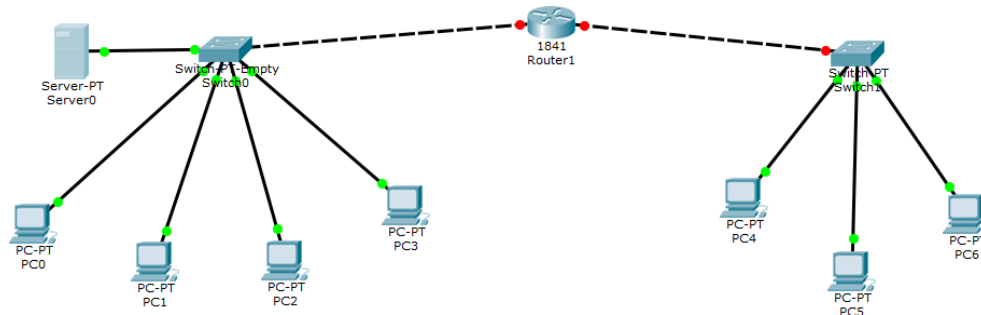


## **Program – 2:**

**Aim:** Configure DHCP within a LAN and outside LAN.

**Topology:**



## **Procedure:**

### **1. Configure DHCP Server**

1. On the Server → **Desktop > IP Configuration**, set:
  - **Static IP:** 192.168.10.2
  - **Default Gateway:** 192.168.10.1
2. Open **Services > DHCP** and add the following two DHCP pools:

#### **(a) Pool Name: switch1**

- Gateway: 192.168.10.1
- Start IP: 192.168.10.3
- Subnet Mask: 255.255.255.0
- Max Users: 20

#### **(b) Pool Name: switch2**

- Gateway: 192.168.20.1
- Start IP: 192.168.20.2
- Subnet Mask: 255.255.255.0
- Max Users: 20

3. Turn **DHCP Service ON**.
4. Go to **Config > Interface > FastEthernet0** and assign server IP:
  - IP Address: 192.168.10.10
  - Port Status: ✓ ON

### **2. Configure Router**

- i. Router > **enable**
- ii. Router# **configure terminal**
- (Within LAN)
- iii. Router(config)# **int fa0/0**
- iv. Router(config-if)# **ip address 192.168.10.1 255.255.255.0**
- v. Router(config-if)# **ip helper-address 192.168.10.2**
- vi. Router(config-if)# **no shutdown**
- vii. Router(config-if)# **exit**
- (Outside LAN)
- viii. Router(config)# **int fa0/1**
- ix. Router(config-if)# **ip address 192.168.20.1 255.255.255.0**
- x. Router(config-if)# **ip helper-address 192.168.10.2**

- xi. Router(config-if)# **no shutdown**
- xii. Router(config-if)# **exit**
- xiii. Router(config)# **exit**
- xiv. Router# **write memory**

## **Output:**

The screenshot shows a configuration window for PC0. The 'Desktop' tab is selected. Under 'IP Configuration', the 'Interface' is 'FastEthernet0'. The 'DHCP' radio button is selected, and a message 'DHCP request successful.' is displayed. The 'IPv4 Address' is '192.168.10.6', 'Subnet Mask' is '255.255.255.0', 'Default Gateway' is '192.168.10.1', and 'DNS Server' is '0.0.0.0'. Under 'IPv6 Configuration', the 'Static' radio button is selected. The 'IPv6 Address' is empty, 'Link Local Address' is 'FE80::201:C9FF:FEA8:B94D', 'Default Gateway' is empty, and 'DNS Server' is empty. Under '802.1X', the 'Use 802.1X Security' checkbox is unchecked. The 'Authentication' dropdown is set to 'MD5'. The 'Username' and 'Password' fields are empty. A 'Top' button is at the bottom left.

IP Configuration	
Interface: FastEthernet0	
<input checked="" type="radio"/> DHCP <input type="radio"/> Static DHCP request successful.	
IPv4 Address	192.168.10.6
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
DNS Server	0.0.0.0

IPv6 Configuration	
<input type="radio"/> Automatic <input checked="" type="radio"/> Static	
IPv6 Address	
Link Local Address	FE80::201:C9FF:FEA8:B94D
Default Gateway	
DNS Server	

802.1X	
<input type="checkbox"/> Use 802.1X Security	
Authentication	MD5
Username	
Password	

Fig 2.1 DHCP Inside LAN

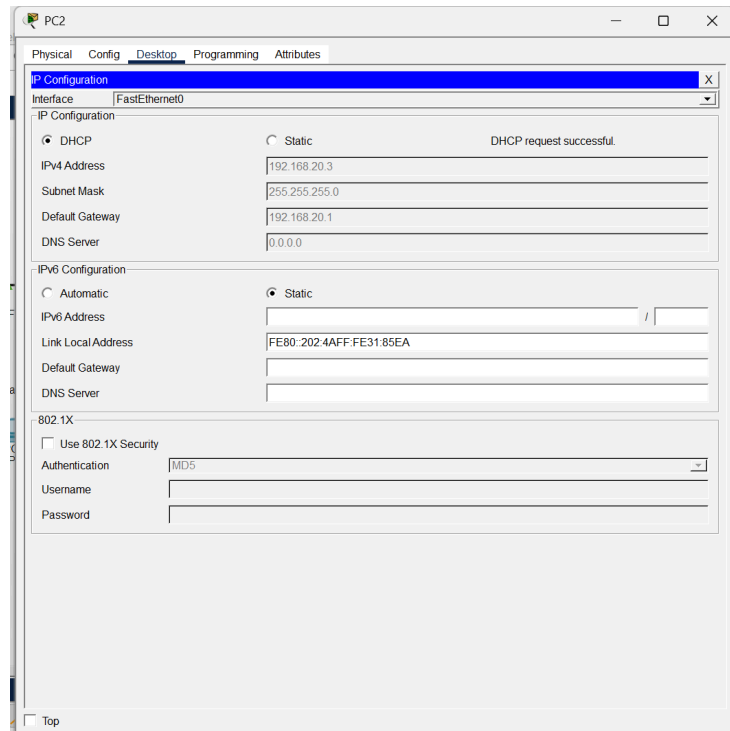


Fig 2.2 DHCP Outside LAN