

What is HTML?

HTML or “Hyper Text Markup Language” refers to a system for communicating to a Web browser how the contents of a page will be displayed. HyperText is a concept that goes back to the mid-1940s when Vannevar Bush¹ envisioned a system for linking together concepts within and among documents. A markup language includes text and information about how the text should be displayed. In HTML this extra information is communicated to the browser in the form of codes or “tags.” HTML tags, which do not appear in the displayed text, are delineated with brackets `<>`.

This for example is the traditional tag for creating a line break: `
`

Most HTML elements require both opening and closing tags, `<tag>` for opening and `</tag>` for closing. For example the tags to make words italicized look like this: `<i> italics </i>`; or, in later versions of HTML, like this: ` emphasis `.

[Quick Tutorial side-bar]

Take a look at HTML in action. Follow these steps:

1. Open a Web browser such as Internet Explorer or Mozilla Firefox.
2. Enter the following URL in the address bar: <http://www.w3.org/>
This opens the World Wide Web consortiums home page.
3. Now go to the View Menu and choose View Page Source

This is what a complex html document looks like. Don't be alarmed, however, we don't have to write code like this to create Web pages. Thankfully, we have Web page editors that will do this work for us. Still, it's a good idea to at least have a basic understanding of what HTML is and how it works.

Scroll through the code for the W3 page. Jot down a few of the tags you see. For example: `<div>`, ``, `<p>` and so on.

To create a simple Web page, all you need is a text editor such as Note Pad on the Windows operating system (OS) or TextEdit on Mac OS. When saving your documents on a Mac, make sure to select “Make Plain Text” from the Format menu. You will also need a Web browser such as Internet Explorer, Mozilla Firefox, or Safari (Mac) to view your page.

Tutorial: Creating your first Web page in HTML

Introduction: Although this tutorial is designed to teach you how to make a simple Web page, in the process of learning this you will become familiar with a number of very important concepts that will be useful in other areas.

¹ As we may think, Bush, V. originally published July, 1945, viewed online (Nov. 8th 2006)
<http://www.ps.uni-sb.de/~duchier/pub/vbush/vbush.shtml>

Completing this tutorial will help you meet the following objectives:

- Learn basic HTML (HyperText Markup Language) and how it is used to create Web pages.
- Learn how to set up a Web page folder
- Learn how to add links to your Web page

Just enough HTML...

As stated above, HTML is the computer language of the Web. Don't worry though, it is a very simple computer language. HTML is the "code" that tells your Web browser application (program) how to display a Web page.

Here are a few example tags:

- `` = bold [text will be bold]
- `<center>` = center [text will be centered on the page]
- `<hr>` = horizontal rule [you will create a line across the page]

Many HTML tags come in pairs. One tag "opens" and another "closes." For example, if you want just part of your text to be bold, you can use HTML tags to tell the browser when to start making text bold and when to stop. This is how you do it: `` is the opening tag and `` is the closing tag.

Now let's try "coding" a little HTML ourselves. Follow these steps:

(Note: If you are on a Macintosh computer, use TextEdit in place of NotePad. It can be found in the applications folder).

1. Open Notepad: Point to the START menu, Point to PROGRAMS, Point to ACCESSORIES, Click on NotePad
2. In NotePad type the following text:

```
<html>
<head>
<title>My Web Page</title>
</head>
```

This top section is called the "head" and is where the Meta Data of your Web page is stored. This is information that is not displayed in the browser window. Though, the `<title>` element does display at the very top of the window showing the page .

3. Now type the following:

```
<body>
Welcome to my Web page
</body>
</html>
```

You have just written a Web page! Really, it's true! ...I can prove it, but first you will have to save your document.

Follow these steps to save your project as an html file:

4. Go to the **File** menu and click **Save As**.
5. In the Save As box, navigate to the desktop (you can click the desktop button on the left side).
6. Create a new folder on the desktop, you can do this by clicking the yellow **New Folder** button at the top of the Save As box. Name your folder after yourself. For example I would call my folder: "timspage" [NOTE do not use capitals or spaces. This will be important later when you put your Web page online. Many Web servers don't like spaces and capitals.] Click **Open** or double-click the new folder to open it. You want to be sure to save your file there.
7. Name your file "index.html"
8. Click OK to save your file and close the Save As box.

Note: As you proceed in learning to create a Web page, it's important to keep this folder in mind. Most Web sites you visit online are stored in a computer called a Web server that publishes the Web pages to the Internet. A Web server can store many Web sites. Each one is contained in a "directory" or folder. Now that you are in the process of creating your own Web page, it's important to keep all the files connected to that page in the same folder. This will not only help you keep track of your various files, it will also help ensure that the links and images in your page work properly.

