



# Web Foundations

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## Introduction

In this e-book (and the accompanying video course,) I breakdown key nerd-facts that everyone learning web design should know.

I answer seven (1, 2, 3, 4, 5, 6 ... and 7!) big-picture questions so that you will have a clear view of the landscape around web design. With these concepts understood, learning web design and development will be much easier.

Ok, put on your nerd-caps ... and begin!

1. Client vs Server Computers
2. What is web hosting?
3. Domain names?
4. Websites are just pages of code.

5. Apps to build websites.
6. Wordpress?
7. Websites vs. web apps?

## **1. Client vs Server Computers**

Three major points:

1. client computers consume information. Client software examples include web browsers like Chrome and Firefox.
2. server computers serve information. Server software includes Apache web server
3. request response cycle is the interaction between client and server computers. It is the backbone of the Internet.

Client computers are computers that consume (like eating!) information. There are different types of client computers, but since we are talking about web design, let's talk about client computers that surf around the Web, visiting websites and requesting information from these websites. These request to websites (by the client computers) are handled/fulfilled by server computers.

Server computers (simply called 'servers') sit around all day, waiting for client computers (iPads, home computers, smartphones etc) to request information from them.

Servers 'serve' up information and clients 'request' information. Kinda like when someone (a client) comes to a restaurant and request to be served a meal. The waiter then responds to the request, and serves them hot dogs. Or whatever the client wants.

In this example, the waiter is the server. In fact, another word for waiter is server. At least in French!

A client computer can be any type of computer - there is nothing special about client computers in terms of hardware. In the context of the Web, most of the time, client computers use web browsers (like firefox, chrome etc) to 'request' information from servers.

Servers, like client computers are nothing special (in terms of the hardware) and so any computer can be a server computer. The only difference, is that server computers have a server app installed on them.

When it comes to websites, the most popular server app out there is the Apache web server. Apache is an app designed to serve websites to any client computers that comes along requesting web pages.

### **Nerd Term Alert:**

'Client / Server' is a term that you often hear about in the web design world. Now you know what they are talking about: client and server computers!

You've also learned that when a client computer comes surfing along looking to see a website, it does this by making a 'request' to the server. The server then responds to the client request by sending the page back to the client.

... This is called the: client/server response model.

[image: client server response]

Why should you care?

This is the backbone of the Web. All websites ride on this and knowing how it works behind the scenes will not only help you learn web design and programming ... it will help you with building websites.

## **2. What is web hosting?**

Web hosting is basically putting your website on a server computer, so that it can be served up on the Web. All those web hosting companies out there are providing that service, where they are basically renting you some space on their server computers so your site can be found on the Web.

Besides space on their servers' hard drives, you are also paying for the 24/7 connection to the Internet that hosting companies have.

... You can't run a live (on the Web) web server unless the server is always on the Web.

## **Web Hosting Packages**

There are many web hosting packages and options to choose from when you buy hosting from a hosting company. The cost varies on how much disk space your website will take up on their server, how much traffic your site gets and finally, on various extra/special features you may need for your website.

... For 99% of websites, basic inexpensive hosting is more than enough.

## **Shared hosting vs Dedicated hosting?**

If you have a very popular website or a website that needs special configurations, you may need to get dedicated hosting. This is just hosting where you have your own private server computer.

Typically when you get hosting, you are sharing the server computer with many other websites - kinda like renting an apartment in a big building. The upside to renting in a big building is that the cost are lower and you don't have to shovel the snow ... you get kinda the same experience with shared hosting. But the downside is if one of your neighbours who is sharing the building (server) with you has a party and makes a lot of noise - you're going to hear it! Same thing with shared hosting, if one of the sites on the server start sucking up all the server resources (ram, CPU etc ) ... it could slow down your site or even take the whole server down. That said, this is rare.

### **3. Domain Names**

Domain names are unique addresses on the Web. Here are some popular domains:

- [google.com](http://google.com)
- [facebook.com](http://facebook.com)
- [studioweb.com](http://studioweb.com)

Ok, the last one is not nearly as popular but you have to allow me a little self promotion!

:)

## **Domain Extensions or as the nerds say: TLDs**

### **TLD = top-level-domain**

There are many domain name extensions ... including:

- .com
- .org
- .net
- .tv
- .info

... etc.

The domain name extensions used to have meaning, .com was for companies, .org was for non profit organizations and .net was for networks. Anyway, these meanings are now meaningless today ... I just mentioned it for histories sake.

### **Country code domains:**

You also have domain name extensions that belong to countries, like .us for American based sites and .ca for Canadian based sites.

You have to be a US or Canadian citizen or company to be able to own their respective country code based domain names. So because I am Canadian, I can own studioweb.ca, but since I am not a US citizen, I can't buy studioweb.us.

