain);
            System.out.println("IP Address: " + ip.getHostAddress());
         }
         else if (choice == 2) {
            System.out.print("Enter IP address (e.g., 142.250.183.36): ");
            String ipStr = sc.nextLine();
            InetAddress addr = InetAddress.getByName(ipStr);
            System.out.println("Host Name: " + addr.getHostName());
         }
         else {
            System.out.println("Invalid choice!");
         }
      }
      catch (UnknownHostException e) {
         System.out.println("Unable to resolve host/IP: " + e.getMessage());
      }

      sc.close();
   }
}
```

Output:-

```
d:\Java>cd "d:\Java\" && javac DNSLookup.java && java DNSLookup
Mr.AB
Enter '1' for Domain to IP lookup
Enter '2' for IP to Domain lookup
Your choice: 1
Enter domain name (e.g., www.google.com): wwww.abphotovideographics.wordpress.com
IP Address: 64:ff9b:0:0:0:0:c000:4e0c

d:\Java>
```