Packet Tracer - Implement DHCPv4

# Addressing Table

| Device | Interface | IPv4 Address | Subnet Mask | Default Gateway |
| --- | --- | --- | --- | --- |
| R1 | G0/0 | 192.168.10.1 | 255.255.255.0 | N/A |
| R1 | S0/0/0 | 10.1.1.1 | 255.255.255.252 | N/A |
| R2 | G0/0 | 192.168.20.1 | 255.255.255.0 | N/A |
| R2 | G0/1 | DHCP Assigned | DHCP Assigned | N/A |
| R2 | S0/0/0 | 10.1.1.2 | 255.255.255.252 | N/A |
| R2 | S0/0/1 | 10.2.2.2 | 255.255.255.252 | N/A |
| R3 | G0/0 | 192.168.30.1 | 255.255.255.0 | N/A |
| R3 | S0/0/1 | 10.2.2.1 | 255.255.255.0 | N/A |
| PC1 | NIC | DHCP Assigned | DHCP Assigned | DHCP Assigned |
| PC2 | NIC | DHCP Assigned | DHCP Assigned | DHCP Assigned |
| DNS Server | NIC | 192.168.20.254 | 255.255.255.0 | 192.168.20.1 |

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# Objectives

Part 1: Configure a Router as a DHCP Server

Part 2: Configure DHCP Relay

Part 3: Configure a Router as a DHCP Client

# Scenario

As the network technician for your company, you are tasked with configuring a Cisco router as a DHCP server to provide dynamic allocation of addresses to clients on the network. You are also required to configure the edge router as a DHCP client so that it receives an IP address from the ISP network. Since the server is centralized, you will need to configure the two LAN routers to relay DHCP traffic between the LANs and the router that is serving as the DHCP server.

# Instructions

## Configure a Router as a DHCP Server

### Configure the excluded IPv4 addresses.

Configure **R2** to exclude the first 10 addresses from the R1 and R3 LANs. All other addresses should be available in the DHCP address pool.

ip dhcp excluded-address 192.168.10.1 192.168.10.10

ip dhcp excluded-address 192.168.30.1 192.168.30.10

### Create a DHCP pool on R2 for the R1 LAN.

* + - 1. Create a DHCP pool named **R1-LAN**. The pool name must match this value in order for you to get credit for your configuration.
      2. Configure the DHCP pool to include the network address, the default gateway, and the IP address of the DNS server.

### Create a DHCP pool on R2 for the R3 LAN.

* + - 1. Create a DHCP pool named **R3-LAN** (case-sensitive).
      2. Configure the DHCP pool to include the network address, the default gateway, and the IP address of the DNS server.

## Configure DHCP Relay

### Configure R1 and R3 as a DHCP relay agent.

### Set PC1 and PC2 to receive IP addressing information from DHCP.

## Configure R2 as a DHCP Client

### Configure the Gigabit Ethernet 0/1 interface on R2 to receive IP addressing from DHCP.

### Activate the interface.

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