

General Series: "Creating and Uploading Web Pages"

In this hands on workshop, we will go over how html (the language of the web) is used to make web pages and lead you step by step through creating your own web page, and then upload it to the Let's Code Blacksburg! web server to make your web page live.

There is no required web or programming knowledge required, you only need to know how to use a web browser.

Requirements:

Students need to bring:

- a windows*/Mac/Linux laptop (*Windows laptops require admin login access)
- the laptop power brick (power supply)
- Have the following software installed:
 - Up to date web browser (Chrome, Internet Explorer, Edge, FireFox)
 - [filezilla](#) (a file transfer program for uploading html to web server)
 - An HTML editor
 - [brackets](#) (html editor for windows, mac or linux)
 - OR
 - [notepad++](#) (html editor windows)

Please have required software installed before showing up at class.

Since students will be making their own web page with graphical content, students may optionally bring pictures of their favorite things to put on their web page (a pet, friend, or other pictures they love). Photos should not be larger than 200kB in size or 1024x1024.

By the end of class, participants will have created their own web page, uploaded it to the web and be able to see it from any web browser on the internet!

Setup

Verify you have the following installed on your laptop:

- Web Browser (FireFox, Safari, Chrome, Opera, Internet Explorer, Edge)
- Notepad++ <https://notepad-plus-plus.org/> or Brackets <http://brackets.io/>
- FileZilla <https://filezilla-project.org/>

Download the files for this class to your computer from <https://github.com/LetsCodeBlacksburg/> Click "KTU_Feb_2015_Beginning_HTML" then click "Clone or Download" then click "Download Zip"

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What is a web page?

A web page is made of files and media stored on a web server. Web servers are machines like a home computer but much more powerful. Rackspace lets users host cloud or dedicated web servers. The web server's files are usually accessed by a user with a web browser over the internet using a domain name.

An example is the domain name "pokemon.com"

When you type this domain name into your web browser it uses the domain name to find the correct web server for pokemon.com

The web server then sends back the files to the browser which translates the files into a pretty looking (marked up) site.

You can actually see the code behind a web page by telling your browser you want to "view source". As you can see pokemon.com is written in HTML

What is HTML?

HTML stands for Hyper Text Markup Language

HTML is augmented by Cascading Style Sheets (CSS) to help make web pages have consistent colors and styles.

The current version of HTML is 5 and was introduced in 2014. The current rules for a version are determined by the World Wide Web Consortium (W3C).

Each tag in html is contained in `<>` and ends with `</>`

For example, a paragraph tag is `p`

So to put a paragraph on your web page surround your text with `<p>`This is a sentence. And another sentence. Followed by some more words.`</p>`

Each html file needs to have the proper information so the browser knows it's an HTML file. Pages generally include an HTML tag, a head tag, and a body tag. The file is saved as ".html" or ".htm"

Exercises

Let's view a sample html web page and then make some edits.

The head is where things you don't necessarily see in the browser window itself go - like search terms (meta data keys) and the title which is what shows up in your web browser's tab.

The body is the main part of the site where most of the code you write will be so that people can see it.

STEP 1

Open your editor (notepad++ or brackets software) and then use that to open the "html_01.html" file. You should see the below example.

Example:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>

    <h1>This is a Heading</h1>
    <p>This is a paragraph.</p>

  </body>
</html>
```

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STEP 2

Next, open the "html_01.html" file with your web browser - and see how different it looks.

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STEP 3

In your editor (notepad++ or brackets) use some of the common tags below to update the sample web page. Not sure what they will do? Try them out and see!

```
<h1>This is heading 1</h1>
<h2>This is heading 2</h2>
<h3>This is heading 3</h3>
<p>This is a paragraph.</p>
<b>Bold text</b>
<i>Italic text</i>
<sup>Superscript text</sup>
<sub>Subscript text</sub>
<!-- Comments are notes that the web browser will ignore and not display.-->

<ul>
  <li>List of things</li>
  <li>Tea</li>
  <li>Milk</li>
</ul>
```

When you are done be sure to **SAVE** the file in the editor. After you save you can **REFRESH** your web browser to see the changes.

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STEP 4

In your editor (notepad++ or brackets) add a link to another web page, like the example below.

```
<p>This is a paragraph with a <a href="http://www.w3schools.com">ww3 schools.</a> link.</p>
```

If you want the link to open in a new tab, instead of loading in the current web browser tab, you add the attribute **target="_blank"**

```
<a href="http://www.w3schools.com" target="_blank">ww3 schools</a>
```

When you are done be sure to **SAVE** the file in the editor. After you save you can **REFRESH** your web browser to see the changes. Click on the link to be sure it works.

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STEP 5

Let's add some style.

Styles get added to the tags you learned about above to modify them. For example they might change their colors.

Change the background color of your page.

```
<body style="background-color:powderblue;">
```

Make the text colored.

```
<h2 style="color:red;">I am red</h2>
```

```
<h2 style="color:blue;">I am blue</h2>
```

```
<h1 style="color:blue;">This is a heading</h1>
```

```
<p style="color:red;">This is a paragraph.</p>
```

Modify the size.

