

Western Sullivan Public Library

Web Design 1: Creating Basic Websites with HTML



Web Design 1: Creating Basic Websites with HTML

Not only is creating a website a valuable skill that can be used to create an online presence for yourself or your business, it is also a highly in-demand service that people and businesses are willing to pay for! And many employers are extremely interested in employees with some knowledge of HTML code. While many programs (such as Dreamweaver) and online services (such as Wordpress.com) will generate code for you automatically, it's vital to have a basic working knowledge of how the code works. It's also fun!

During this course we will look at:

- Introduction
- Domain Names
- Hosting
- Making a Website on Your Computer
- Tags
- Formatting Text
- Adding Images
- Hyperlinks
- Tables
- Conclusion & Resources



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Introduction

There are two primary parts to a website. A domain name (also called a URL, or "web address") such as www.yoursite.com, and web hosting. Web hosting is the space where all of the text, images, and anything else on your website are stored. A domain name and web hosting are sort of like a phone number and a telephone. You need both!



Domain Names

Actually, domain names aren't truly *necessary* for a website to be accessible. Websites all exist at a specific network location usually defined by an IP address. You can try this out by typing 157.166.226.26 into your browser's address bar and hitting enter. See where it takes you? But you can imagine that no one wants to tell a customer to visit their business website at 157.166.226.26. That would be hard to remember! So a domain name simply gives a prettier address. They can be registered at several different places online. www.GoDaddy.com and www.NetworkSolutions.com are two popular options. While most people tend to register websites with the top-level domain ".com", there are actually a tremendous number of different top-level domains. Many people are familiar with options like .org for organization websites, or .gov, available only to government websites, but there are also different top-level domains for different countries. Such as .ly for Libya, or .es for Spain. Most of these foreign domains do not

limit themselves to individuals who reside in the country, so it has become increasingly common to use foreign top-level domains to craft short and interesting domain names. Such as

www.parliament.uk Home page - UK Parliament

www.parliament.uk/

Official site offers information on the House of Commons, the House of Lords and national **parliamentary** services. Includes Hansard transcripts and texts of bills ...

[Gov.cn: The Chinese Central Government's Official Web Portal](http://english.gov.cn/)

english.gov.cn/

Rescuers search for victims where a landslide occurred in Yiliang County, southwest China's Yunnan Province, Oct. 4, 2012. Nineteen people, including 18 ...

[Portuguese Government - Governo de Portugal](http://www.portugal.gov.pt/)

www.portugal.gov.pt/

Welcome to the website; of the **Portuguese Government** ... «Portugal has returned to the markets today» with a debt exchange operation. «Portugal has returned ...

www.love.ly, or www.ilovecooki.es. One blogger named Matt even has the domain www.ma.tt! Prices can vary, with domains at the top-level domain .info being as cheap as \$1.19/year, and others going for \$100 or more. Domain names cannot be purchased indefinitely, but must be renewed at a price annually. Though many companies will allow multi-year registration at a discount.



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Hosting

As mentioned before, web hosting is the space where a website's information is stored. Hosting can vary in price depending on things like the amount of space you need for images, videos, and other files for your website, and how many visitors you want to be able to view the site at the same time. It can cost as little as \$40 a year, or thousands of dollars a month for a major website.

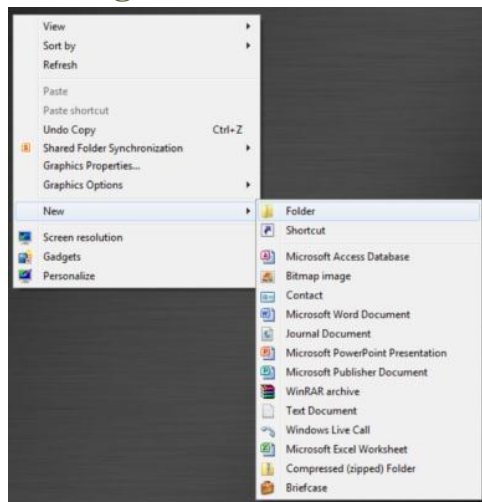
The devices that store your website and make it accessible via the internet are called servers. Servers are basically just computers with special settings to allow anyone to access their content. Once it's up and running, a server works much like a folder on your computer. You can store different files in it, and visitors to the site can access them. With websites these files are made up of different types of uniform code. HTML is one popular type of code.



