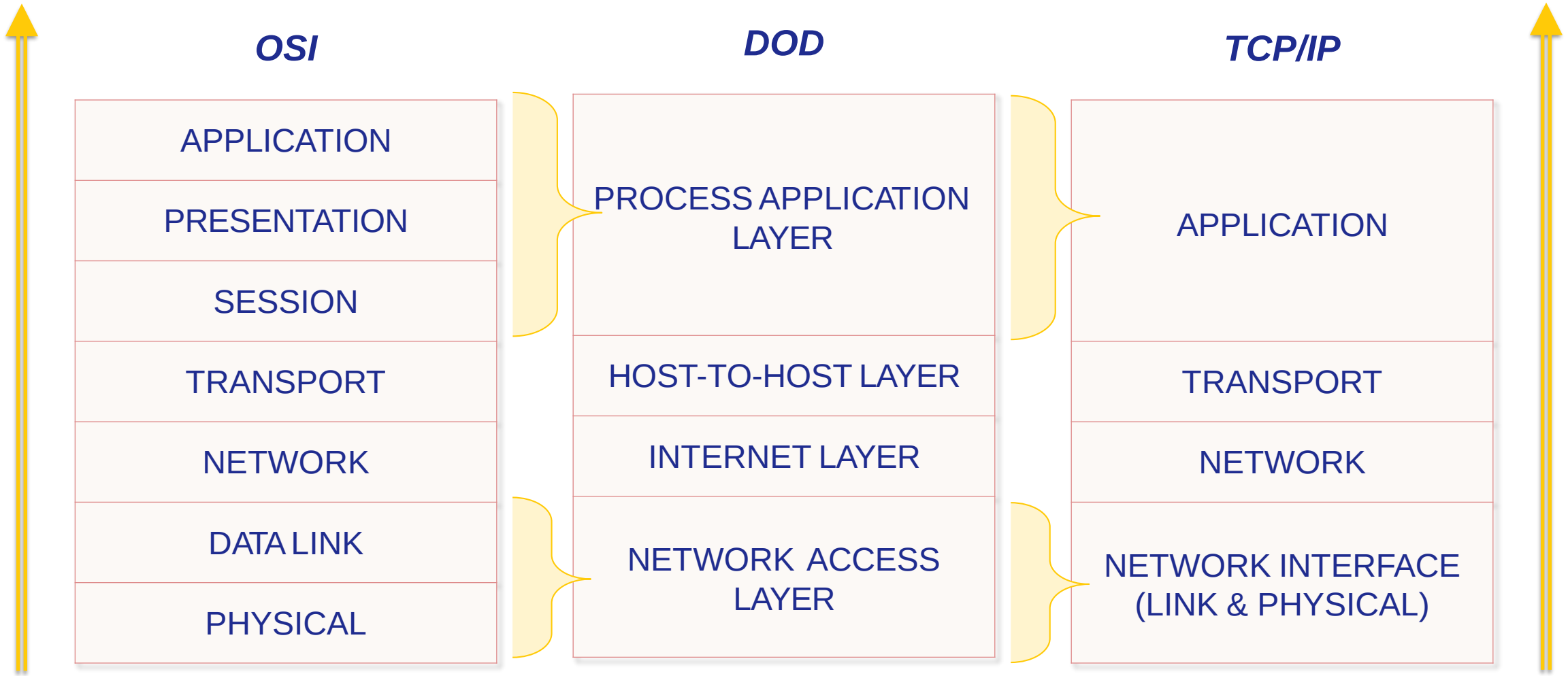
Section 1.5
Other Network Models

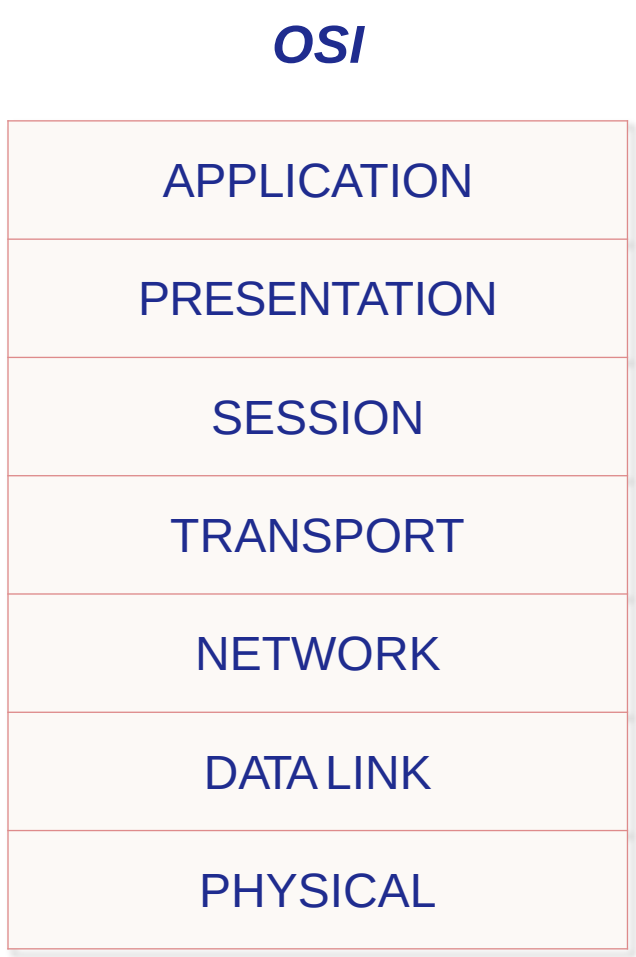
Cracking OSCP: Your Roadmap to Ethical Hacking Success

- YouTube: HackProKP – Kailash Parshad
- LinkedIn: Kailash Parshad
