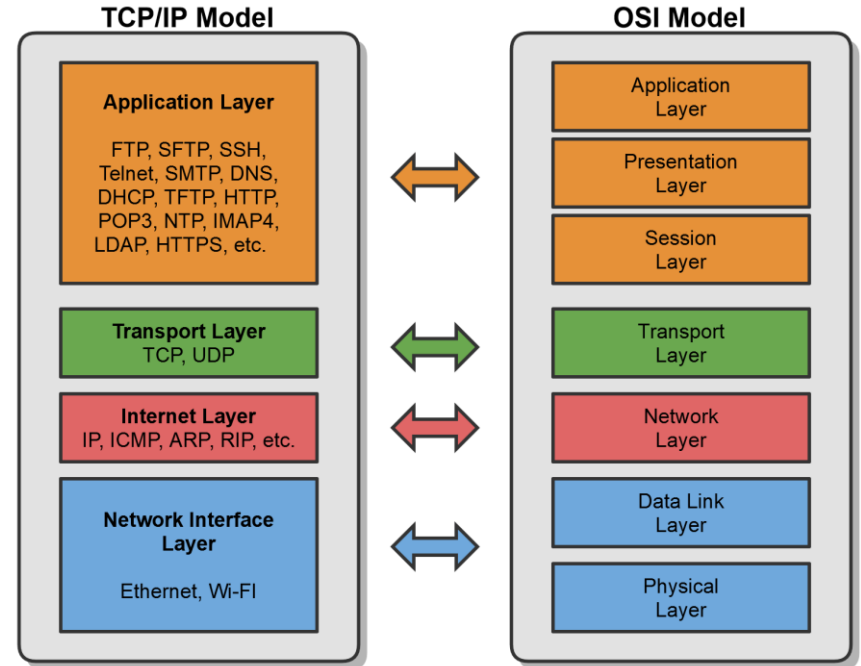INSTRUCTOR
ALTON

What is TCP/IP?

What is TCP/IP?

- Transmission Control Protocol/Internet Protocol

- Commonly called the **Internet Protocol** suite because it was designed for the Internet, but LANs use it too.

- First Two Protocols Defined in the Suite Were:
  - TCP & IP, hence TCP/IP

- Similar to the OSI Model, but Simpler:
  - OSI is Conceptual
  - TCP/IP was Implemented

TCP/IP Model

Application Layer

FTP, SFTP, SSH,
Telnet, SMTP, DNS,
DHCP, TFTP, HTTP,
POP3, NTP, IMAP4,
LDAP, HTTPS, etc.

Transport Layer
TCP, UDP

Internet Layer
IP, ICMP, ARP, RIP, etc.

Network Interface Layer

Ethernet, Wi-FI

OSI Model

Application Layer

Presentation Layer

Session Layer

Transport Layer

Network Layer

Data Link Layer

Physical Layer

TCP/IP Protocols

TCP/IP Protocols

Layer	Protocols
Application	FTP, TFTP, DNS, HTTP(S), TLS/SSL, SSH, POP3, IMAP4, NTP, Telnet, SMTP, SNMP
Transport	TCP, UDP and Ports
Internet	IP Addressing (Routing), ICMP, ARP
Network Interface	Ethernet, Token Ring

These protocols work together to provide communication, management, diagnostics, and troubleshooting for a TCP/IP network.

Network Access Methods

Network Access Methods

CSMA

- Carrier Sense
  - Checks network for communication.
- Multiple Access
  - Multiple devices using the network.
- Collision Detection
  - Wired Network
- Collision Avoidance
  - Wireless Network

Token Ring

- The Token
  - Passed between devices on the network.
  - Only devices with the token can send data.
  - Token prevents network collisions.