```
<h1 style="font-size:300%;">This is a heading</h1>
```

```
<p style="font-size:160%;">This is a paragraph.</p>
```

Or styles can modify their alignment.

```
<h1 style="text-align:center;">Centered Heading</h1>
```

```
<p style="text-align:center;">Centered paragraph.</p>
```

Close your html_01.html file in both your editor and browser.

Open the "html_02.html" file in your editor.

Make some changes to the file to change the color, size and alignment of the items in the web page. **SAVE** the file.

Next, open the "html_02.html" file with your web browser to view your edits.

If you want to make more changes in the editor be sure to **SAVE** the file in the editor when you are done and then you can **REFRESH** your web browser to see the changes.

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STEP 6

Let's add some images to file html_02.html

Browse /pics/ folder that you downloaded with the example files.

You can also use an image you brought with you. Copy the picture into the /pics/ folder first.

In your editor (notepad++ or brackets) embed the image like in the example below.

```

```

You will want image.gif to be the name and extension of the image you selected. For example cat_01.jpg.

If you do not like the size the image displays on your web page you can specify its size.

```

```

You can also make the page background a picture

```
<body style="background-image: url(pics/background_03.jpg);background-repeat: repeat;">
```

When you are done be sure to **SAVE** the file in the editor. After you save you can **REFRESH** your web browser to see the changes.

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STEP 7

Let's take what we have learned and make our own web page. For a web page to show up at a domain it needs to be named index.htm or index.html - otherwise users will need to type the file name.

For example if I upload nicky.html into the student01 folder someone will need to type in http://letscodeblacksburg.org/WEB2016/NicoleSchwartz/html_01.html

If I name my file index.html and then upload it into the student01 folder they can type in <http://letscodeblacksburg.org/WEB2016/NicoleSchwartz/>

Close your html_02.html file in both your editor and browser and open the "index.html" file in your editor.

Put together a small web page using the things you learned in the prior steps. **SAVE** the file.

Next, open the "index.html" file with your web browser to view your edits.

If you want to make more changes in the editor be sure to **SAVE** the file in the editor when you are done and then you can **REFRESH** your web browser to see the changes.

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STEP 8

Let's upload our web page.

- Open FileZilla
- Enter the web server information to connect to in the "Host:" field
 - sftp://
- Enter the "Username:"
 -
- Enter the "Password:"
 -
- On the right hand side (the web server) right click and select "Create directory" then replace "New directory" with "FirstNameLastName" and click the "OK" button.
- On the right hand (web server) pane double click (open) your new directory. On the left pane (your computer) browse and locate your index.html file. Drag and then drop index.html from the left (laptop) to right (web server). This will begin the upload.
- On the right hand side (the web server) right click and select "Create directory" then replace "New directory" with "pics" and click the "OK" button.
- On the right hand (web server) pane double click (open) your new directory. On the left pane (your computer) browse and any images you used into the /pics/ folder drag and drop to the web server (right pane) to upload them.

Now view your web page in your web browser

<http://letscodeblacksburg.org/WEB2016/FirstNameLastName/>

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View all sites from today here: <http://letscodeblacksburg.org/WEB2016/>

Learn more about HTML and Javascript at <http://www.w3schools.com/>

These will be up for a month or so for you to look at, but uploads will be disabled after class.

Bonus 1

If you plan to use a specific style (CSS) you can define that style at the top of the web page - then reference it using a nickname each time you wish to use it in the body. This will make your page more consistent and help avoid human errors (with copy paste or typos).

This style is defined in the <head> area of the code.

Open up “bonus_01.html” to see the example - then add your own css styles.

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Bonus 2

Div tags let you control an area of the page to all have a specific style different than the page itself. In this Bonus we also show how you can have two styles for the same tag, in this case a div, using the “class” attribute.

Open up “bonus_02.html” to see the example - then add your own div and class!

Did you notice you can not see some of the text? Why is that? Can you fix it?

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Bonus 3

I took the the layout CSS Float lesson from W3Schools for you to try the following tags that are new to HTML5.



<header> - Defines a header for a document or a section
<nav> - Defines a container for navigation links
<section> - Defines a section in a document
<article> - Defines an independent self-contained article
<aside> - Defines content aside from the content (like a sidebar)
<footer> - Defines a footer for a document or a section
<details> - Defines additional details
<summary> - Defines a heading for the <details> element

Open up "bonus_03.html" to see the example - then go ahead and play with it.

Bonus 4

JavaScript is a way web pages can interact with users. In this example the following JavaScript makes the date and time appear when a user clicks it.

The following 3 examples are from W3Schools

This is inline JavaScript. Open up "bonus_04.html" to see the example.

```
<button type="button"
onclick="document.getElementById('demo').innerHTML = Date()">
Click me to display Date and Time.</button>
```

```
<p id="demo"></p>
```

JavaScript can get more complex and need to be placed in the <head> in <script> tags. This JavaScript is in the head and changes the HTML. Open up "bonus_04b.html" to see the example.