

# **Computer Networks Instructor: Rasikh Ali**

**Name: Usama Akhtar Awan**

**Roll No: SU92-BAIFM-F24-002**

## **LAB 2 - TASK**

**Why are we using the Cisco 2911 Router instead of other models?**

The Cisco 2911 router is selected due to its suitability for medium to large networks, offering an excellent balance between performance, flexibility, and cost. It provides enhanced functionality and services, including security features, VPN, and voice over VLANs, making it ideal for modern network requirements. The 2911 supports multiple services like routing, security, and VoIP from a single device, eliminating the need to purchase additional equipment for these features.

Compared to smaller routers like the 1841 or 1941, the 2911 offers better scalability and power, while being more cost-efficient than high-end routers like the 3900 series. Its integrated firewall and VPN support make it a secure option where data protection is crucial, making it a versatile and scalable router for various networking scenarios.

**Why are we using the Cisco 2950T or 2960 Switch and not others?**

The Cisco 2950T and 2960 switches are chosen for small- to medium-sized networks due to their affordability, durability, and Layer 2 support. They offer basic networking features like VLANs, which are sufficient for simple network configurations. These switches are easy to manage and

are cost-effective compared to more advanced models like the Cisco 3560, which offer additional Layer 3 features that may be unnecessary for smaller networks.

### **Task 3:**

#### **Design the Network for "Lab-7" or "Lab-8" (2-3 rows of computers)**

#### **Equipment to Use:**

- **Router:** Cisco 2911
- **Switches:** Cisco 2950T or 2960
- **End Devices:** PCs or Laptops

Design a network layout consisting of 2-3 rows of computers, with each row connected to a switch. The switches are then connected to the Cisco 2911 router to provide inter-network communication and routing. The layout includes VLAN configurations on the switches for network segmentation and end-device connections for users.

**Cisco file for the configuration is provided.**