1.4 – ITN - Training- PacketKnows Packet Tracer – Configuring IPv6 Addressing

Addressing Table

Device	Interface	IPv6 Address/Prefix	Default Gateway
R1	fa0/0	2001:DB8:1:1::1/64	N/A
	fa0/1	2001:DB8:1:2::1/64	N/A
	Link-local	FE80::1	N/A
Sales	E0	2001:DB8:1:1::2/64	FE80::1
Billing	E0	2001:DB8:1:1::3/64	FE80::1
Design	E0	2001:DB8:1:2::2/64	FE80::1
Engineering	E0	2001:DB8:1:2::3/64	FE80::1

Objectives

Part 1: Configure IPv6 Addressing on the Router
Part 2: Configure IPv6 Addressing on Clients
Part 3: Test and Verify Network Connectivity

NOTE

- **Power all the devices first by clicking the triangle button on the upper navbar.**
- **Right click the device then click the web console first to configure on the device**
- **Always type “save” when configuring IP addresses of PC’s**

Background

In this activity, you will practice configuring IPv6 addresses on a router and clients. You will also practice verifying your IPv6 addressing implementation.

Part 1: Configure IPv6 Addressing on the Router

Step 1: Enable the router to forward IPv6 packets.

a. Enter the ipv6 unicast-routing global configuration command. This command must be configured to enable the router to forward IPv6 packets. This command will be discussed in a later semester.

```
R1(config)# ipv6 unicast-routing
```

Step 2: Configure IPv6 addressing on FastEthernet0/0.

a. Click **R1** and then the CLI tab. Press **Enter**.

b. Enter privileged EXEC mode.

c. Enter the commands necessary to transition to interface configuration mode for FastEthernet0/0.

```
R1(config)#interface fa0/0
```

a. Configure the IPv6 address with the following command:

```
R1(config-if)#ipv6 address 2001:DB8:1:1::1/64
```

e. Configure the link-local IPv6 address with the following command:

```
R1(config-if)#ipv6 address FE80::1 link-local
```

f. Activate the interface

```
R1(config-if)#no shutdown

R1(config-if)#exit
```

Step 3: Configure IPv6 addressing on FastEthernet0/1.

a. Enter the commands necessary to transition to interface configuration mode for FastEthernet0/1.

```
R1(config)#interface fa0/1
```

b. Refer to the **Addressing Table** to obtain the correct IPv6 address.

c. Configure the IPv6 address, the link-local address and activate the interface.

```
R1(config-if)#ipv6 address 2001:DB8:1:2::1/64
R1(config-if)#ipv6 address FE80::1 link-local
```

Part 3: Configure IPv6 Addressing on the Clients

Step 1: Configure IPv6 addressing on the Sales and Billing Clients.

A. Set the **IPv6 Address** to 2001:DB8:1:1::3 with a prefix of /64.

B. Set the **IPv6 Gateway** to the link-local address, **FE80::1**.

C. Repeat Steps 1a through 1c for Sales. Refer to the **Addressing Table** for the IPv6 address.

Step 2: Configure IPv6 Addressing on the Engineering and Design Clients.

A. Set the **IPv6 Address** to 2001:DB8:1:2::3 with a prefix of /64.

B. Set the IPv6 Gateway to the link-local address, FE80::1.

C. Repeat Steps 1a through 1c for Design. Refer to the **Addressing Table** for the **IPv6** address.

```
PC1> set pcname Sales
Sales> ip 2001:db8:1:1::2/64
Sales> save

PC1> set pcname Billing
Billing> ip 2001:db8:1:1::2/64
Billing> save

PC1> set pcname Design
Design> ip 2001:db8:1:2::2/64
Design> save
```

```
PC1> set pcname Engineering

Engineering> ip 2001:db8:1:2::3/64

Engineering> save
```