Lab Sheet – 15

Title: Configure DHCPv6

Aim:

- Getting familiar with DHCPv6

Task:

- Configure a Router as a DHCPv6 server
- Configure DHCPv6 relay
- Verify DHCPv6 connectivity

Activities

Use "NST21022 Labsheet 15.pka" file

Addressing Table

Device	Interface	IPv6 Address / Prefix
R1	G0/0/0	2001:DB8:ACAD:2::1/64
		FE80::1
	G0/0/1	2001:DB8:ACAD:1::1/64
		FE80::2
R2	G0/0/0	2001:DB8:ACAD:2::2/64
		FE80::3
	G0/0/1	2001:DB8:ACAD:3::1
		FE80::4
PC-A	NIC	DHCP
PC-B	NIC	DHCP
DNS Server	NIC	2001:db8:acad::254

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. Enable IPv6 routing in both routers

R1(config)# ipv6 unicast-routing

3. Create a stateless DHCP (SLAAC) pool in R1 for R1 LAN named R1-STATELESS (Case Sensitive)

```
R1(config)# ipv6 dhcp pool R1-STATELESS
R1(config-dhcp)# dns-server 2001:db8:acad::254
R1(config-dhcp)# domain-name stateless.com
```

4. Configure the G0/0/1 interface on R1 to provide the **other** config flag to the R1 LAN and assign the DHCP pool.

```
R1(config)# interface g0/0/1
R1(config-if)# ipv6 nd other-config-flag
R1(config-if)# ipv6 dhcp server R1-STATELESS
```

5. Enable IPv6 DHCP on PC-A
6. Examine the output of ***ipconfig /all*** and notice the changes.
7. Create a stateful DHCPv6 pool in R1 for R2 LAN named R2-STATEFUL (Case Sensitive)

```
R1(config)# ipv6 dhcp pool R2-STATEFUL
R1(config-dhcp)# address prefix 2001:db8:acad:3::/64
R1(config-dhcp)# dns-server 2001:db8:acad::254
R1(config-dhcp)# domain-name stateful.com
```

8. Assign the DHCPv6 pool you just created to interface g0/0/0 on R1.

```
R1(config)# interface g0/0/0
R1(config-if)# ipv6 dhcp server R2-STATEFUL
```

9. Configure R2 as an IPv6 dhcp relay agent

```
R2(config)# interface g0/0/1
R2(config-if)# ipv6 nd managed-config-flag
R2(config-if)# ipv6 dhcp relay destination 2001:db8:acad:2::1 g0/0/0
```

Note**: relay destination** command not work for Packet Tracer but work on real router.

10. Verify host IPv6 addresses and connectivity.