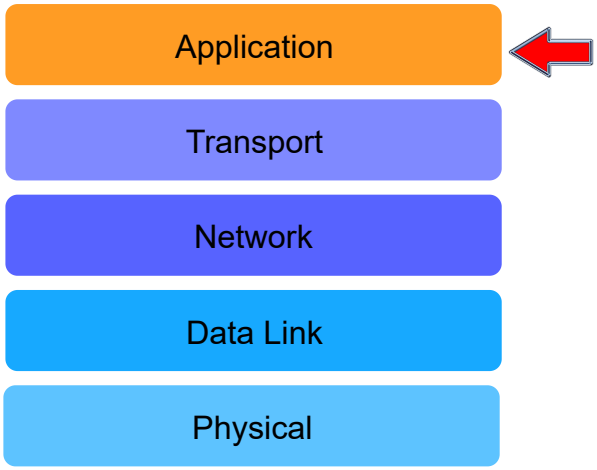
What Is the Application Layer?

Here's an introduction to the application layer!

WE'LL COVER THE FOLLOWING

You Are Here!

We're starting our study of the TCP/IP layers with the application layer.



you are here

Key Responsibilities of the Application Layer

The main job of the application layer is to enable end-users to access the Internet via a number of applications. This involves:

- **Writing data off to the network** in a format that is compliant with the protocol in use.
- **Reading data** from the end-user.

- **Providing useful applications** to end users.

- Some applications also ensure that the data from the end-user is in the correct format.
- Error handling and recovery is also done by some applications.

The Post Analogy

- Imagine you post a package across the world.
- Presumably, the post system would hand it off to an airplane or ship to transport it across the world.
- However, you would take it to the post office first to be shipped off. **Carrying the package to the post office** is what the application layer does in networks, except that **it carries messages to the transport layer**!

Where It Exists

The application layer resides entirely on end-systems. These end-systems can be any Internet-enabled device, be it a refrigerator or a tower PC.

Application Layer Protocols

Most would argue that **user applications are the true purpose of the Internet. If useful applications did not exist**, the Internet would not be what it is today.

- The development of the Internet in the last century started with text-based network apps such as **e-mail**.

- Then came **the** app: the **World Wide Web** which revolutionized everything.

- **Instant messaging** came at the end of the millennium, which has changed the way we communicate.

- Since then, we have come up with **voice over IP**, (WhatsApp calls), **video chat** (Skype), and **video streaming** (YouTube).

- **Social media** has also taken the world by storm resulting in complex

human social networks and businesses building on top of these websites.

All of these applications **run on application layer protocols**. Due to the presence of these standard protocols, client applications developed by various vendors can talk to server applications developed by others!

Let's uncover some of the underlying application layer protocols, in the next few lessons.