TCP/IP Model

This is similar to OSI Model but OSI model is not used in the real world. So we use TCP/IP Model.

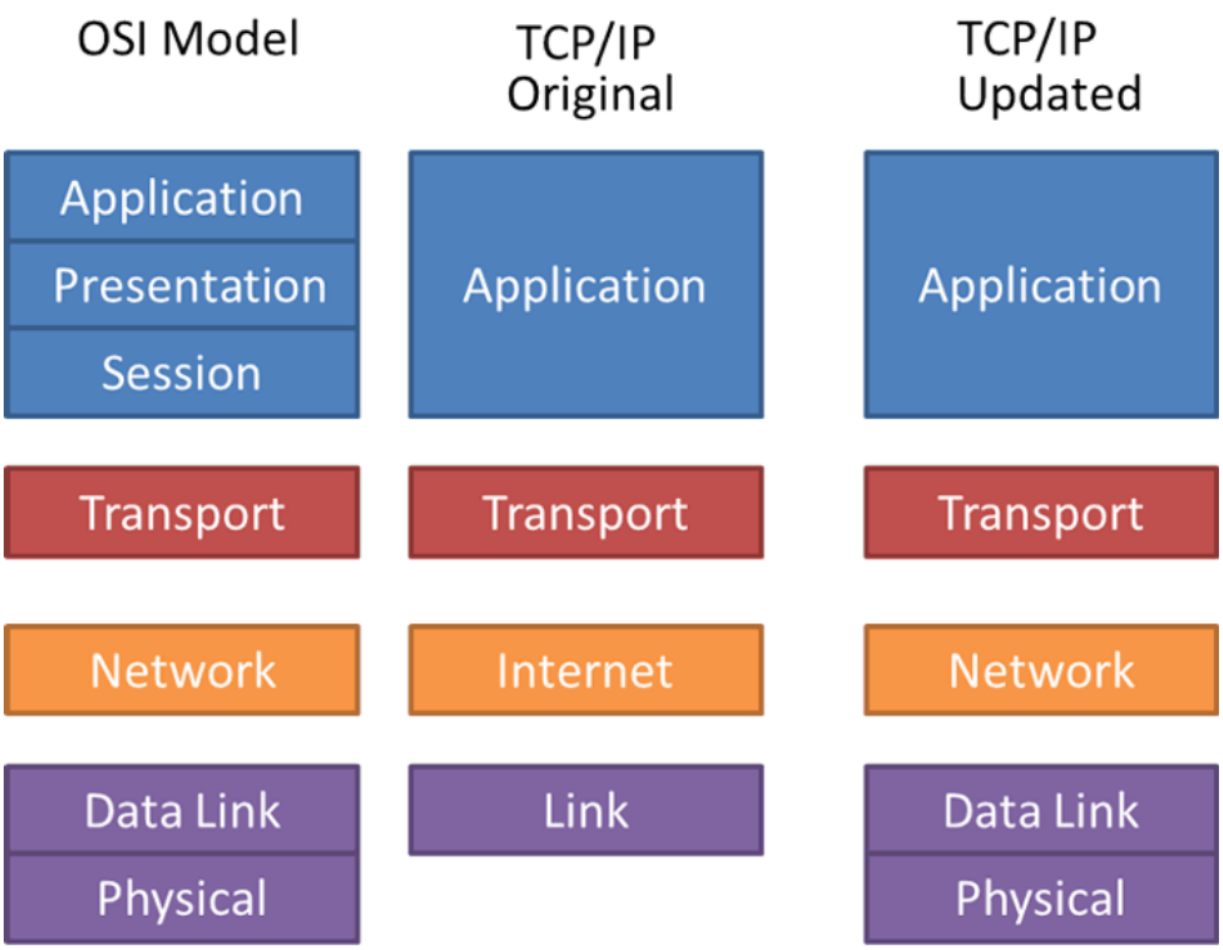
OLD MODEL

- Application
- Transport
- Internet
- Link

NEW MODEL

- Application: HTTP, FTP, SMTP
- Transport: TCP, UDP
- Network: IP, routers
- Data Link: Ethernet, Switches
- Physical: Cables, Network Interface Card (NIC)

ARP is the only protocol which works in both Layer 2 and Layer 3
ICMP is the only protocol which works on both Layer 3 and Layer 4



When data is transfered each layer adds its own info, which is known as **Encapsulation**.
When data gets to the Physical layer it is sent to the recieving device, which then starts decoding data.
DATA
Layer 5 -> Layer 4 : *SEGMENT*
Application - > Transport : Data -> Data + Header (eg TCP - Source and destination port etc)
Layer 3: *PACKET*
Network Layer: Layer 4 DATA + IP header(Source IP destination IP)
Layer 2: *FRAME*
DataLink Layer: Layer 3 DATA + Header (Source and Destination MAC address) + Trailer (Error checking info to maintain data intergrity)

- Then the system checks the destination MAC if this matches with our system it is processed further.
- Then system check for the destination IP if it matches with the machine it is process further.

-Shakti Sikka