

# NETWORK TOPOLOGY

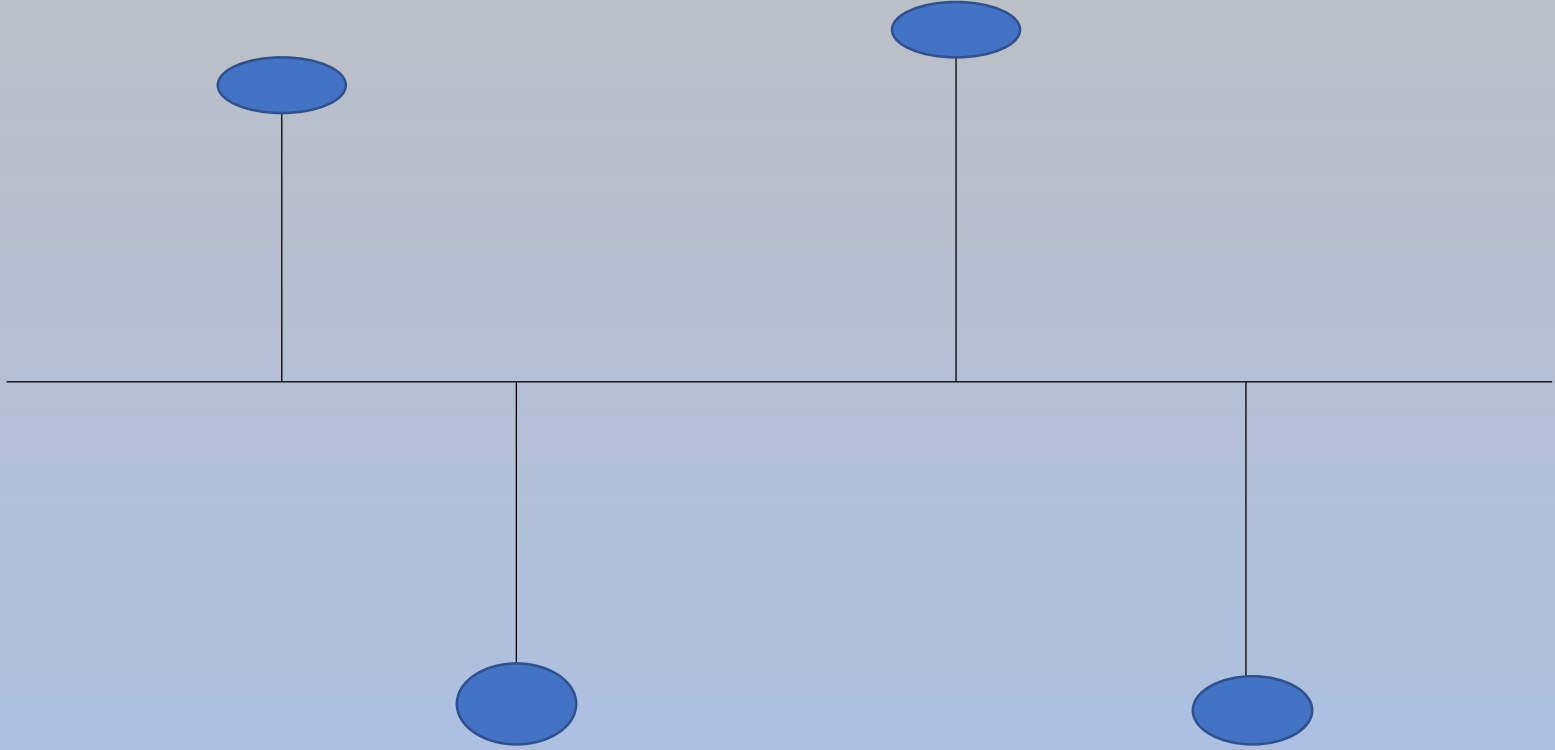
# Definition

- Network topology refers to the actual geometric layout of computers and other devices connected to the network.