Domain extension CAN also be different websites. So google.com is not the same site as google.org. Yes, Google the company

happens to own both domains but they are nonetheless not the same domain and so each domain can have a completely different site and even a different owner!

## **Value of Domains?**

Domain names are valued by the following criteria and in this order of importance:

1. How much traffic a domain gets.
2. How short and memorable a domain name is.
3. .com domains still have a touch more value than the others.  
But very, very little.

By far and away, the amount of traffic a domain gets is what sets its value. Don't let domain-name ripoff artist who buy domains for \$9/year, try to sell them to you for \$5000. Or worse, rent them to you for \$500/year.

... It can be hard to find a good domain these days (short names that are easy to spell are best) ... but you still can, so don't waste thousands of dollars on a domain.

For example:

business.com sold for about \$1 million (I don't remember that exact dollar amount)... but who goes to that site? At the end of the day, the quality of your site is what will set its value.

## **Alternative take:**

One domain extension isn't more valuable than another. Once, a .com was worth a lot more than say a .net. This is no longer the case.

What makes a domain valuable is how popular the website is that is sitting on the domain. Although, many believe that simple, easy to spell domains, are more valuable than long complex hard to spell domains. So for example, [studioweb.com](http://studioweb.com) is much better than, [studiowebsitesbuildingsoftware.com](http://studiowebsitesbuildingsoftware.com)

:)

## **Registering Domains**

There are many, many companies that allow you to register domains. The cost is typically from \$9 USD to \$15 ... depending on the extension. And yes, you can have the jerks who will try to sell you them for crazy money, as I mentioned above.

You can register domains at any registrar (a company that registers domains) ... I can't really say if anyone is better than the other. Just be sure they don't try to overcharge you.

My site for registering domains is found at:

<http://hosting.killersites.com/>

... You don't have to go there but I might as well plug my stuff.

## **Owning Domain Names**

When you register a domain, you are basically taking ownership of it and you only have to renew it once a year .... the cost will be about the same price as when you first register it - about \$9 - \$15.

... It's kinda like paying taxes on your house.



All the worlds domains are managed by a central authority (of nerds) and so the registration fee helps cover the cost of maintaining the database of domains.

## **4. Websites are just pages of code**

Websites are just text pages that contain:

1. HTML code
2. CSS code
3. JavaScript code (not all the time ... but many times)
4. And good old text.

In the video course, I show you you some basic HTML code. Check it out!

## **5. Apps to build websites**

You can create web pages (and websites) with any simple text editor like notepad.exe on Windows. But there are free and better apps called 'code editors' that will do a much better job - they will actually assist you in writing the code. Some popular code editor apps:

- notepad++ (Windows only)
- textwrangler (Mac only)
- Sublime Text (popular with the major nerds)

... And there are many others.

## **6. Wordpress**

Wordpress is a blog / CMS app that you install on a server. CMS is short for: content management system.

... A system that helps manage content. Mostly text, images, maybe video and audio too.

### **Digging deeper into what a CMS is:**

It is basically a website made up of HTML pages that are connected to a database. Wordpress makes it really easy to updates sites created with it, since it includes tools that work a lot like a word processor.

Wordpress based websites are very popular and last time I checked, 23% of websites are using Wordpress - that's a lot!

There is in fact a specialization in web design where the web designers work exclusively with Wordpress for clients. Wordpress is easy to use, but it can be a real pain in the butt to set up and configure.

For your sites, or if you decide to become a web designer, there is a good chance you will find yourself working with Wordpress.

## **Drupal and Joomla**

These two CMS' are the only major competitors to Wordpress ... and like Wordpress, they are free as well. Their are pro's and cons to all three apps but for most sites, you are best off with Wordpress.

... Joomla and Drupal are better suited to larger projects where you might have 5+ people using it.

## **7. Websites vs. web apps**

A web app is just a website that uses programming languages like PHP, Ruby, Java and others, to allow the website to change and respond to what users do; web apps are dynamic. Typically, web apps use a database (like MySQL) to store the information that the website displays.

Or in simpler terms, web apps are just websites that are also apps.

The biggest example of this is probably [facebook.com](https://www.facebook.com). But these days, a huge number of sites can be considered web apps ... because so many are backed with databases.

... For example, Wordpress, Joomla and Drupal are all web apps and so any site that uses them, is effectively a web app disguised as a standard website.

**More about web apps ....**

Web apps will change what is displayed (on the web page) depending on what the programmer/developer decided when the code was written. So with Facebook, it changes as your friends post things to their accounts - photos, video etc.

A banking website is another example of a web app since the site will display whatever information it finds in the database. And of course, if you spend money or deposit money into your account ... the site (web app) will reflect that.

We are done!

Finally ... we have finished! Now you are ready to start learning web design! Start with HTML, then move into CSS. After that, the nerd-world is yours to explore!

... But I would recommend that you learn PHP after CSS.

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[webmentor.org](http://webmentor.org)