

Networking Basics :

hi this is Manimaran welcome to networking basics we are going to discuss about what is networking types of networks network topologies advantage of networks what is networking its practice of connecting multiple computing device in order to share resources exchanging files and Electronic Communication it's nothing when more than one devices are connected or interconnected to share resources action in the files or two way communication it's enough in general the devices can be interconnected in terms by using a medium the medium can be added a wire medium or wireless medium if it is a wire medium the devices can be connected by fibre cables copper cables telephone lines equator in case of a wireless medium for wireless communication the radio.

satellites R infra red beams are used to this is networking next Governor discuss about types of networking Local area network is nothing but when a multiple devices within a building or within a limited geographical area are connected to have a communication to share resources within the network this is local area network next is wide area network is known as a bank it used to connect device across geographical area that there is no restriction restriction act like of land for example when we are communication communicating with a person in US from India this is one and if you are sharing a file via communicating with in a building it Sel and the third one is Metropolitan Area Network.

also known as man it send data network that design for a town or city for specific reason then Storage Area networks and its dedicate a network that design to share the Storage Area to multiple devices in general it will be used in corporates that be having their Storage Area in a particular place and all the devices in the company will be making use of this network topologies engine topology refers to a virtual layout arrangement of device in the network to establish a network these are the five basic topologies that is bus topology ring topology star topology tree topology and mesh topology latest discuss about this topology in detail bus topology this is the topology which makes use of a backbone engine.

the backbone which is used as a cable wire that is if you see in this diagram it's clear was that all the devices in the network make use of a single cable to communicate with each other the main disadvantage of this technology of this topologies if this particular backbone is down then internetwork will come then ringtone policy that is all the devices network will be connected will be structured in a ring like format link ring like structure that is all the devices should be having two neighbours the main disadvantage of this topologies if a particular device goes down the entire network will be down the next one is star topology in which all the devices in the network will be structure will be arranged as like a star and here hub is a device that used to connect.

all the devices and the main disadvantage of this topologies if hub goes down the entire network down tree topology it hybrid topology makes use of both bus and star topology consists of group of start coming configured workstation connected to Alina bus cable if you see the main advantage of this is a particular hub goes down only the work stations that are connected to that particular kab will goes down its not as like the earlier we have seen but in case if the bus lete backbone goes down then the entire network folder.

NETWORK BASICS

Modules :

- What is Networking ?
- Types of Networks
- Network Topologies
- Advantages of Networks

What is Networking ?

- It is a Practise of connecting multiple computing devices in order to share the resources, Exchange files and allow Electronic Communication.
- The Computer Network can be linked through a medium such as Cables, Telephone lines, Radio waves, Satellites or Infrared beams.

TYPES OF NETWORKS :

- **Local Area Network (LAN)** is used to connect devices in a shortest distance, such as within a Building, School or Home.
- **Wide Area Network (WAN)** is used to connect devices across large Geographical area, such as communication between different countries.
- **Metropolitan Area Network (MAN)** is a Data Network designed for a town or a city.
- **Storage Area Network (SAN)** is a Network designed to share the Storage Area to multiple devices

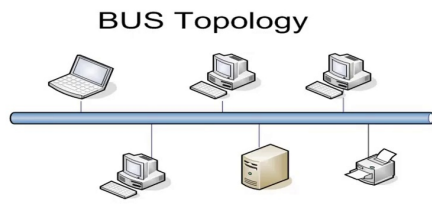
NETWORK TOPOLOGY

Topology refers to Virtual layout or Arrangement of the devices in a Network.

- Bus Topology
- Ring Topology
- Star Topology
- Tree Topology
- Mesh Topology

BUS TOPOLOGY :

This topology utilizes a common backbone, In General a single cable will be used to connect all the devices on a network



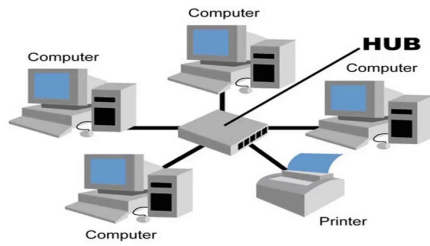
RING TOPOLOGY :

Each device will have two neighbours for communication. All data travels in a ring, and a failure of that ring will bring the whole network down.



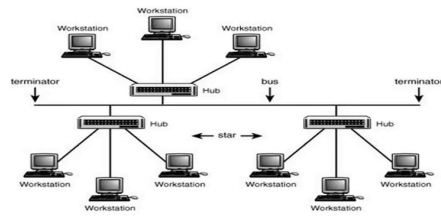
STAR TOPOLOGY :

The central connection known as a "hub", it will be connected to all the devices on the network. This hub could be a router or a switch.



TREE TOPOLOGY :

It combines characteristics of linear bus and star topologies. It consists of groups of star-configured workstations connected to a linear bus backbone cable.



MESH TOPOLOGY :

In Mesh, each devices in the network are interconnected to other devices. Every node not only sends its own signals but also relays data from other nodes