# BUS TOPOLOGY

- Each computer or server is connected to a single cable.
- All nodes share the same communication channel.
- When a node wants to send a message to another node, it checks whether the line is free or not.
- If the line is free it places the message with address of the recipient on the line, else it waits until the channel becomes available.
- When the message is placed on the line each node checks the destination address to receive the message

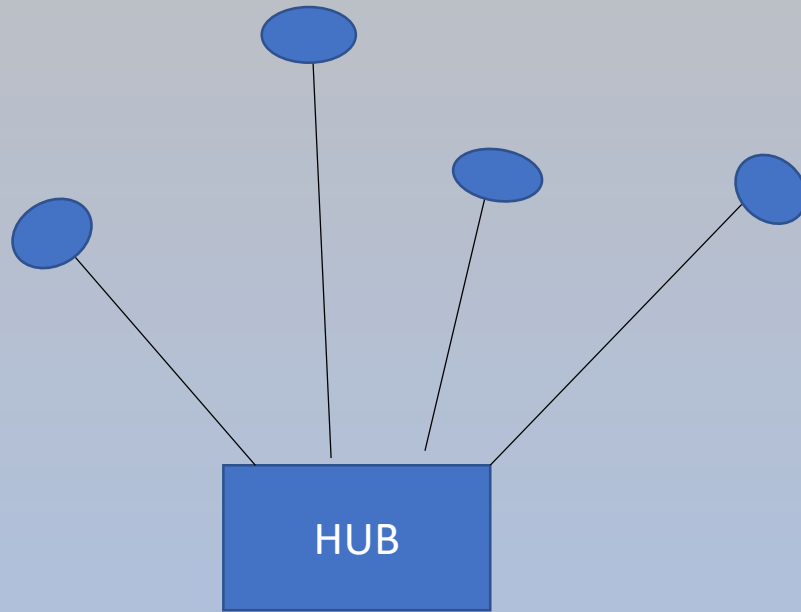
BUS TOPOLOGY



# STAR TOPOLOGY

- Each node is connected to a central hub.
- All traffic that traverses the network passes through the central hub.
- The hub acts as signal repeater.
- When a node has to send a message to another node connected to the network, it will first have to send data to the hub.
- The hub will regenerate the message and then broadcast the message.
- All the devices receives the message but destination node will process it.

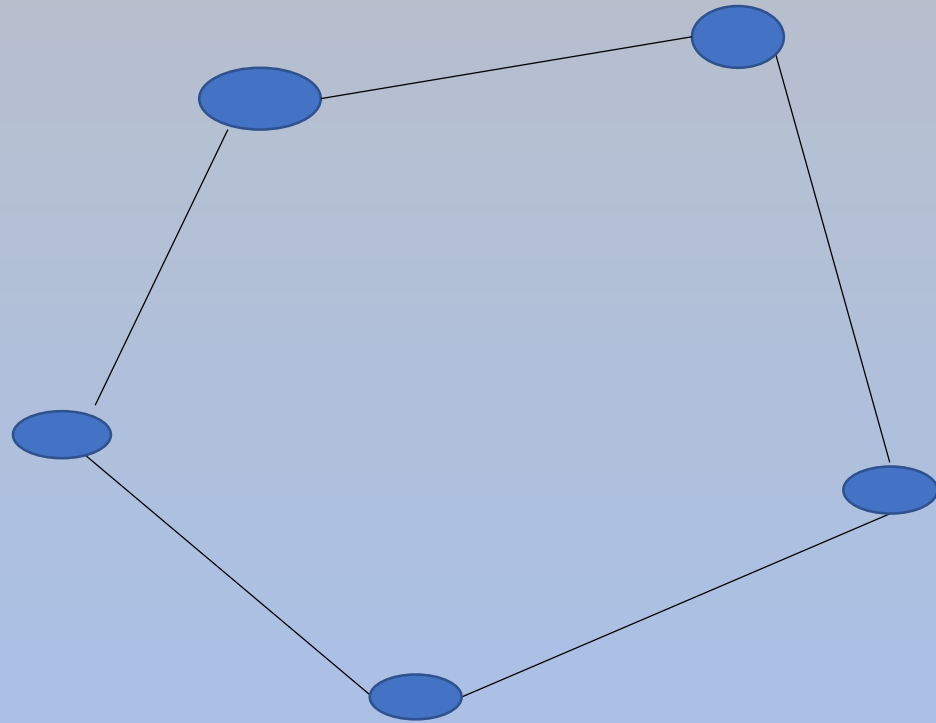
# STAR TOPOLOGY



# RING TOPOLOGY

- All the nodes are connected to each other in the shape of a closed loop, so that every node is connected directly to two other nodes, one on either side of it.
- In ring network message travels through the ring in circular fashion in same direction.
- In a ring topology each device acts as a repeater to keep the signal strong as it travels.
- A device receives message from adjacent node, checks the destination address, if the message is addressed to it, it accepts the data and processes it; otherwise it just regenerates the signal and passes it to the next node in sequence.

# RING TOPOLOGY





# MESH TOPOLOGY

- Every node is connected to every other node.
- A message can be sent directly
- from one node to another node.
- But if a link is failed then the message has to
- be transmitted through another node

# MESH TOPOLOGY

