

LAN

Learned:

- Having different topologies helps understand how the data is flowing and this can lead to knowing how an attacker might move through a network.
- If Routers are attacked then networks can become vulnerable due to IP Addresses being exposed.
- Switches are more secure than routers because of all devices being connected in different ports instead of a router which could be attacked or shutdown.

LAN stands for **Local Area Network** and have different designs called **topologies**.

Topologies

- **Star Topology:** Devices are connected to a central network device, such as a **switch** or **hub**.
- **Bus Topology:** Devices share a single connection called a **backbone cable**. All data travels along the same cable, which can slow down the network if many devices request data at once.
- **Ring Topology:** Devices are connected in a loop to forward data. A device will send its own data first before forwarding data received from another device.

Switches

- Switches are dedicated devices that connect multiple devices like computers, printers, or any network-capable device using **Ethernet** and a switch port.
- Switches can connect a large number of devices.
- Switches can also connect to other switches and routers, which increases network reliability because if one path goes down, another can be used.

Routers

- A router connects networks and passes data between them using **routing**.