- Github: https://github.com/at0m-b0mb/Cracking-OSCP-Your-Roadmap-to-Ethical-Hacking-Success
- Complete Playlist: https://www.youtube.com/watch?v=MvkNbn8i2so&list=PLyrv3TPh3ejYNZipa0OIUvkdjHeUTRJ3J&index=1&t=0s

MODEL COMPARISON

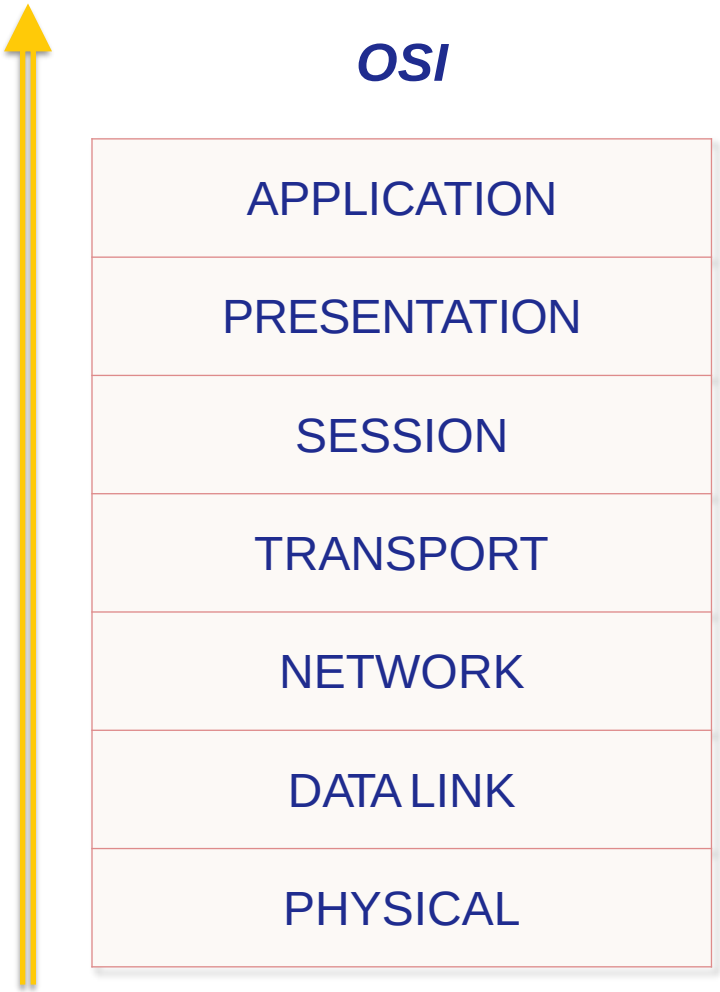


OSI (Open System Identification)



