

# TYPES OF PHYSICAL TOPOLOGY

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learning  
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# OBJECTIVES FOR LEARNING

learn different Types of physical topology and it's pros & cons

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# WHAT IS THE PHYSICAL TOPOLOGY?



Physical topology refers to the interconnected structure of a local area network (LAN). The method employed to connect the physical devices on the network with the cables

# TYPES OF PHYSICAL TOPOLOGY



## LINEAR BUS TOPOLOGY

bus topology uses a single cable to which all network nodes are directly connected.

## STAR TOPOLOGY

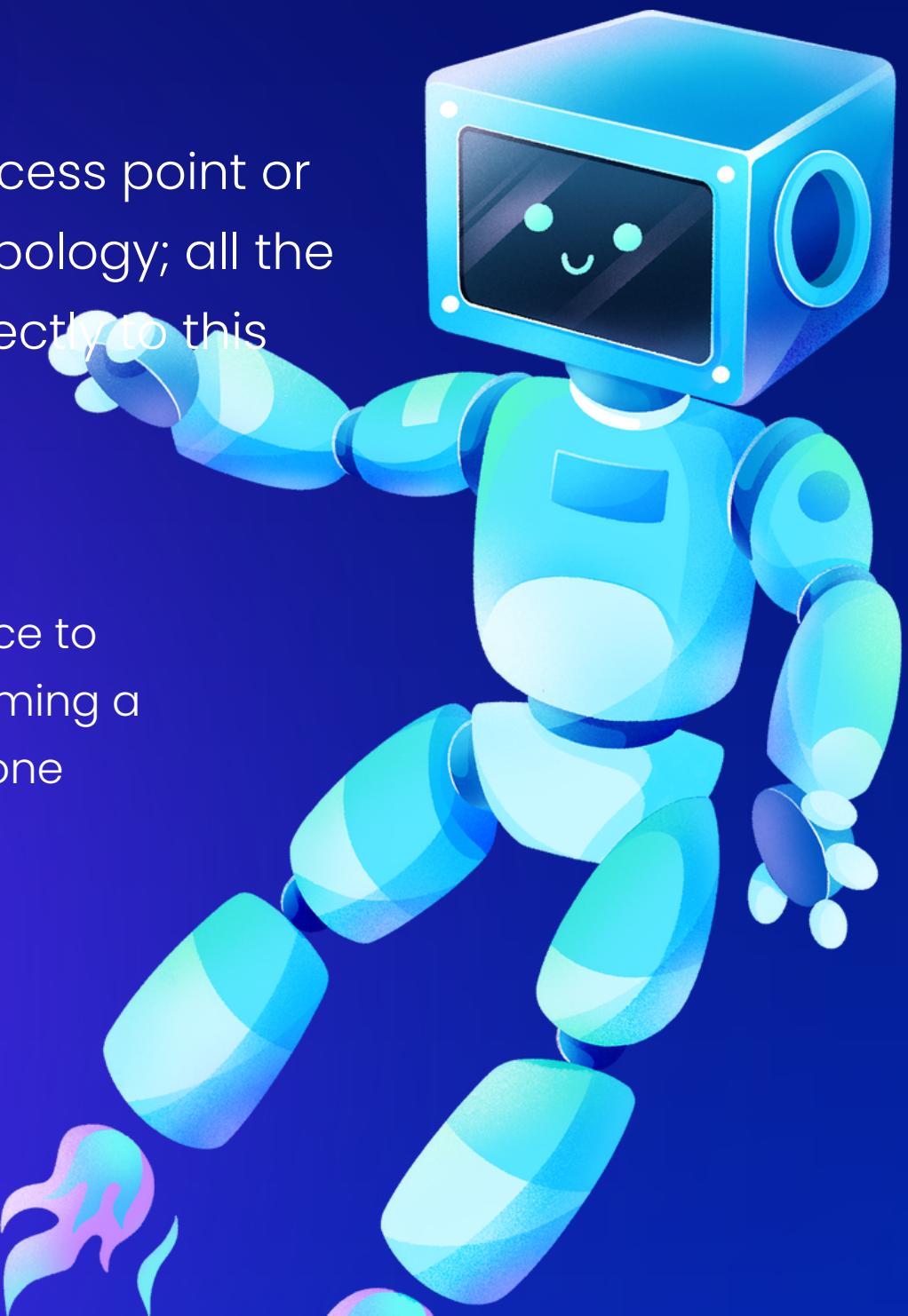
A star topology has a single access point or a switch at the center of the topology; all the other nodes are connected directly to this point

