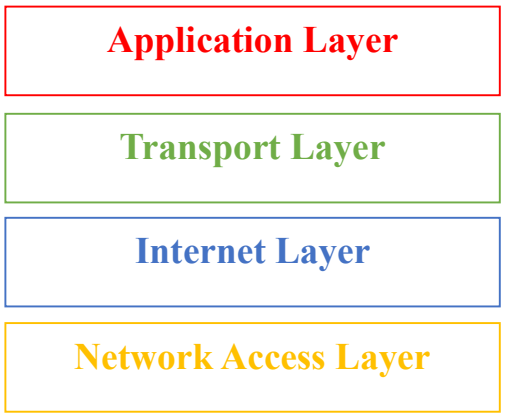
What is the difference between the OSI Model and the TCP/IP Model?

Although these models are both for data communication, there are some key differences between them. I will be explaining those differences and talking about each model structure.

Starting off with the TCP/IP Model (Transmission Control Protocol / Internet Protocol), it consists of 4 layers, the Physical layer, Network layer, Transport layer, and the Application layer.



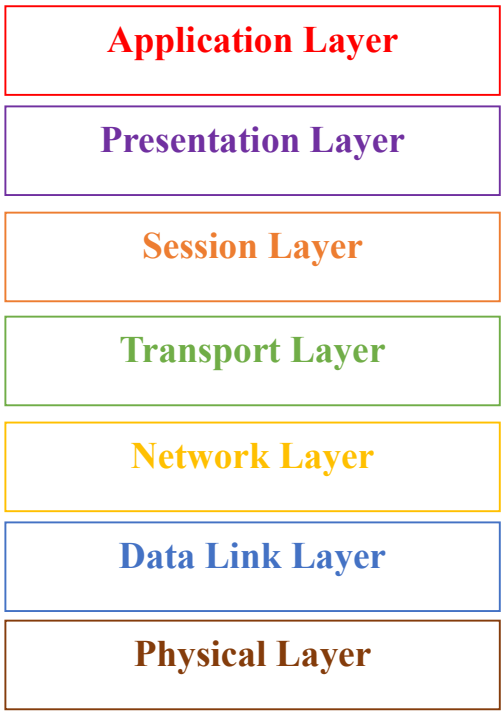
4. The Application layer is responsible for end-to-end communication using such protocols as HTTP/HTTPS, SSH, NTP, etc. In simpler terms, it consists of applications that allow you to access the network, for example, email, messaging apps, etc.

3. The Transport layer is responsible for the transportation of the data, which is why it is called the transport layer. The data is divided into packets which are then acknowledged and ensured that the recipient has received them.

2. The Internet layer controls the flow and routing of traffic to make sure that data is sent fast and accurately. This layer also reassembles the data packet at its destination. If there is a lot of traffic, it might take longer to send a file.

1. The Network Access Layer handles the physical components of communication such as the ethernet cables, network interface cards, wireless networks, etc.

Now onto the OSI model, it consists of 7 layers which include the Physical, Data Link, Network, Transport, Session, Presentation, and Application layer.



7. The Application Layer, same as the TCP/IP model, is responsible for end-to-end communication using such protocols as HTTP/HTTPS, SSH, NTP, etc.

6. The Presentation Layer is responsible for extracting data from the application layer and preparing it for transmission over the session layer.

5. The Session Layer is responsible for keeping the session open while data is being transferred and closes when communication ends.

4. The Transport Layer, same as the TCP/IP model, is responsible for end-end-communication communication between devices. It is responsible for transporting data.

3. The Network Layer has two main functions, one is breaking up segments and reassembling them on the receiving end, the other is routing packets through the best path across a physical network.

2. The Data Link Layer creates and closes a connection between 2 physically connected nodes on the same network.

1. The Physical Layer, same as the TCP/IP model, is responsible for the physical components of a network such as the cables, switches, etc.