Lab Sheet – 14

Title: Configure DHCPv4

Aim:

- Getting familiar with DHCPv4

Task:

- Configure a Router as a DHCPv4 server
- Configure DHCPv4 relay
- Verify DHCPv4 connectivity

Activities

Use "NST21022 Labsheet 14.pka" file

Addressing Table

Device	Interface	IPv4 Address	Subnet Mask	Default Gateway
R1	**G0/0/0**	**192.168.1.1**	**255.255.255.0**	**N/A**
	S0/1/0	**192.168.4.2**	**255.255.255.0**	
R2	**G0/0/0**	**192.168.2.1**	**255.255.255.0**	
	S0/1/0	**192.168.4.1**	**255.255.255.0**	
	S0/1/1	**192.168.5.1**	**255.255.255.0**	
R3	**G0/0/0**	**192.168.3.1**	**255.255.255.0**	
	S0/1/1	**192.168.5.2**	**255.255.255.0**	
DNS-Server	**NIC**	**192.168.2.10**	**255.255.255.0**	**192.168.2.1**
PC-A	**NIC**	**DHCP**	**DHCP**	**DHCP**
PC-B	**NIC**	**DHCP**	**DHCP**	**DHCP**
PC-C	**NIC**	**DHCP**	**DHCP**	**DHCP**
PC-D	**NIC**	**DHCP**	**DHCP**	**DHCP**

Exercise 01: Configure a Router as a DHCPv4 server

1. Configure IP addresses on each device's according to addressing table. (Except DNS-Server)
2. Configure R2 to exclude the first 10 addresses from the R1 LAN.

R2(config)# ip dhcp excluded-address 192.168.1.1 192.168.1.10

3. Configure R2 to exclude the first 10 addresses from the R3 LAN.
4. Create a DHCP pool in R2 for R1 LAN named R1-LAN (Case Sensitive)

    R2(config)# ip dhcp pool R1-LAN

5. Create a DHCP pool in R2 for R3 LAN named R3-LAN
6. Configure the DHCP pool to include the network address, the default gateway, and the IP address of the DNS server.

    R2(dhcp-config)# network 192.168.1.0 255.255.255.0

    R2(dhcp-config)# default-router 192.168.1.1

    R2(dhcp-config)# dns-server 192.168.2.10

7. Configure R1 and R3 as a DHCP relay agent

    R1(config)# interface g0/0

    R1(config-if)# ip helper-address 192.168.4.1

8. Configure hosts to receive their IP addresses from a DHCP server
9. Verify host IP addresses and connectivity.