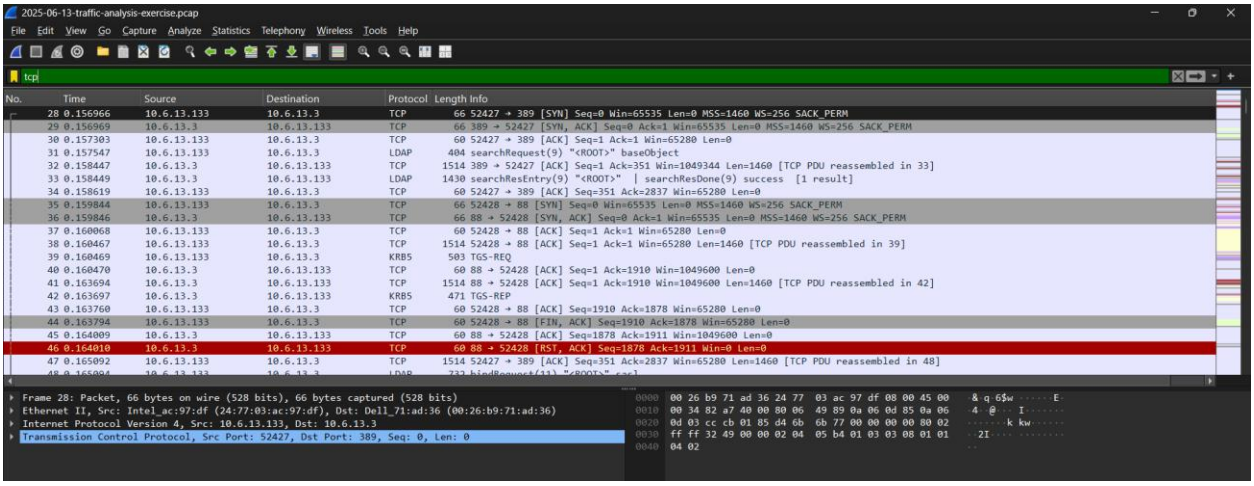
what is networking ?

- **Networking** is the process of connecting two or more computers or devices so they can communicate, share data, and use resources like the internet, files, printers, and applications.
- Example:
  When your phone connects to Wi-Fi and opens a website, it is using networking to send and receive data.

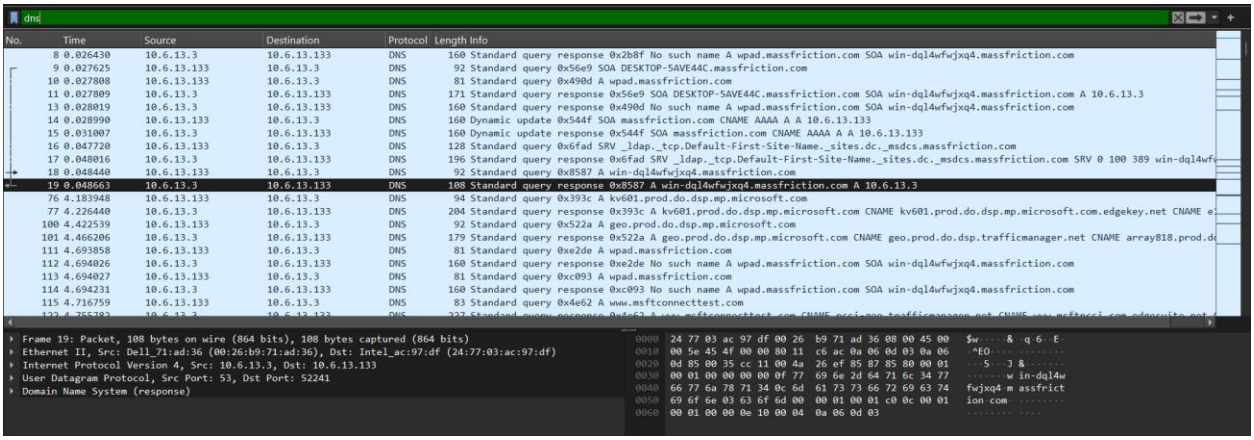
- **IP Address (Internet Protocol Address)**
  An IP address is a unique numerical label assigned to a device on a network to identify it and enable communication between devices over the internet or a local network.
- **MAC Address (Media Access Control Address)**
  A MAC address is a permanent, unique hardware identifier assigned to a network interface card (NIC) by the manufacturer to identify a device within a local network.
- **DNS (Domain Name System)**
  DNS is a system that translates human-readable domain names (like websites) into IP addresses so that computers can locate and communicate with each other on the internet.
- **TCP (Transmission Control Protocol)**
  TCP is a connection-oriented communication protocol that ensures reliable, ordered, and error-free delivery of data between devices.
- **UDP (User Datagram Protocol)**
  UDP is a connectionless communication protocol that sends data without guaranteeing delivery, order, or error checking, prioritizing speed over reliability.

