**Project Report:** DHCP with OSPF in Multi-Router Network

**1. Objective**

The goal of this project is to design and configure a multi-router network in Cisco Packet Tracer where all devices across different networks obtain IP addresses from a single DHCP server. The DHCP server is located in the 192.168.1.0 network. The routing protocol used for interconnecting the networks is OSPF (Open Shortest Path First).

### ****2. Network Topology****

The network consists of:

* **3 Routers** (Router0, Router1, and Router2) interconnected in a triangular structure for redundancy.
* **1 DHCP Server** located in the **192.168.1.0** network.
* **3 PCs** and **1 Laptop** in different subnets.
* **2 Switches** to connect the end devices.

### ****3. IP Addressing Scheme****

**Identified networks:**

1. **192.168.1.0** – DHCP Server, PC2, Router0
2. **192.168.2.0** – PC0, Router1
3. **192.168.3.0** – PC1, Laptop0, Router2

**4. Newly defined inter-router link networks:**

1. **192.168.4.0** – Link between Router0 and Router1  
2. **192.168.5.0** – Link between Router0 and Router2  
3. **192.168.6.0** – Link between Router1 and Router2