



# Association For Cyber Security

Layer	Protocols
Physical Layer	Ethernet
Data Link Layer	Point-to-Point Protocol (PPP)
Network Layer	Internet Protocol (IP)
Transport Layer	Transmission Control Protocol (TCP)
Session Layer	Secure Sockets Layer (SSL) / Transport Layer Security (TLS)
Presentation Layer	Hypertext Transfer Protocol (HTTP)
Application Layer	Simple Mail Transfer Protocol (SMTP)

## Presentation Layer

Think of the Presentation Layer as a translator or converter. Its job is to make sure that the data being exchanged between different applications can be understood by the receiving device. It takes care of things like converting data into a suitable format, encrypting and decrypting data for security, compressing data to save space, and ensuring that different devices can understand each other's data.



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For example, imagine you want to send a message written in English to someone who only understands Spanish. The Presentation Layer would translate your message from English to Spanish so that the recipient can understand it. It also takes care of things like making sure the message is secure by putting it in an envelope and sealing it.

## Session Layer

The Session Layer can be thought of as a manager or coordinator of communication between different applications. Its main role is to establish, maintain, and end communication sessions between applications running on different devices. A session is like a conversation between applications, and the Session Layer ensures that this conversation goes smoothly.

Now, imagine you and your friend want to have a fun video call. The Session Layer is like your personal coordinator for this call. It sets up the call, making sure both of your gadgets are ready to talk to each other. During the call, it keeps things organized and makes sure you can take turns speaking without interruptions. If there are any problems, like a bad connection, the Session Layer helps to fix them. And when you're done with the call, it politely ends everything and lets you say goodbye.

## OSI Networking Model and Terminology

At one point in the history of the OSI model, many people thought that OSI would win the battle of the networking models discussed earlier. If that had occurred, instead of running TCP/IP on every computer in the world, those computers would be running with OSI. However, OSI did not win that battle. In fact, OSI no longer exists as a networking model that could be used instead of TCP/IP, although some of the original protocols referenced by the OSI model still exist.

So, why is OSI even in this course? Terminology. During those years in which many people thought the OSI model would become commonplace in the world of networking (mostly in the late 1980s and early 1990s), many vendors and protocol documents started using terminology from the OSI model. That terminology remains today. So, while you will never need to work with a computer that uses OSI, to understand modern networking terminology, you need to understand something about OSI.

Association for Cyber Security looks forward towards your success!

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