RECAP/

The client server relationship

The term server **refers to a host running a software application that provides info or services to other hosts that are connected to the network,** such as a web server.

A single PC can also run multiple types of client software.

**A crucial factor to enable these complex interactions to function is that they all use agreed upon standards and protocols.**

The key characteristic of client/server systems is that the **client sends a request to a server, and the server responds by carrying out a function**, such as sending the requested document back to the client.

The combination of a web browser and a web server is perhaps the most commony used instance of a client/server system.

A URI is **a string of characters that identifies a specific network resource.**

The parts of a URI are **protocol/scheme, hostname, path and file name, and fragment**.

A URI has 2 specializations:

URN

- **identifies only the namespace of the resource without reference to protocol**

URL

- **defines the network location of a resource on the network. HTTP or HTTPS URLs are typically used with web browsers.** Other protocols such as FTP, SFTP. SSH can be used as URL

Network application services

**For most people, the most common internet services that they use include** internet searches, social media sites, video and audio streaming, on-line shopping, mail, messaging.

Each of these services relies on protocols from the TCP/IP protocol suite to reliably communicate the info between the clients and the servers.   
 (DNS, SSH, SMTP, POP, IMAP, DHCP, HTTP, FTP…)

Domain name system

DNS provides

**A way for hosts to request the IP address of a specific server.**

**DNS names are registered and organized on the internet within specific high-level groups, or domains.**

Some of the most common high-leverl domains on the internet are .com, .edu, .net

Web clients and servers

When a web client receives the IP address of a web server, **the client browser uses that IP address and port 80 to request web services.**

This request is sent to the server using HTTP. The **HTTP protocol is not a secure protocol**

**Info could easily be intercepted by other users** as data is being send on network.

**To provide security for the data, HTTP can be used with secure transport protocols.**

Request for that are sent to port 443. they use https in the site address

**When the server receives a port 80 request, the server responds to the client request and sends the web page to the client.**

The information content of a web page is encoded using HTML.

**HTML coding tells the browser how to format the web page and what graphics and fonts to use**

There are many different web servers and web clients. The HTTP protocol and HTML standards make it possible for these servers and clients from many different manufacturers to work together seamlessly.

FTP clients and servers

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Virtual terminals

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Email and messaging

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