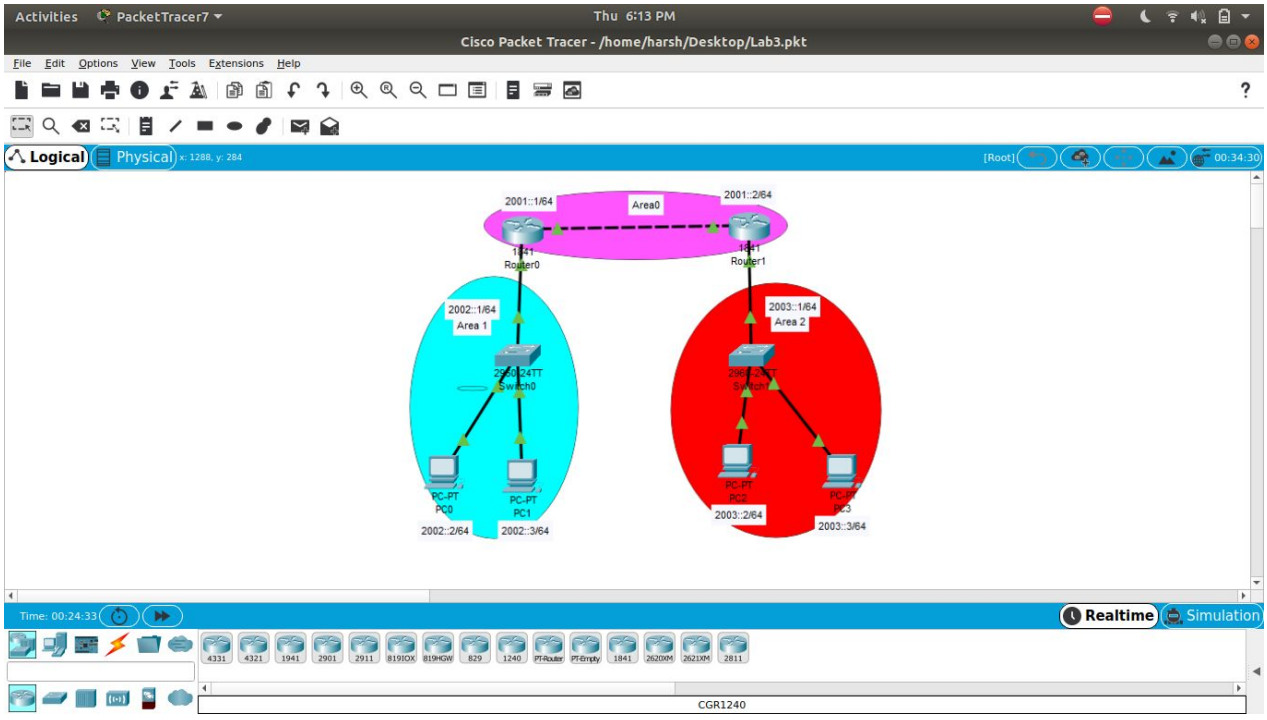
Lab3 - IPV6 routing using OSPFv3

Open Shortest Path First (OSPF) is a routing protocol for Internet Protocol (IP) networks. It uses a link-state routing (LSR) algorithm and falls into the group of interior gateway protocols (IGPs), operating within a single autonomous system. OSPF is based on link-state technology by using the SPF algorithm which calculates the shortest path. SPF calculation before running the calculation, it is required that all routers in the network know about all the other routers in the same network and the links among them. The next step is to calculate the shortest path between every single router. For all the routers they exchange link-states which would be stored in the link-state database. Every time a router receives a link-state update, the information stores into the database, and this router propagates the updated information to all the other routers.

Once the database of each router is finished, the router determines the Shortest Path Tree to all the destinations. The shortest path in the SPF algorithm is called the Shortest Path Tree. The Dijkstra Shortest Path First is then running to determine the shortest path from a specific router to all the other routers in the network. Each router is put at the root of the Shortest Path Tree and then the shortest path to each destination is calculated. The accumulated cost to reach the destination would be the shortest path. The cost (metric) of OSPF is the cost of sending packets across a certain interface. If the bandwidth is wider, the cost would be lower.



Conclusion

Through this practical, we learned about EIGRP and its implementation in cisco packet tracer.