

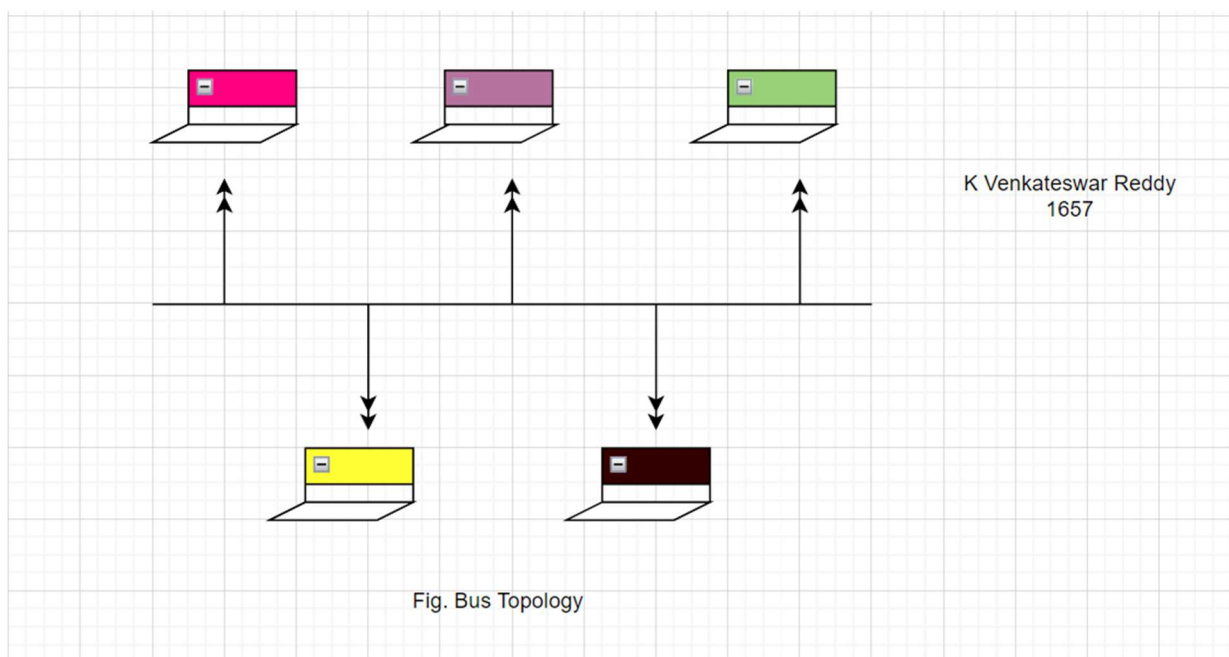
Topology: Topology defines the structure of the network of how all the components are interconnected to each other.

Types Of Topology:

- Bus Topology.
- Ring Topology.
- Star Topology.
- Mesh Topology.

Bus Topology:

- The bus topology is designed in such a way that all the stations are connected through a single cable known as a backbone cable.
- Each node is either connected to the backbone cable by drop cable or directly connected to the backbone cable.
- When a node wants to send a message over the network, it puts a message over the network. All the stations available in the network will receive the message whether it has been addressed or not.
- The bus topology is mainly used in 802.3 (ethernet).
- The backbone cable is considered a single Lane through which the message is broadcast to all the stations.



<https://drive.google.com/file/d/1IrFfPdEhgIJcFRDu83sUGZUrdRSfK8nV/view?usp=sharing>

IP And MAC Addresses of a System.

SSID:	Students
Protocol:	Wi-Fi 5 (802.11ac)
Security type:	WPA2-Personal
Manufacturer:	Realtek Semiconductor Corp.
Description:	Realtek RTL8852AE WiFi 6 802.11ax PCIe Adapter
Driver version:	6001.10.351.0
Network band:	5 GHz
Network channel:	44
Link speed (Receive/Transmit):	173/173 (Mbps)
Link-local IPv6 address: fe80:	1d2a:5c9e:3930:71b2%16
IPv4 address:	172.22.204.120
IPv4 DNS servers:	172.22.12.42 (Unencrypted) 208.67.222.222 (Unencrypted) 192.168.23.10 (Unencrypted)
Physical address (MAC):	C8-94-02-A8-1F-FD

C:\Users\91798>ipconfig /all

Windows IP Configuration

Host Name.....: LAPTOP-ERV3IQV1
Primary Dns Suffix.....:
Node Type: Mixed
IP Routing Enabled.....: No
WINS Proxy Enabled.....: No
DNS Suffix Search List.....: GITAMBLR.EDU

Wireless LAN adapter Wi-Fi:

