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
	S0/0/0	10.1.1.1	255.255.255.252	
R2	G0/0	192.168.20.1	255.255.255.0	N/A
	G0/1	DHCP Assigned	DHCP Assigned	
	S0/0/0	10.1.1.2	255.255.255.252	
	S0/0/1	10.2.2.2	255.255.255.252	
R3	G0/0	192.168.30.1	255.255.255.0	N/A
	S0/0/1	10.2.2.1	255.255.255.0	
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

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

Part 1: Configure a Router as a DHCP Server

Step 1: 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.

Step 2: Create a DHCP pool on R2 for the R1 LAN.

a. Create a DHCP pool named **R1-LAN**. The pool name must match this value in order for you to get credit for your configuration.

b. Configure the DHCP pool to include the network address, the default gateway, and the IP address of the DNS server.

Step 3: Create a DHCP pool on R2 for the R3 LAN.

a. Create a DHCP pool named **R3-LAN** (case-sensitive).

b. Configure the DHCP pool to include the network address, the default gateway, and the IP address of the DNS server.

Part 2: Configure DHCP Relay

Step 1: Configure R1 and R3 as a DHCP relay agent.

Step 2: Set PC1 and PC2 to receive IP addressing information from DHCP.

Part 3: Configure R2 as a DHCP Client

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

Step 2: Activate the interface.