

## LAB 4

### CONNECTING NETWORK USING ROUTER

#### 1. What is the Router?

The router is a physical internetworking device that is designed to receive, analyze, and forward data packets **between computer networks**. A router examines a destination IP address of a given data packet, and it uses the headers and forwarding tables to decide the best way to transfer the packets. There are some popular companies that develop routers; such are **Cisco, 3Com, HP, Juniper, D-Link, Nortel**, etc. Some important points of routers are given below:

- A router is used in LAN (Local Area Network) and WAN (Wide Area Network) environments. For example, it is used in offices for connectivity, and you can also establish the connection between distant networks such as from Bhopal to
- It shares information with other routers in networking.
- It uses the routing protocol to transfer the data across a network.
- Furthermore, it is more expensive than other networking devices like switches and hubs.



#### 2. Network Devices

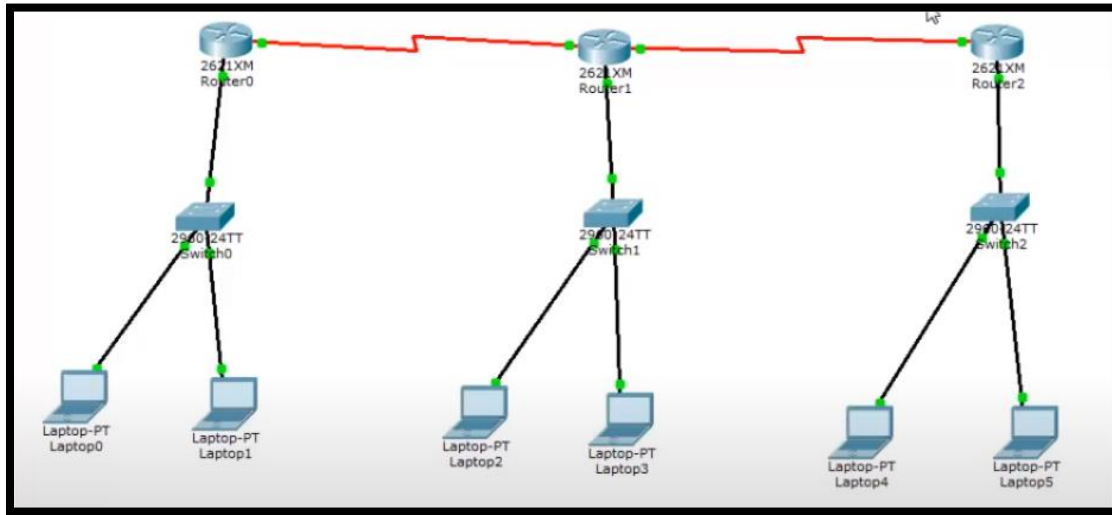
Our network that we want to construct is consist of the following devices:

1. Two routers (2621xm).

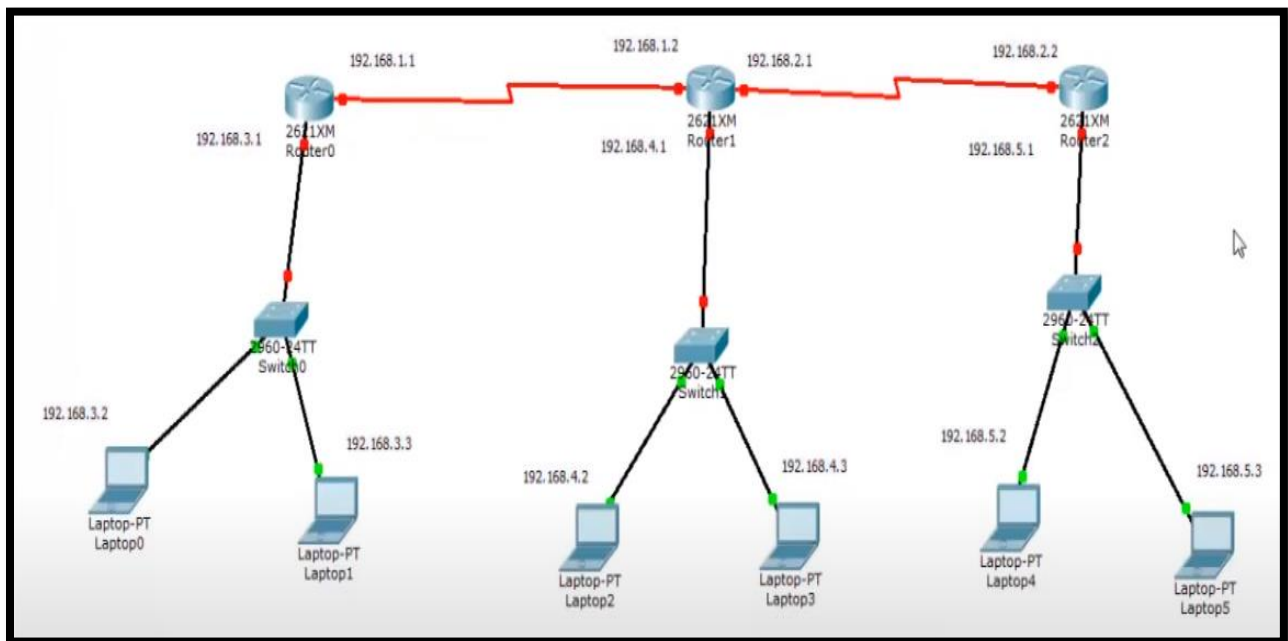
2. Three switches (2950-24).
3. 6 PCs.
4. Connections.

### 3. Network Construction

We need to construct the following network



### 4. IP Distribution



## 5. Network Configuration

### A. Router to Router Configuration

To configure router to router we must perform the following commands after access the router CLI menu.

- Enable
- Config t
- Interface serial 0/0
- Ip address 192.168.1.1 mask address
- Clock rate 64000
- NO sh

### B. Router to Switch Configuration

- Enable
- Config t
- Interface serial 0/0
- Ip address 192.168.3.1 Mask address
- NO sh