**Lab-2- IPv6 Routing using RIPv2 and EIGRP**

Perform dynamic routing to implement Routing Information Protocol (RIP), RIPv2, and EIGRP

Lets first talk about RIP. RIP stands for Routing Information Protocol. RIP is one of the oldest distance-vector routing protocols which employs the hop count as a routing metric. RIP prevents routing loops by implementing a limit on the number of hops allowed in a path from source to destination. RIP implements the split horizon, route poisoning, and hold-down mechanisms to prevent the incorrect routing information from being propagated. Due to the deficiencies of the original RIP specification, RIP version 2 (RIPv2) was developed. But for this practical we used RIP v1.

After RIP came EIGRP. EIGRP which stands for Enhanced Interior Gateway Routing Protocol is an advanced distance-vector routing protocol that is used on a computer network for automating routing decisions and configuration. EIGRP is used on a router to share routes with other routers within the same autonomous system. Unlike other well-known routing protocols, such as RIP, EIGRP only sends incremental updates, reducing the workload on the router and the amount of data that needs to be transmitted. EIGRP supports the following features:

- Supports CIDR
- Sends topology changes, rather than sending the entire routing table when a route is changed.
- Periodically checks if a route is available, and propagates routing changes to neighboring routers if any changes have occurred.
- Backward compatibility with the IGRP routing protocols.
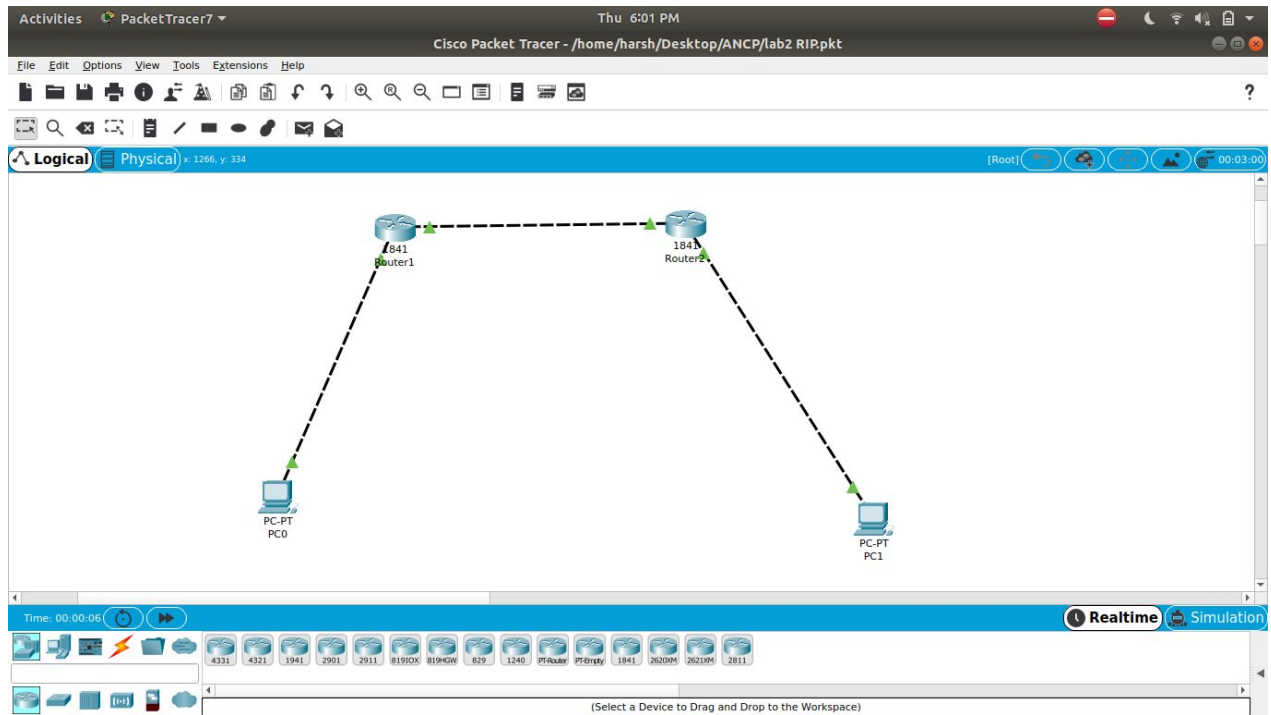
Conclusion

Through this practical, we came to learn about routing protocols like RIP and EIGRP and implementation of the same in Cisco Packet Tracer.