Connection-specific DNS Suffix....: GITAMBLR.EDU
Description.....: Realtek RTL8852AE WiFi 6 802.11ax PCIe Adapter
Physical Address.....: C8-94-02-A8-1F-FD
DHCP Enabled.....: Yes
Autoconfiguration Enabled...: Yes
Linklocal IPv6 Address.....: fe80::1d2a:5c9e:3930:71b2%16(Preferred)
IPv4 Address.....: 172.22.204.120(Preferred)
Subnet Mask.....: 255.255.240.0
Lease Obtained.....: 11 March 2023 08:48:42
Lease Expires.....: 11 March 2023 13:27:35
Default Gateway.....: 172.22.192.1
DHCP Server.....: 172.22.12.21
DHCPv6 IAID.....: 63476738
DHCPv6 Client DUID.....: 00-01-00-01-2B-76-A8-97-C8-94-02-A8-1F-FD

DNS Servers.....: 172.22.12.42
208.67.222.222
192.168.23.10

NetBIOS over Tcpip.....: Enabled

C:\Users\91798>nslookup

Default Server: UnKnown
Address: 172.22.12.42

> www.amazom.com

Server: UnKnown
Address: 172.22.12.42
Non-authoritative answer:
Name: www.amazom.com
Address: 3.33.139.32

> www.google.com

Server: UnKnown
Address: 172.22.12.42
Non-authoritative answer:
Name: www.google.com
Addresses: 2404:6800:4007:805::2004
142.250.67.68

> www.chrome.com

Server: UnKnown
Address: 172.22.12.42
Non-authoritative answer:
Name: www.chrome.com
Addresses: 2001:4860:4802:32::1b
216.239.32.27

C:\Users\91798>hostname

LAPTOP-ERV3IQV1

C:\Users\91798>ping www.chrome.com

Pinging www.chrome.com [216.239.32.27] with 32 bytes of data:

Reply from 216.239.32.27: bytes=32 time=9ms TTL=117

Reply from 216.239.32.27: bytes=32 time=9ms TTL=117

Reply from 216.239.32.27: bytes=32 time=13ms TTL=117

Reply from 216.239.32.27: bytes=32 time=36ms TTL=117

Ping statistics for 216.239.32.27:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), Approximate
round trip times in milli-seconds:

Minimum = 9ms, Maximum = 36ms, Average = 16ms

C:\Users\91798>netstat

Active Connections

Proto	Local Address	Foreign Address	State
TCP	172.22.205.11:49420	20.198.119.143:https	ESTABLISHED
TCP	172.22.205.11:50699	20.198.119.84:https	ESTABLISHED
TCP	172.22.205.11:50750	20.192.44.78:https	ESTABLISHED
TCP	172.22.205.11:50752	13.76.153.29:https	ESTABLISHED
TCP	172.22.205.11:51781	si-in-f188:5228	ESTABLISHED
TCP	172.22.205.11:51847	162.247.243.29:https	ESTABLISHED
TCP	172.22.205.11:51918	li695-222:https	ESTABLISHED
TCP	172.22.205.11:51919	li781-4:https	ESTABLISHED
TCP	172.22.205.11:52044	ec2-52-16-113:https	ESTABLISHED
TCP	172.22.205.11:52151	ec2-52-202-0:https	ESTABLISHED
TCP	172.22.205.11:52153	20.204.151.230:https	ESTABLISHED
TCP	172.22.205.11:52154	20.204.151.230:https	ESTABLISHED
TCP	172.22.205.11:52155	ec2-34-235-29:https	CLOSE_WAIT
TCP	172.22.205.11:52157	server-18-155-49	ESTABLISHED
TCP	172.22.205.11:52161	server-13-35-238	ESTABLISHED
TCP	172.22.205.11:52167	ec2-52-5-25-93:https	ESTABLISHED
TCP	172.22.205.11:52168	ec2-52-5-25-93:https	ESTABLISHED
TCP	172.22.205.11:52169	ec2-18-235-78-11	TIME_WAIT
TCP	172.22.205.11:52170	117.18.237.29:http	TIME_WAIT

C:\Users\91798>tracert www.chrome.com

Tracing route to www.chrome.com

[216.239.32.27] over a maximum of 30 hops:

1	10 ms	3 ms	6 ms	172.22.192.1
2	8 ms	2 ms	1 ms	192.168.152.13
3	38 ms	9 ms	7 ms	182.73.206.137
4	17 ms	15 ms	15 ms	116.119.106.144
5	16 ms	12 ms	11 ms	142.250.169.206
6	15 ms	10 ms	10 ms	142.251.71.187
7	13 ms	10 ms	11 ms	209.85.247.251
8	16 ms	9 ms	10 ms	any-in-201b.1e100.net [216.239.32.27]

Trace complete.