Application - This is how the applications interact to get network resources. It facilitates the interaction between software applications and network resources, serving as the gateway for users and software to communicate over the network

Presentation- The presentation layer is responsible for encryption.It is also responsible for preparing data for the Application layer and ensuring that it is in a readable and usable format. Acting as a translator between the application and the network, this layer manages data encoding, translation, compression, and encryption, playing a vital role in data security and compatibility.

Session- Session layer is responsible for maintaining sessions. responsible for establishing a connection between two devices, maintaining it for the duration of the communication, and finally terminating the session once the exchange is complete. This management helps to organize and structure data exchanges over the network, particularly for complex applications requiring multiple data streams..

Transport- the OSI model is responsible for end-to-end communication, reliable data transfer, and error handling. It supports both connection-oriented (TCP) and connectionless (UDP) protocols, depending on the needs of the application

Network- The network layer is responsible for routing also known as the routing layer routers are used at this layer. Responsible for determining the best physical path for data to travel from one device to another across interconnected networks

Data Link- is often called the "forwarding layer" because it's responsible for moving data within the same network segment. This layer enables communication between devices on the same local network by defining protocols for data transfer and organizing bits into frames for reliable delivery. Here’s a deeper look at its key functions and how switches operate within this layer:

Physical- foundation of the entire networking structure. It deals with the physical connection between devices and the transmission of raw binary data (bits) over a network medium. The main focus of this layer is to convert data into electrical, optical, or radio signals for transmission across physical connections. If there is a problem with the network it can usually be a layer 1 problem or NIC issue.