**How the Web Works**

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Do you want to build a website, but are confused about how to start? Here are the basics that will help you to understand the core concepts of the Web.

Here are the four segments that network works on:

Part 1: Parts of Web.

Part 2: Connecting the parts (structure).

Part 3: Coding the Web.

Part 4: Painting the Web.

**Parts Of Web**

Clients are the web user's Internet-connected devices (for example, your phone connected to your Wi-Fi) and Web-accessing software available on those devices such as Chrome and Firefox. Every Client is named after an address known as the IP address that other computers can use to identify it.

*Server*: A server is a machine that is connected to the internet and also has an IP address. A server waits for requests from other computers (e.g. a client) and responds to them.The main work of the server is to process, store, and deliver web pages to clients.

*IP address*: An IP address is a binary number that uniquely identifies computers and other devices on a TCP/IP network. IP stands for Internet Protocol. IP addresses have four sets of numbers separated by decimal points (e.g. 244.155.65.2) and this is generally how IP is represented.

*DNS*: DNS stands for “Domain Name System.” The function of DNS is that it keeps track of domain names and their corresponding IP addresses on the Internet.

*Domain Name*: Domain name generally identifies one or more IP addresses. For example, if the user uses the domain name “www.google.com” the DNS uses it to look up the corresponding IP address for that given website.

*TCP/IP*: TCP/IP stands for “Transmission Control Protocol/Internet Protocol.” A “protocol” is simply a standard set of rules for tasks. TCP/IP is used as a standard for transmitting data over networks.

HTTP: HTTP stands for “Hyper Text Transfer Protocol.” HTTP is the foundation of data communication for the World Wide Web. It is generally a protocol that web browsers and web servers use to communicate with each other over the Internet.

*URL*: Uniform Resource Locators, or URLs, identify a particular web resource. A simple example is https://facbook.com/someone. The URL specifies the protocol (“https”), host name (facebook.com) and file name (someone’s profile page).

Here is the connection between all these parts:

First, when you enter the URL (www.google.com) in your browser, the browser parses the information in the URL, which includes the domain name and protocol (for example https), and then the browser pings the index page. Later, the browser communicates with your ISP to do a DNS lookup of the IP address for the web server that hosts the URL you entered. Once the Internet Service Provider receives the IP address of the destination server, it sends it to your web browser. Your web browser sends an HTTP request to the web server for the main HTML web page of wwwgoogle.com.

**Coding the Web:**

Now let's see how the server automatically updates all the web pages. This is generally known as the backend or “server-side.” This refers to everything the user can't see in the browser, like databases and servers. Backend developers should be aware of all the security handling issues and content management. Basically, backend is used for building dynamic websites (where content is automatically rendered time to time ).Web developers choose programming languages like Python, Net, PHP, Nodejs etc. to code the backend. Blogs are dynamic sites since their content is constantly changing and updating. A dynamic site requires a database to work properly. The code they write communicates with the server and then tells the browser what to use from the database.

**Painting the Web**

The process isn't done yet. Here comes the most interesting part of the web – design. Generally, we use HTML (Hyper Text Markup Language) to generate simple content in the website, and to beautify the content we use CSS (Cascading Style Sheets). Later, JavaScripts are added for the interactivity and the liveliness of the pages.

The WEB is complicated but you have completed the hardest part!