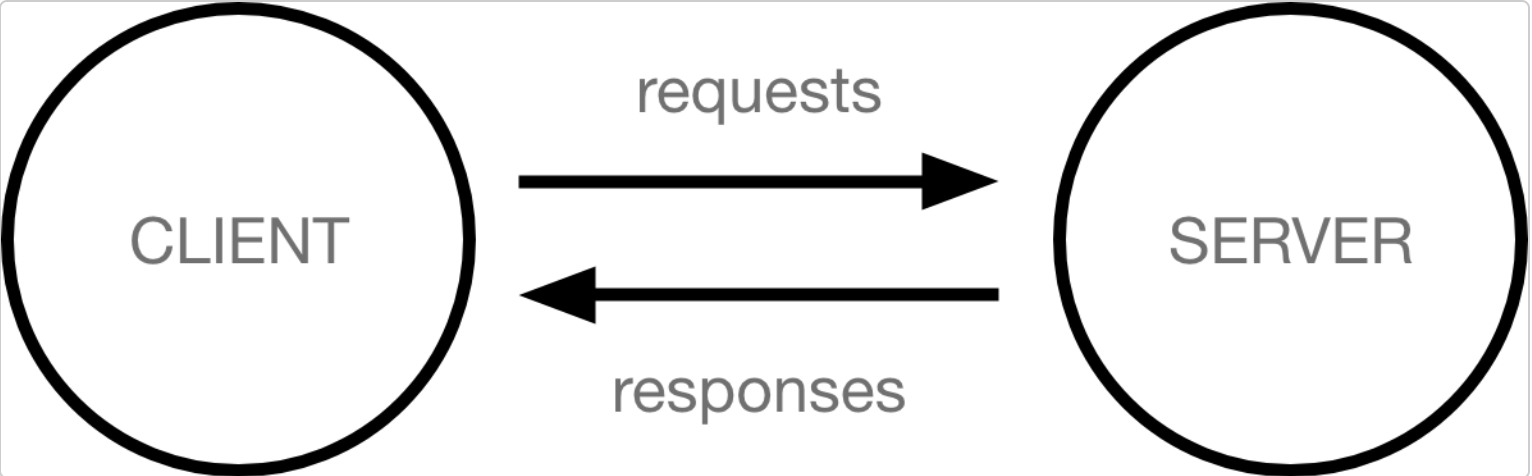
A web browser takes you anywhere on the internet. It retrieves information from other parts of the web and displays it on your desktop or mobile device. The data is transferred using the Hypertext Transfer Protocol, which defines how text, images, and video are transmitted on the web. This information needs to be shared and displayed in a consistent format so that people using any browser can see the data anywhere in the world. But Sadly, not all browser makers choose to interpret the structure in the same way. For users, this means that a website can look and function differently. Creating consistency between browsers so that any user can enjoy the internet, regardless of their browser, is called web standards.

Everything on the internet is connected in a connection popularly known as clients and servers.



**Clients** are the typical web user's internet-connected devices (for example, your computer connected to your Wi-Fi, or your phone connected to your mobile network) and web-accessing software available on those devices (usually a web browser like Firefox or Chrome).

**Servers** are computers that store webpages, sites, or apps. When a client device wants to access a webpage, a copy of the webpage is downloaded from the server onto the client machine to be displayed in the user's web browser.

How does the browser fetch the desired result?

When you type a web address into your browser these following things happens behind the scene in a sequence:

1. The browser goes to the DNS server, and finds the real address of the server that the website lives on.
2. The browser sends an HTTP request message to the server, asking it to send a copy of the website to the client. This message, and all other data sent between the client and the server, is sent across your internet connection using TCP/IP.
3. If the server approves the client's request, the server sends the client a "200 OK" message, which means "Of course you can look at that website! Here it is", and then starts sending the website's files to the browser as a series of small chunks called data packets.
4. The browser assembles the small chunks into a complete web page and displays it to you.

Components of a Web Browser

**1. User Interface**

A browser user interface (or BUI) is a method of interacting with an application, typically hosted on a remote device, via controls presented within a web browser. This includes the address bar, back/forward button, bookmarking menu, etc. Every part of the browser display except the window where you see the requested page.

**2. Browser Engine**

Marshals actions between the UI and the rendering engine. It monitors the rendition engine while manipulating the inputs coming from multiple user interfaces.

**3. Rendering Engine**

It is responsible for displaying requested content. For example if the requested content is HTML, the rendering engine parses HTML and CSS, and displays the parsed content on the screen.

**4. Networking**

For network calls such as HTTP requests, using different implementations for different platform behind a platform-independent interface.

**5. UI backend**

UI backend is used for drawing basic widgets like combo boxes and windows. This backend exposes a generic interface that is not platform specific. Underneath it uses operating system user interface methods.

**6. JavaScript Interpreter**

Used to parse and execute JavaScript code to process instructions provided by user action or in background to show the translation on the screen to the users by passing information to the rendering engine.

**7. Data Storage**

This is a persistence layer. The browser may need to save all sorts of data locally, such as cookies. Browsers also support storage mechanisms such as localStorage, IndexedDB, WebSQL and FileSystem.

