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Now lets start by reminding ourselves what a computer network means, A computer network is a system that connects two or more computing devices, allowing them to communicate and share resources. This can include a wide range of devices such as computers, servers, mobile phones, and printers, which can be connected through physical cables (like fiber optics) or wirelessly (via Wi-Fi)

now I hope that we may proceed to the network devices, but due to the way we will classify those devices lets understand the following term too, that keyword is Osi model.

The OSI (Open Systems Interconnection) model is a conceptual framework that standardizes the functions of a networking system into seven distinct layers. Each layer has specific responsibilities and interacts with the layers above and below it, facilitating communication across diverse network environments. The OSI model was developed by the International Organization for Standardization (ISO) in 1984 and is used to promote interoperability between different networking products and software.

Those 7 Layers of the OSI Model are:

1. **Physical Layer** and this Concerned with the transmission of raw data bits over a physical medium
2. **Data Link Layer** and this is responsible for node-to-node data transfer and error detection/correction. It packages data into frames
3. **Network Layer** this one Manages routing of data packets based on logical addresses (e.g., IP addresses).
4. **Transport Layer** and this Ensures reliable data transfer, managing segmentation, flow control, and error correction (e.g., TCP)
5. **Session Layer this one** Manages sessions or connections between applications, including establishing, maintaining, and terminating connections.

6. Presentation Layer and this Translates data formats for the application layer, handling encryption, decryption, and data compression.

7. Application Layer which is responsible for Closest to the end user, it interacts directly with software applications to provide network services (e.g., web browsers).

So lets explore those device basing on the layers.

OSI Layer	Network Device	Description
	Repeater	Amplifies and regenerates signals to extend the distance over which data can travel in a network.
	Network Cable	Physical medium (like Ethernet or fiber optic cables) used to connect devices in a network.
	Modem	Converts digital data from a computer into analog for transmission over phone lines and vice versa.
Data Link Layer	Switch	Connects devices within a LAN and uses MAC addresses to forward data only to the intended recipient, improving efficiency over hubs.
	Bridge	Connects two or more network segments, filtering traffic and reducing collisions by dividing traffic into separate collision domains.
	Network Interface Card (NIC)	Hardware that allows a device to connect to a network, providing the physical interface for communication.
Network Layer	Router	Directs data packets between different networks based on IP addresses, determining the best path for data transmission.
	Gateway	Serves as a "gate" between two networks, often translating

		different protocols so they can communicate effectively.
Transport Layer	Load Balancer	Distributes incoming network traffic across multiple servers to ensure no single server becomes overwhelmed, improving responsiveness and availability.
Session Layer	Session controller	Manages and controls voice and video sessions over IP networks, ensuring secure and reliable connections.
Presentation Layer	Encryption Device	Secures data by encrypting it before transmission and decrypting it upon receipt, ensuring confidentiality during communication.
Application Layer	Web Servers	Hosts websites and serves web pages to users' browsers via HTTP/HTTPS protocols, enabling access to online content.
	Email Servers	Manages the sending and receiving of emails using protocols like SMTP for sending and POP3/IMAP for receiving.