Section 1: Front-End Web Development

# S1-6: How Does The Internet Actually Work?

## Notes

The internet is like a long piece of wire that connects computers to each other. Computers can communication each other and transfer data through the wire.

There are two different “types” of computers on the internet:

* **Server**: Computer that is online 24/7 ready to serve data and files that are requested by clients.
  + A **web server** is like a library for websites. You can use it to access websites at any time of day.
* **Client**: computers used to access the internet

Steps to access a website

1. Your browser sends a message to your Internet Service Provider (ISP)
2. The ISP then relays the message to a DNS (domain name system) Server to figure out the IP address of the website you want to visit. An **IP address** is like a postal address for a computer. So a **DNS Server** is like a phone book for IP addresses.
3. Once the DNS Server finds the IP address, it sends it back to your browser.
4. Your browser then sends a direct request to the IP address through your ISP.
5. The request is delivered to the server located at the IP address through the Internet Backbone, which is a series of cables that connects the internet world-wide.
6. The server sends the data back to you through the Internet Backbone.

## Summary

The internet allows computers to communicate and transfer data. To access a website, a client computer uses a browser to send a request to their ISP. The ISP relays the request to a DNS server to find the IP address of the website. Once the DNS Server finds the IP address, it is sent back to your browser. The browser then sends a direct required to the IP address through your ISP, which sends the request to the server located at the IP address. The server sends the data back to your browser.

# S1-7: How Do Websites Actually Work?

## Notes

**Browsers** are software that allows you to look up the IP address of a website and receives data that it can render into a website.

The data for a website is usually sorted into three different file types: HTML, CSS, and JS.

* **HTML (HyperText Markup Language)**: the structure of your website
  + If a website was a house, HTML would be like the builder who would build walls, put in a toilet, etc.
* **CSS**: the style of your website
  + If a website was a house, CSS would be like the painters and decorations who would paint the walls, adding decorations, etc.
* **JavaScript**: the behavior of your website
  + If a website was a house, JavaScript would be like an electrician or a plumber.

These file types make requests to the browser to sort the data in a specific way.

# S1-9: How To Get Help When You’re Stuck

* Check for simple errors: misspelling, forgetting a semi-colon
* Think about and compare what you expected the code to do and what happened in reality
* Read the error message.
  + If you can’t understand it, try looking it up on google. If “stackoverflow” comes up as a result, choose that first.
* Compare your code to others. If you can find videos/code where people tried to code something similar to you, you can see what they did and possibly figure out where you went wrong
* Ask online (stackoverflow)
  + Take a screenshot of your code
  + Take a screenshot of the debug console
  + To take screenshot of specific part of screen, use window button + shift + s

Resources

* [devdocs.io](https://devdocs.io/)
* MDN <https://developer.mozilla.org/en-US/docs/Web/HTML>
* W3 Schools <https://www.w3schools.com/>