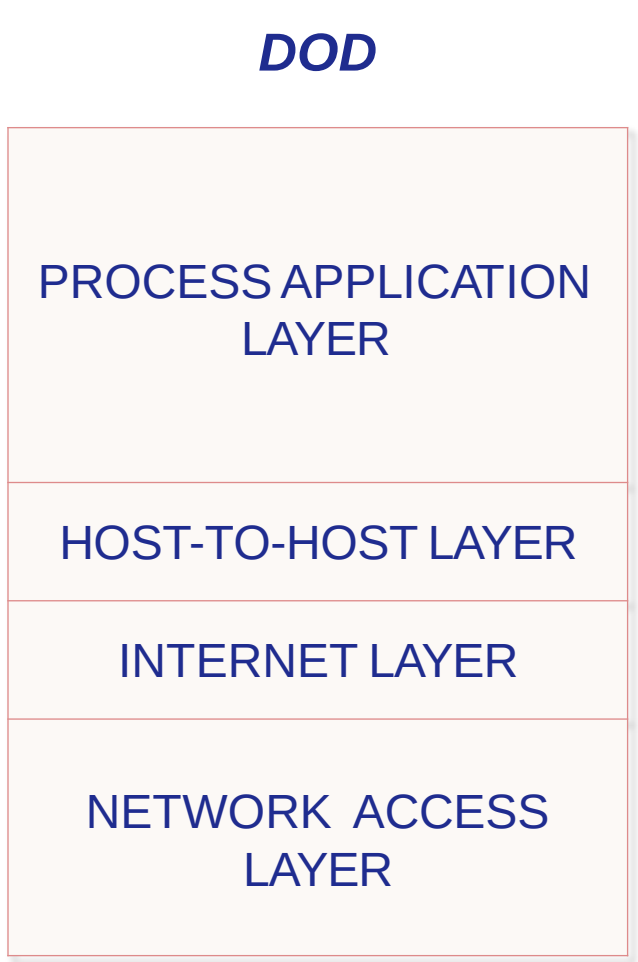
1. **Development**: The OSI model was developed in the late 1970s and early 1980s by the International Organization for Standardization (ISO).
2. **Purpose**: The primary goal was to create a universally accepted framework that could guide the development and implementation of networking protocols, allowing different systems to communicate with each other, regardless of their underlying technology.
3. **Standardization**: Before the OSI model, there was a lack of a standardized approach to networking, as different vendors used proprietary protocols. The OSI model aimed to provide a common language and structure for understanding and developing network architectures.

OSI (Open System Identification)



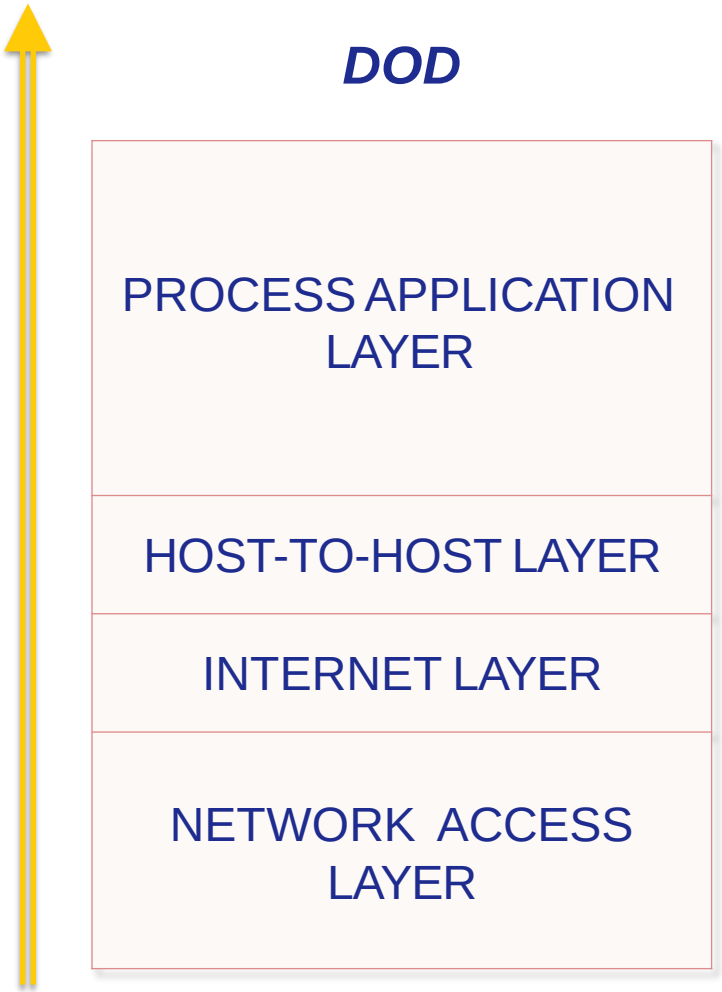
- (Layer 7): Provides **network services** directly to **end-users** or **applications**.
- (Layer 6): Translates **data** between the application layer and the lower layers. Handles **data format** and **encryption/decryption**.
- (Layer 5): **Manages sessions** (dialog control), establishing, maintaining, and terminating connections.
- (Layer 4): Ensures end-to-end communication, **reliability**, and **error recovery**.
- (Layer 3): Manages **logical addressing**, **routing**, and **path determination**.
- (Layer 2): Responsible for **node-to-node** communication, **error detection**, and **flow control**. It includes both the **Logical Link Control (LLC)** and **Media Access Control (MAC)** sublayers.
- (Layer 1): Deals with the **physical connection** between devices.

