# Department of Defense (DoD) Model

The Department of Defense created TCP/IP to ensure and preserve data integrity. The DoD model is a condensed version of the OSI model and only has four layers. i.e. It is a smaller version of the OSI reference model. The four layers of the DoD model include:

* Process/Application layer
* Host-to-Host layer
* Internet layer
* Network Access Layer

## **Process/Application layer**

* The Application layer of the DoD model is equivalent to the upper three layers of the OSI model, i.e., Session layer, Presentation layer, and Application layer.
* The Process/Application layer of the DoD model provides the following capabilities –
* Enable applications to communicate with each other.
* Provides access to the services that operate at the lower layers of the DoD model.
* It contains a protocol that implements user-level functions such as mail delivery, file transfer, and remote login.

### **Host-to-Host layer**

* A host-to-host layer of the DoD model performs the same functions as the Transport layer of the OSI reference model.
* It handles issues such as flow control, reliable end-to-end communication, and ensuring error-free delivery of the data.
* Protocols that operate on the Host-to-Host layer are: TCP and UDP.

### **Internet layer**

* Internet layer of the DoD model performs the same functions as the Network layer of the OSI reference model.
* It handles the packaging, addressing, and routing of packets among multiple networks.
* This layer also establishes a connection between two computers to exchange the data.

### **Network Access Layer**

* The Network Access layer of the DoD model is equivalent to the lower two layers of the OSI model, i.e., Data link layer, and Physical layer.
* The Hardware connected to Network access layer are:
* Network medium: Cables like coaxial, twisted pair. Today, mostly, we use a wireless medium such as Bluetooth, WI-FI.
* Network Interface Card (NIC) has two types of addresses.