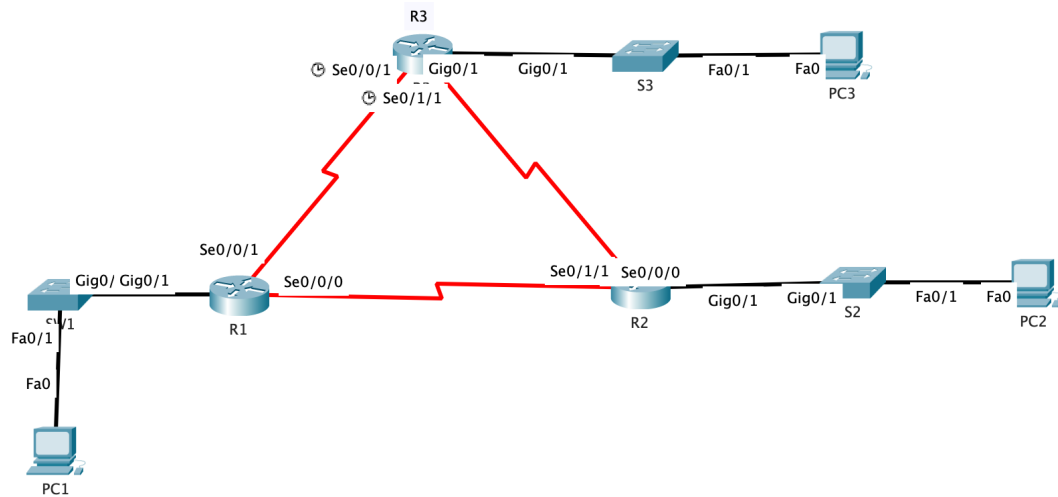




CST337 – Network Configurations and Protocols Lab 3

Duration: 2 hours

Topology



Required Resources

- ☐ 3 Router (Cisco 1941)
- ☐ 3 Switches (Cisco 2960)
- ☐ 3 PCs
- ☐ Console cables to configure the Cisco IOS devices via the console ports.
- ☐ Ethernet cables as shown in the topology.

Addressing Table

Device	Interface	IPv4 Network	IPv6 Address / Prefix
R1	S0/0/0	10.1.1.0/30	2001:db8:acad:12::1/64 fe80::1 link-local
	S0/0/1	10.1.1.4/30	2001:db8:acad:13::1/64 fe80::1 link-local
	G0/1	192.168.1.0/26, first usable address	2001:db8:acad:1::1/64 fe80::1 link-local
R2	S0/0/0	10.1.1.0/30	2001:db8:acad:12::2/64 fe80::2 link-local
	S0/1/1	10.1.1.8/30	2001:db8:acad:23::1/64 fe80::2 link-local
	G0/1	192.168.1.64/26, first usable address	2001:db8:acad:2::1/64 fe80::2 link-local
R3	S0/0/1	10.1.1.4/30	2001:db8:acad:13::2/64 fe80::3 link-local
	S0/1/1	10.1.1.8/30	2001:db8:acad:23::2/64 fe80::3 link-local
	G0/1	192.168.1.128/26, first usable address	2001:db8:acad:3::1/64 fe80::3 link-local
PC1	NIC	192.168.1.0/26, last usable address	2001:db8:acad:1::10/64
PC2	NIC	192.168.1.64/26, first usable address	2001:db8:acad:2::10/64
PC3	NIC	192.168.1.128/26, last usable address	2001:db8:acad:3::10/64

Step 1: Set Up the Topology and Initialize Devices

- Attach the devices as shown in the topology diagram, and cable as necessary.
- Power on all the devices in the topology.
- Initialize and reload the devices.

Step 2: Configure IP addressing for routers and PC

- Configure the interfaces in routers and PC with the IP addresses given in the Addressing Table.

Step 3: Configure and verify IPv4 static routes.

- Configure the IPv4 static routes in R1, R2 and R3. Verify that routing tables are updated correctly.

Step 4: Enable IPv6 routing on all routers in the network.

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

Step 5: Configure IPv6 static routing on all routers in the network and verify that routing tables are updated correctly.

```
R1(config)# ipv6 route 2001:db8:acad:2::/64 s0/0/0
R1(config)# ipv6 route 2001:db8:acad:3::/64 s0/0/1
```

```
R2(config)# ipv6 route 2001:db8:acad:1::/64 s0/0/0
R2(config)# ipv6 route 2001:db8:acad:3::/64 s0/1/1
R3(config)# ipv6 route 2001:db8:acad:2::/64 s0/1/1
R3(config)# ipv6 route 2001:db8:acad:1::/64 s0/0/1
```

Step 10: Verify network connectivity.**LAB INSTRUCTIONS:**

1. You are required to complete the configuration based on the instruction.
2. Marks will be given only after you complete the configuration and the link between PCs can be established.