A hosting company's servers, constantly backing up and hosting thousands of websites.

You can see an example of this by visiting any website and right clicking anywhere on the page. From the drop down menu you should see the option "View Page Source", or simply "View Source", depending on which browser you use. This will show you the website's code.

Making a Website on Your Computer



So a great exercise is to create a website on our computer without having to invest in a domain name or hosting package. Then, if you ever do get it finished and are happy with it, you can simply purchase your domain and hosting and transfer the ready-to-go files from your computer to your server.

To do this, let's make a folder on the desktop and call it www.mysite.com.



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Notepad

Now, open up Notepad (Start Menu >> Accessories >> Notepad). Notepad is a useful web building tool, because unlike Microsoft Word, it doesn't use any formatting, which can confuse the server and cause a web page to display incorrectly.

Tags

99% of web coding has to do with tags. A tag is basically something in between the "<" and ">" symbols which tells a web browser how to display the page. Tags usually come in pairs. An opening tag and a closing tag. A closing tag has the same "<" and ">" as the opening tag, but adds a forward slash in between them. So it tells the web browser when to start doing something and when to stop. So you wind up with something like:

Here is some <MAKE THIS TEXT BOLD>bold text</MAKE THIS TEXT BOLD>.

The first three tags we need to make an extremely basic website are HTML, TITLE, and BODY.

Write this into your Notepad (Feel free to change any of the text, just not the tags!):

```
<HTML>
```

```
<TITLE>My First Web Page</TITLE>
```

```
<BODY>
```

```
<P>Welcome to my first web page. I hope you find what you are looking for!</P>
```

```
<P>If you have any questions, feel free to call or email me any time!</P>
```

```
</BODY>
```

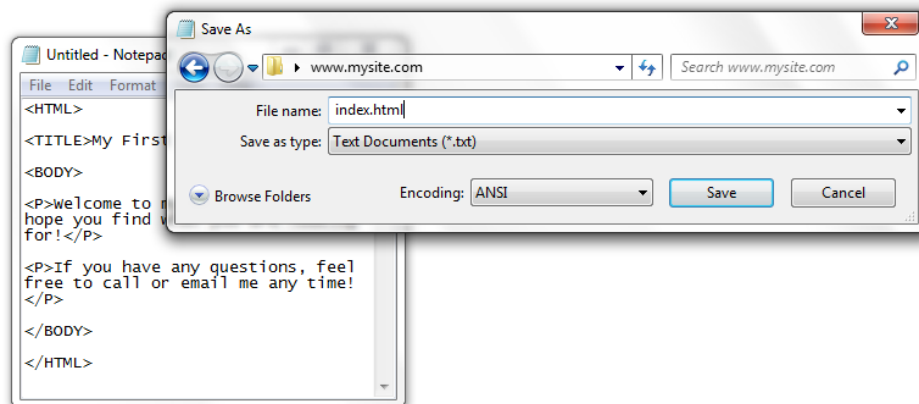
```
</HTML>
```

Now save the document as "index.html" in your www.mysite.com folder.



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Why “index.html”? Well the “.html” part tells a web browser that this is a web page file. If it were anything else, it wouldn’t know that it needs to treat it as a web page. The answer to why we call it “index”, is a little more complicated.

Remember, our domain will eventually be pointing to our server. So imagine that the actual website www.mysite.com was right now pointing to your folder. If you saved your file as “firstpage.html”, going to www.mysite.com wouldn’t do anything. A visitor would have to go to www.mysite.com/firstpage.html. But by default, a website will look for any file named index. So, for example, going to www.cnn.com will actually take you to www.cnn.com/index.html. You can see this in action by typing in either address. Both take you to the same place.

Now that you’ve saved your file, navigate to it and double click it. You should now see your first web page!

