How the web works
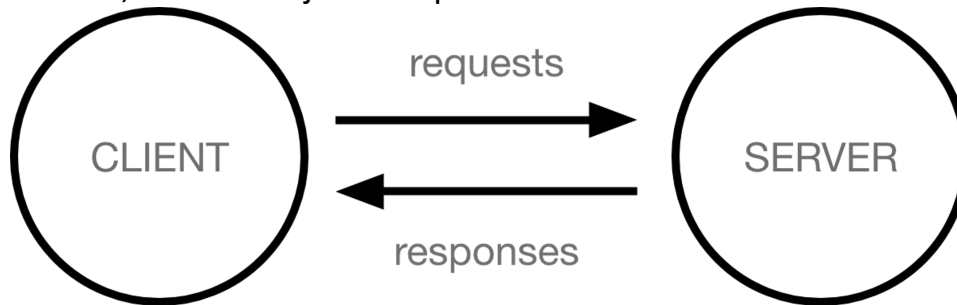
How do we see websites?
- Servers, clients are just computers connected to the web

- Clients maybe users laptop or web browser
- Server = computer that stores the website/app
 - Aka host???

Example
- Client wants to visit webpage
- He types in the website url in the browser
- His browser (client) gets the ip address of the host from the website's domain name.
- Browser sends request for that webpage to the host server
- As a response,the server sends the component files of the website.
- A copy of the webpage is thus displayed on the clients web browser

Some terms
- **Internet** : allows you to send and receive data on the web
- **TCP/IP** : Transmission Control Protocol and Internet Protocol
  - Protocols/rules that govern how info is transmitted across the internet
- **DNS** : Domian Name System
  - Domain = unique name of a website
  - DNS = address book of websites
    - Website domain - host ip address
  - When we type in a website's url, the browser looks up the domain in DNS and finds out the hosts ip address.
    - The browser then sends the http request to the host
- **HTTP** : HyperText Transfer Protocol
  - Protocol for communication btw client and server
- **HTTPS** : HyperText Transfer Protocol Secure
  - Like http, but secure

○ In https, the data is transmitted btw client and server as it is
○ But in https the data in transmitted in encrypted format

○
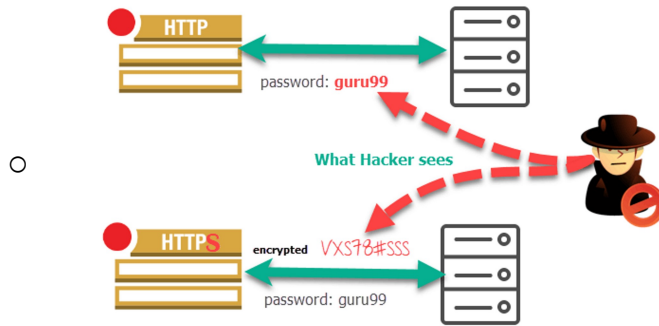
- **Component files** : all the files that a website is made of
  ○ Code files: the html, CSS, JS etc code files
  ○ Assets : all the other data in the website, like images, music, pdfs etc
- **IP address**: a unique location on the web
- **Data packet** : data is transmitted across the web in a series of small packets

- IP address of host = real address of the website
  ○ Looks like this: 63.245.215.20
- Domain name = nickname for the real address
  ○ Ex: hello.com

More details about how the internet works
- The request and the response both are sent across the internet connection using TCP/IP
- The component files are sent from the server to the client in small packets of data called "data packets".
  ○ These small data packets are assembled into the complete webpage by the client web browser.