DOD (Department of Defense - USA)



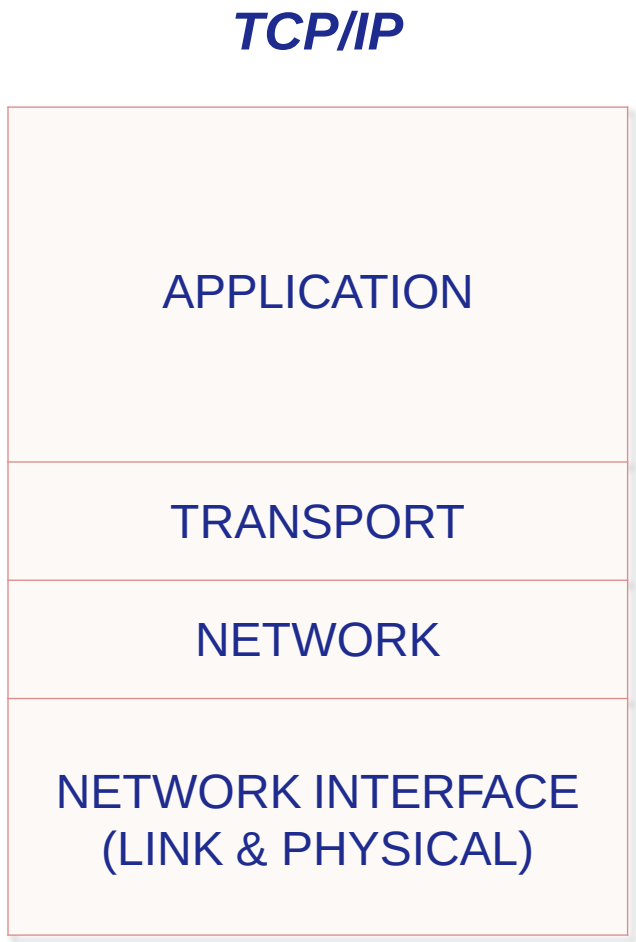
1. **Development**: The DoD networking model was developed by the U.S. Department of Defense for the ARPANET, the precursor to the modern internet.
2. **Purpose**: It was designed to guide the development and implementation of networking technologies within the U.S. military, providing a framework for communication and data exchange.
3. **Protocols**: The DoD model uses protocols such as HTTP, FTP, TCP, UDP, IP, Ethernet, Wi-Fi, and PPP.
4. **Adoption**: The TCP/IP model derived from the DoD model became the foundational model for the modern internet and is widely adopted in networking globally.

DOD (Department of Defense - USA)



- (Layer 4): Like the OSI model's Application layer, handles communication between software applications.
- (Layer 3): Like the OSI model's Transport layer, which provides **end-to-end** communication and **data flow control**.
- (Layer 2): Like the OSI model's Network layer, handles **packet routing** and **forwarding**.
- (Layer 1): Like the OSI model's Data Link and Physical layers, deals with **physical network components**.

