

Activity 2.1.1 What is a Web Page?

Introduction

Have you ever visited one of your favorite websites and noticed that its style and colors had changed since you last visited? Would it surprise you to find out that you can change the look of an entire website by changing only one file?

When you view a web page you are really viewing a rendered version of encoded text and images called the source code. Web page source code is written in hypertext markup language (HTML) and cascading style sheets (CSS).

In this activity you will modify the source code of a web page to change how it renders in a browser.

Materials

* Computer with browser
* Sample.html from site and image called sulfer.jpg
* Create a new folder in your account. Call it HTML. In that folder paste both files above. Both sample.html and sulfer should be in the new folder.

Procedure

1. Form pairs as directed by your teacher. Practice introducing yourself professionally with a handshake, eye contact, statement of your name and affiliation, and a friendly greeting.
2. Based on the presentation from your teacher, define the terms that appear in bold in the following sentences.
	1. A **browser** displays a web page by **rendering** some **HTML**.
	2. A browser is a **client** program that requests a **URL** from a web **server** program.
	3. Hypertext Markup Language (HTML) uses **tags** to mark **elements**.

* 1. The **value** of an **attribute** in a tag describe the tag's element.
1. Download and unzip the 2.1.1 sourceFiles.zip. This zip file contains a file sample.html shown below. Note the location where you have saved it.

|  |  |
| --- | --- |
| 12345678910 | <!doctype html><html> <head> <title>Supercool</title> </head> <body> <h1> Surprise! Making a web page is easy!</h1> You can put your content here. </body></html> |

1. Open the Firefox web browser. You will use the browser to view the sample.html file as a rendered web page and as source text.
	1. To view the file as a rendered web page, select **File** > **Open** **file** in the browser and navigate to the file sample.html that you just unzipped.
	2. To view the file’s source code, select **Tools** > **Web developer** > **View source**.

Describe the relationship and difference between the rendered page and the source.

1. In this step, you will change the file and view the new version through the browser.
	1. Open a text editor (Notepad++ or TextWrangler). In the text editor, select **File** > **Open file** and navigate to the file sample.html that you just unzipped.
	2. Change the “Supercool” and “Surprise” to anything you and your partner want. Save your new version of the file.
	3. In the browser, use the refresh button shown below to render the new version of the file.



1. Add an image element to the HTML by adding a single tag as shown below. Save the change to the HTML file and reload the page in your browser.

The src attribute provides the image file’s name. The value of the src attribute can be a full URL. The value of src can be just the file name part of the URL if the file is on the same **filesystem** as the HTML file.

The example here will render the sulfur.JPG image, which was provided in the source files for the activity. The image file must be in the same folder as the HTML to be rendered. Render a web page with the sulfur butterfly image or with an image of your own.

|  |  |
| --- | --- |
|  | <img src="sulfur.JPG"> |

1. Another language used to create web pages is **CSS** (cascading style sheets.) Styles affect the layout and appearance of a web page. CSS is usually written in a separate file that can be applied to many pages on a web site to give the pages a similar appearance. CSS can also be embedded in the document or applied within a single HTML element. In the file sample.html, embedded within an HTML <style> element, is the following CSS:

|  |  |
| --- | --- |
|  | h1 { color: #ff00ff; background-color: #ffffff;} |

* 1. This CSS specifies the text color and the background color for the h1 element’s text. What is the color #ff00ff of the text? Explain why this is the color encoded by this hexadecimal string.
	2. The last two digits ff in the color string represent the blue intensity. Inside the computer, how is this hexadecimal ff represented in binary? Write the number for the blue intensity in zeros and ones.
	3. Change the CSS for the style of h1 elements so that they appear as yellow text on a gray background. Note that gray is halfway between white and black, with red, green, and blue components each halfway on.
1. Experiment with HTML elements and CSS properties to add to your page. Browse online documentation and resources about HTML and CSS. Identify one HTML element that is new to you and add it to your HTML. Find one new CSS property for any element and set it in the HTML’s <style> element. Turn in your result as directed by your teacher.

Conclusion Questions

1. Describe what happens when you enter a URL in your web browser.
2. Web pages are sent from the server to the client using text instructions for the content and appearance of a web page. It would be possible to publish a web page using an image showing exactly how the page was intended to look. What would be the disadvantages of this method?