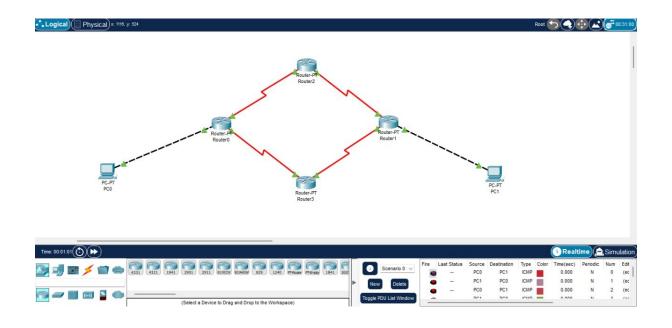# Distance Vector Routing (DVR) protocol using Packet Tracker
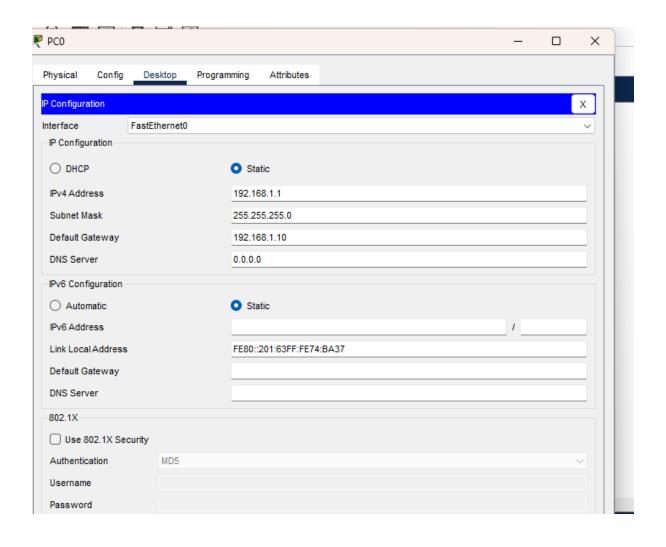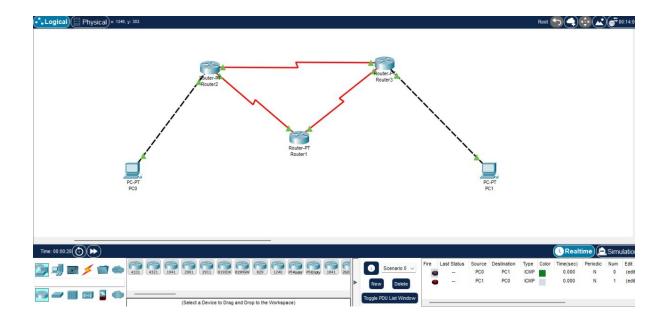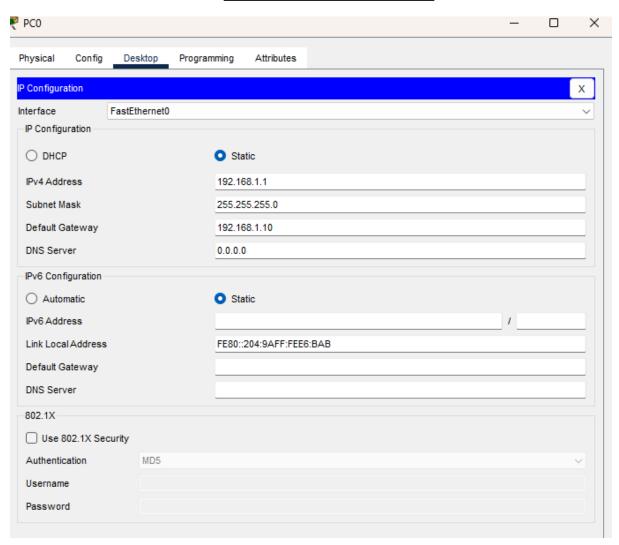
IP CONFIGURATION

IP CONFIGURATION

THEORY QUESTIONS

EXPERIMENT-8

1. Explain the working of the distance vector routing protocol?

⇒ It is a routing algorithm used in computer networks to determine the best path for data packets each router maintains a routing table that contains the distance (cost) and direction (next-hop) to reach all network destination. Routers periodical exchange their routing with connected neighbours They update their own table using the Belman-ford Algorithm, selecting the shortest path to each destination.

2. What is the significance of periodic updates in DVR?

⇒ Periodic updates ensures that all routers are aware of network topology changes These updates help routers detect between broken links, new routes, or changes in path costs However, excessive updates can lead to high bandwidth consumption and slow convergence.

3. Discuss the key differences between distance vector and link-state Routing?

→ Distance vector routing	link-state routing
i) Entire routing table shared with neighbours.	i) Only link-state information is shared
ii) Slower due to periodic updates	ii) Faster due to triggered updates.
iii) Computational overhead is low.	iii) Computational overhead is low.
iv) It is less scalable due to high bandwidth usage.	iv) It is more scalable for large networks.

40. What are the limitations of the DVR protocol, and how can they be mitigated?

i) It takes time to adapt to network changes, causing delays.

ii) Incorrect routes may loop indefinitely.

iii) Periodic updates consume excessive network resources

iv) Becomes inefficient in large networks due to frequency updates.