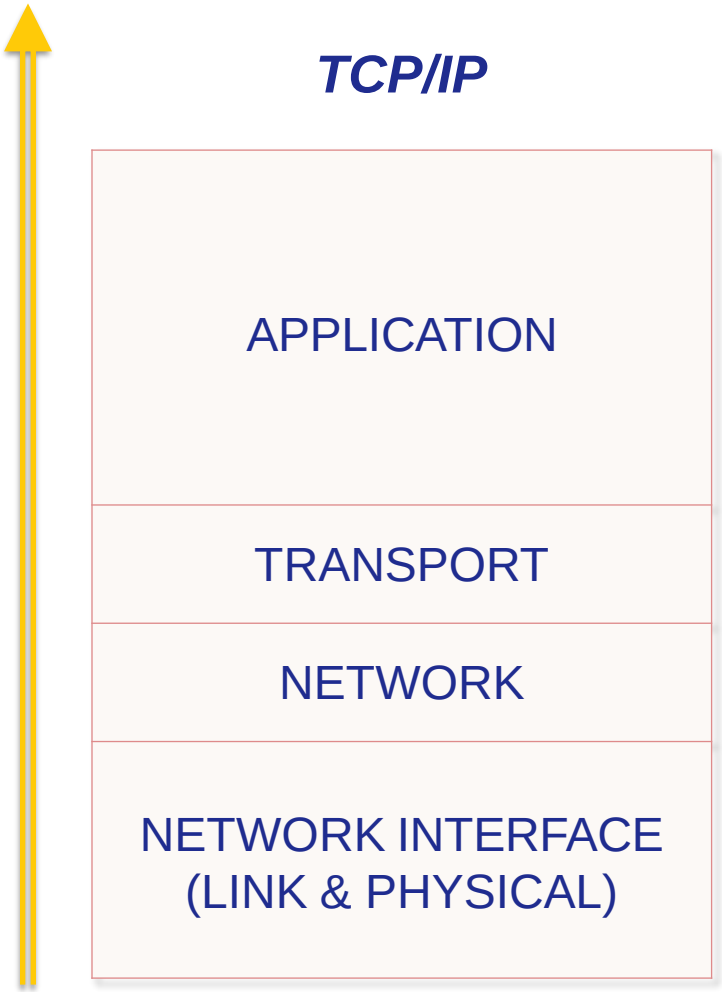
TCP/IP (Transmission Control Protocol Internet Protocol Stack)



1. **Development**: The TCP/IP protocol stack evolved from the DoD model and became the *de facto standard for the development of the Internet.
2. **Purpose**: It is designed to enable communication and data exchange between devices connected to a network.
3. **Protocols**: The TCP/IP stack includes protocols such as HTTP, FTP, TCP, UDP, IP, Ethernet, Wi-Fi, and more.
4. **Adoption**: The TCP/IP stack, derived from the DoD model, gained broader adoption and became the standard for the internet due to its practicality and widespread use.

*De facto is a Latin term that translates to "in fact" or "in practice."

TCP/IP (Transmission Control Protocol Internet Protocol Stack)



- (Layer 4): This layer is closest to **end-users** and provides **network services** directly to applications.
- (Layer 3): Ensures **end-to-end** communication and **data flow control** between devices.
- (Layer 2): Handles **logical addressing** and **routing** of data packets between devices on different networks and **path determination**.
- (Layer 1): Deals with the **physical connection** between devices within the same network and is Responsible for **node-to-node** communication, **error detection**, and **flow control**.

TCP/IP Model Versus OSI Model

The **TCP/IP** model is often considered **better** than the **OSI** model due to its historical development for the internet, widespread adoption, practicality, simplicity, and adaptability to evolving technologies. It serves as the de facto standard for networking, while the OSI model, although comprehensive, is less widely implemented in practice as it is seen as more theoretical and complex.

Now we will continue with the **TCP/IP Model**

Thank You! 😊 💗

Please Like 👍 and Subscribe 📖 to never miss a video 📹

And to help me with the Algorithm 🤖

And It's completely Free!!! 💵

Love you guys 💗