## RING TOPOLOGY

A ring topology connects every device to exactly two neighboring devices, forming a circular loop. Data is transmitted in one direction around the ring

## MESH TOPOLOGY

A mesh topology connects every device to every other device in the network, forming a complete mesh. Data can be transmitted along multiple paths



# LINEAR BUS TOPOLOGY

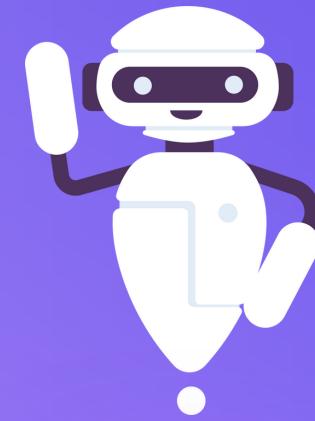
PROS

- Cost of the cable is very low compared to other topologies
- Easy to install and expand
- Suitable for small and simple networks

CONS

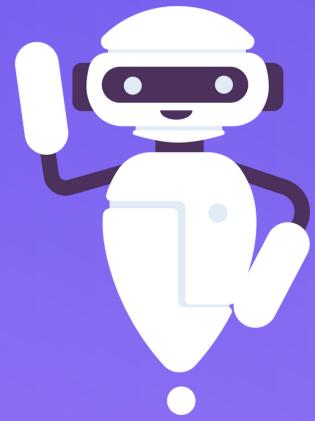
- If the cable fails, the entire network will crash
- Network performance decreases with heavy traffic and many nodes
- Difficult to troubleshoot and maintain

# STAR TOPOLOGY



## PROS

- **Easy to add or remove nodes without affecting the network**
- **High network performance and reliability**
- **Easy to troubleshoot and maintain**



## CONS

- **Cost of the cable and the switch is higher than other topologies**
- **If the switch fails, the entire network will crash**
- **Requires more cable length than other topologies**

# LINEAR RING TOPOLOGY

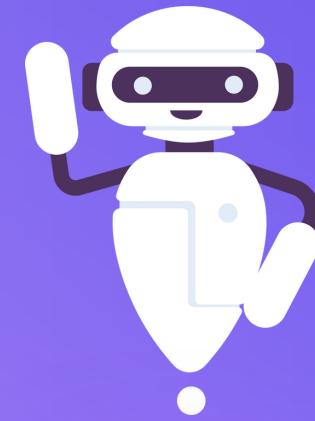
## PROS

- No need for a central switch or access point
- Easy to install and expand
- Suitable for high-speed data transmission

## CONS

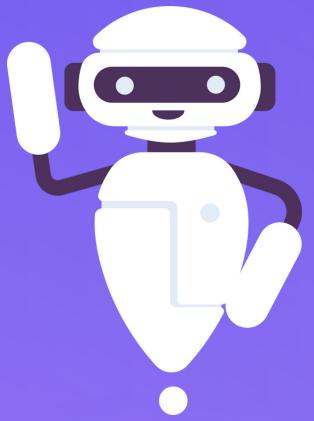
- If one node fails, the entire network will crash
- Network performance decreases with heavy traffic and many nodes
- Difficult to troubleshoot and maintain

# MESH TOPOLOGY



## PROS

- **High network performance and reliability**
- **No single point of failure**
- **Easy to troubleshoot and maintain**



## CONS

- **Cost of the cable and the devices is very high**
- **Difficult to install and expand**
- **Requires a lot of cable length and network ports**

THANK YOU!