So now, let’s break down the code we wrote.

Note: All of the tags have been written in capital letters. This is just so they are easier to see. It doesn’t matter if tags are capitalized or not for them to work properly!

<HTML></HTML> -- This surrounds everything else and tells the web browser to treat everything inside it as code.

<TITLE></TITLE> -- The title of the web page. This appears at the top of the window of the web browser, and, perhaps most importantly, on Google search results.



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<BODY></BODY> -- Everything that appears on the main section of the website. From text to images to everything else.

<P></P> -- This defines paragraphs. If we didn't use these, the words of both separate paragraphs would run together.

Formatting Text

Now let's make our page a little fancier with some text formatting tags. Open your webpage back up in notepad (right-click on it and choose "open with..." then Notepad. That way, you can see the code rather than just how it's rendered as a website) and try to insert some or all of these different tags:

**** -- Makes text bold

**** -- *Italicizes text*

<U> -- Underlines text

<S> -- ~~Strikes through text~~

**** -- Makes a small font size. With tags that have more than one word, the closing tag only uses the first word (i.e. **** rather than ****).

**** -- Makes a larger font size

**** -- **Makes the font color red**. Basic color names can be used. For a larger palette, you can use a color code, a six-character string preceded by a "#" (****). For a basic list of codes, visit <http://html-color-codes.com/>.

Tags can be used individually, or together. As many as you like. For example, to make one word in a sentence bold, italic, and a certain color:

This ****word**** should really stand out.

Adding Images

Most people don't want their website to just have text (nicely formatted though it may be). So an important bit of HTML coding is to display an image. First of all, we have to make sure the image we want to show is available online. If it's just sitting on our computer, obviously, no one else can see it. So first, find the picture you want to use, and move it into the folder you created (that we're pretending is our online server).

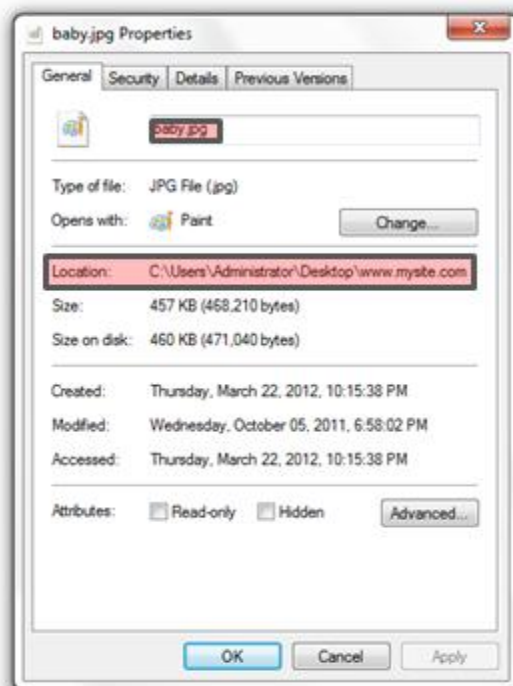
Now that the folder is on our "server", we can tell the web page we've created to display it.



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To do this, we'll need to tell our website the exact location and name of the image. To find this information out, right click on the icon of your image (in your folder) and select "properties" from the menu.



In the middle of the window that appears, you'll see the location that the image resides. At the top, you'll see the image's name. Putting the two together will give you the precise way to tell your website where to find the image. So:

Name: baby.jpg
and
Location:
C:\Users\Administrator\Desktop\www.mysite.com

Becomes:
C:\Users\Administrator\Desktop\www.mysite.com\baby.jpg

Now, the code to use in our webpage to call this image is simple:

```
<IMG SRC=" C:\Users\Administrator\Desktop\www.mysite.com\baby.jpg">
```

Notice that unlike the text formatting code we used earlier, this one doesn't require a closing tag (as in). That's because the text formatting had to define a start and end point (I only want this text to be italic). But the image doesn't. It's just there.

So to breakdown the code, let's compare it to a bit of code we used earlier.

```
<FONT COLOR="red">  
<IMG SRC=" C:\Users\Administrator\Desktop\www.mysite.com\baby.jpg">
```

In both cases, the first word defines what kind of element we're dealing with. The font in the first case, and an "img" (short for image, if you didn't already



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guess!) in the second. What about the font are we defining here? The color. And what are we defining with the "img"? The "src" (source).

So even though the codes are quite different, you can see that the language is the same.

So try inserting the image code into your web page. You'll notice that it takes up the whole horizontal space it sits in.

This is some text this is some
text this is some text this is some



text this is some text.

If we want to change how the image aligns with the text around it, we can do so by adding an addition little field to our image code. So:

```
<IMG SRC=" C:\Users\Student\Desktop\www.mysite.com\baby.jpg">
```

Becomes:

```
<IMG SRC=" C:\Users\Student\Desktop\www.mysite.com\baby.jpg"  
ALIGN="left">
```

And we have a much nicer looking:



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This is some text. This is some text. This is some text. This is some text. This is some text.



This is some text. This is some text. This is some text. This is some text. This is some text.

Or if our picture is displaying too large, we can tell it to display at a different size with

```
<IMG SRC=" C:\Users\Student\Desktop\www.mysite.com\baby.jpg"
ALIGN="left" WIDTH="100px" HEIGHT="100px">
```

Where "px" stands for pixels.

That's right, a single element (such as "IMG" or "FONT") can have multiple things defined in one line of code.

So earlier, when we played with "" and "", we could have done the same thing with "".

Hyperlinks

Hyperlinks (typically just referred to as "links") are pictures or text that, when clicked on, take the visitor to another page. The code to create a link is

```
<A HREF="[website's full url]">Click here</A>
```

This would appear as [Click here](#).

Try out link creation by creating a new web page in your www.mysite.com folder on the desktop following the steps used to create the initial web page. Once it's been created, follow the steps used to identify the name and location of the file, and create a link to it in your original web page.

Your original web page should now include the code



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`Go to the other page`

As with the `` and `` tags, more than one thing can be defined with `<A>`. `href` defines the site a visitor will go to after clicking, but you can also define where the new page will open. The code

`Text`

not only states where the clicked link will take the visitor to, but also tells it to open in a new window, rather than changing the current page.

Tables

One of the best ways to make sure elements on a page are neatly organized is to use tables.

Tables allow you to align elements into rows and columns.

The code:

```
<TABLE BORDER="1">
<TR>
<TD>row 1, cell 1</TD>
<TD>row 1, cell 2</TD>
</TR>
<TR>
<TD>row 2, cell 1</TD>
<TD>row 2, cell 2</TD>
</TR>
</TABLE>
```

Generates a table that looks like this:

row 1, cell 1	row 1, cell 2
row 2, cell 1	row 2, cell 2

In the code, we start with telling the web page that we want a table, so all of it must fall between the opening `<TABLE>` and closing `</TABLE>`. After that, we define the table's vertical row `<TR>`, and put as many horizontal cells `<TD>` into it as we want. There is no limit to the number of cells within a row we can



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have, or rows themselves. And any content you like can go into a table. Links, images, text, anything!

Exercise

If enough time remains, try and take some time to spruce up your web page! Create additional pages to link to. Play with inserting images, using tables to line up text, and links. And integrate different types of font sizes and colors!

Conclusion & Resources

While this lesson might not teach you everything you need to know about building websites with HTML, it will at least hopefully provide a thorough introduction of how websites work. Things like how most tags (such as `<P>This is a paragraph</P>`) must have a starting point and a closing point, with the closing point mirroring the starting point, but with the addition of a `/`. We also learned that most tags can be defined in multiple ways. Such as ``.

While we don't have time to go over every possible option for styling in HTML, those interested in learning more can visit <http://www.w3schools.com/html/> for a great listing of additional HTML codes. For those who would like a little more guidance, www.codeacademy.com gives interactive online tutorials that are like games.

And HTML isn't just for creating websites, many sites also allow you to spice up your emails, comments or notes with HTML, if you know it!