Now that you've saved your file you can check to see if your page is really a Web page by following these steps:

1. Minimize your NotePad document to move it out of the way. You should now be able to see the desktop.
2. Double click your new folder (in my case it would be called "timspage"). You should be able to see your file, "index.html" inside the folder.
3. Double-click the file. If everything was done correctly, your file should open in a Web browser such as Internet Explorer. You will see a mostly blank page with the words, "Welcome to my Web page" at the top.

Now you can quickly make changes in your HTML code and view them in your browser. Here's how:

Let's add a new tag to your HTML code. Switch back to NotePad by clicking the box on the task bar at the bottom of the screen. Add this tag, `<hr>`, below the "Welcome to my Web page text". (You will have to place the cursor next to the text and hit ENTER to add a new line). The `<hr>` tag will put a line across the page.

Your code should look like this:

```
<html>
<head>
<title>My Web Page</title>
</head>
<body>
Welcome to my Web page
<hr>
</body>
</html>
```

In order to test this, all you have to do is choose **Save** from the **File** menu then switch to your Web browser. Once in your Web browser, click the **Refresh** button to see your changes.

Here are a few more tags you can add to see the effect:

- `<center>use these tags to center text</center>`
- `use these tags to make text bold`
- `<i>use these tags to make text italic</i>`

If you would like to center the text “Welcome to my Web page” and make it bold, you can do so by using **nested tags**. Nested tags allow you to add more than one attribute to a particular element in a page. Here is an example:

```
<center><b>Welcome to my Web page</b></center>
```

The important thing to remember is that nested tags must follow the reverse order that they were introduced. (This is called LIFO or “Last In First Out”). In the example above the last attribute introduced is the bold `` tag, which will be the first one you close `` following the text that you want to be bold. You then proceed to close all tags in the same order. Examine the following example of a nested tag with more elements:

```
<center><b><i><u>Welcome to my Web page</u></i></b></center>
```

This line will be centered, bold, italic, and underlined. Notice that the close tags on the right of the text follow the reverse order of the tags on the left.

The last step in this exercise is to add what is called a **hyperlink** or simply link. The tag you use to add a link looks like this:

```
<a href="http://google.com">Google</a>
```

In the tag above the address in quotes is a standard Web URL, you must include the entire address. The text that appears after the URL (here it is "Google") will be the blue, underlined text on the page that you can click.

Here is how the tag will appear in your code.

```
<html>
<head>
<title>My Web Page</title>
</head>
<body>
<center>Welcome to my Web page<center>
```

```
<hr>
Here is my favorite search engine:
<a href="http://google.com">Google</a>
</body>
</html>
```

Add this code to your NotePad page, **Save** your changes, switch back to your browser and click the **Refresh** button. You should now see a link to Google on your page. You can click the link to test it.

In this exercise you learned how to create a basic Web page using HTML code and how to set up your Web page folder.

If you are interested, I encourage you to continue to learn more about HTML, but rest assured that you will not have to bother with coding your Web pages if you are not inclined to do so.

Additional HTML resources

Here are a few resources for learning more about HTML and Web page development.

The Wikipedia online encyclopedia has excellent information about HTML and the Web and would be a good starting point to learn more about these technologies:

<http://en.wikipedia.org/wiki/HTML>

The World Wide Web Consortium (W3C) is an international organization dedicated to creating standards for Web design. There are a number of resources available on their Web site:

<http://www.w3.org/MarkUp/#tutorials>

HTML Dog is a commercial site with free tutorials.

<http://htmldog.com/guides/htmlbeginner/gettingstarted/>

Getting it online:

You have created your first Web page and you have viewed it in your browser, but to really use Web pages, you need to put your pages online. To achieve this, you will need to have Web space where you can store Web pages and associated files, and you will need to have software that allows you to transfer your files from your computer to your Web space.

Finding Web space:

As a teacher the best place to start looking for Web space is probably your institution. Nearly all educational institutions now have Web servers that host their public Web sites

as well as spaces for faculty, staff and students. The best way to go about getting your own account is to contact the network administrator for your institution.

If you don't have access to an institutional account another option is to check your Internet service provider (ISP) to see if they provide Web space for clients. Most ISPs now offer a small amount of Web space with an account. Additionally, there are a number of online services that provide Web space and possible online tools for creating Web pages such as Yahoo Geocities (<http://geocities.yahoo.com/>) or Google Pages (<http://www.googlepages.com>). Finally, you can purchase your own Web space through a Web space provider. However, I would caution most people away from this option until you have become more proficient with these technologies.

In the next tutorial we will begin using a program called Nvu that not only allows you to edit your Web pages visually as you would a word processing document, but also includes a built in FTP (File Transfer Protocol) function that you can use to upload your pages to your Web space.