1. Filter packets by protocol (HTTP, DNS, TCP).

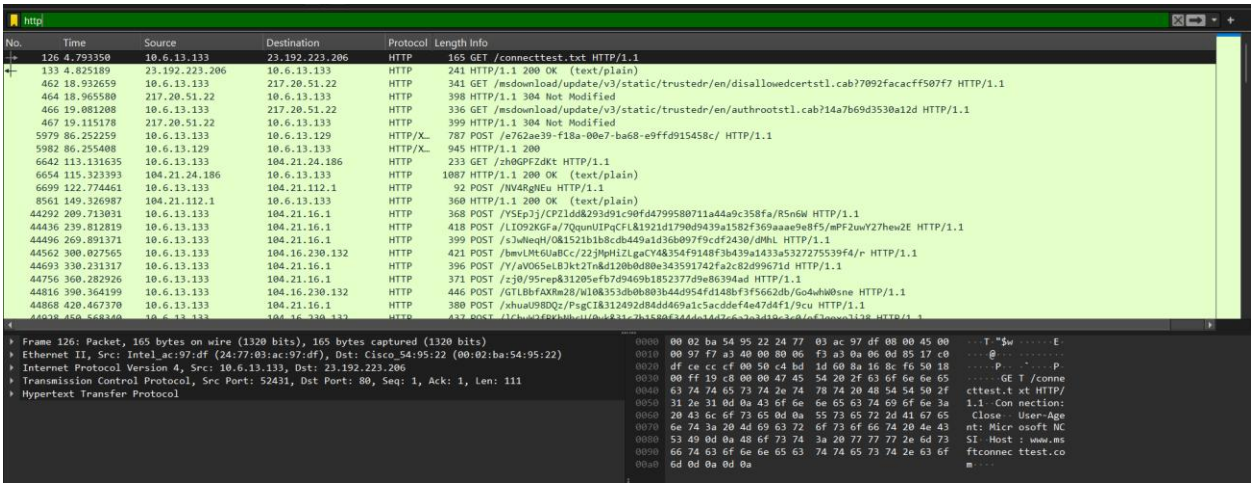
- TCP:



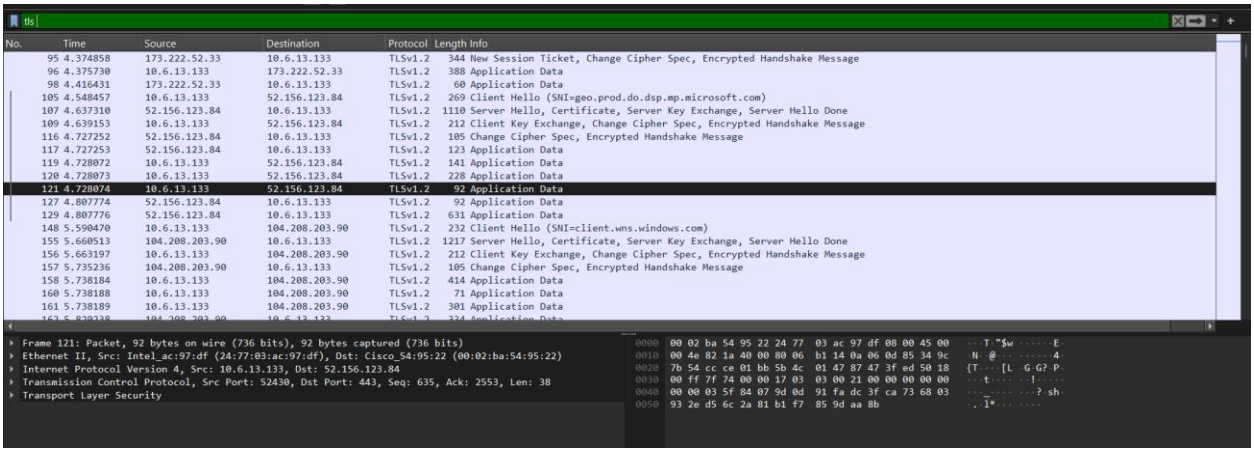
- DNS:



- HTTP:



- TLS:



- TCP 3-Way Handshake: