CPSC 1030 – Lab 1

Introduction to HTML5

Learning Objectives

At the end of this of lab, you should be able to:

- Use a text editor to create a simple web page using HTML5

- Validate an HTML5 document to conform to the standard

- View your web page on an HTML5 capable browser

- View your web page on the Instructional Web Server

- Submit a lab on Brightspace

Lab Readings

1. Chapter 2 – HTML Basics
2. Introductory Lab

Lab Introduction

You are going to write a simple web page with HTML5 using a code editor of your choice on your computer. You first test the web page locally on a web browser. You then transfer the web page to the Instructional Web Server (WinSCP) for testing over the Internet.

The first web page, or home page, of any website is by convention named "index.html". Other names may be used, but they then need to be specified explicitly in the file path.

The procedure in this lab will be used for the following labs as well.

Lab Instructions

A. Create a web page

1. Open File Explorer and navigate to "CPSC1030\Labs" folder you created in the Introductory Lab. Create a subfolder called Lab1. As every website on our instructional server must be within a subfolder called "public_html", create a subfolder with this name within the Lab1 folder ("CPSC1030\Labs\Lab1\public_html"). This will be where you develop the files for Lab1 website.

2. Open the code editor that you installed in the Introductory Lab.

3. Type in the following HTML code exactly as shown. Do not cut and paste from this document into your editor. It may not work properly. If a line is too long, you can break it to two or more lines for convenience. HTML processing in web browsers ignores all whitespace, while whitespace makes the document more readable. It is recommended that the lines be indented as shown.

```
<!DOCTYPE html>
<html lang = "en">
    <head>
```

```
      <meta charset = "utf-8">
      <title> CPSC 1030 – Lab 1 </title>
    </head>
    <body>
      <h1> Learn HTML </h1>
      <h2> My First Webpage </h2>
      <p> Hello World! </p>
    </body>
  </html>
```

4. Save this simple web page as "index.html" in the directory structure you created ("CPSC1030\Labs\Lab1\public_html\index.html").

5. Look at your first web page using a web browser such as Google Chrome or Firefox by selecting "File | Open File" in the web browser and navigating to the "index.html" file.

    Alternatively, you can right-click on your file in File Explorer and "Open with" your desired browser.

    You can also open a local file by entering file://filepath/file into the web browser's destination URL box.

    Note the Internet convention for file paths and file names follows the Linux forward slash convention instead of the Microsoft back slash convention.

6. Open "index.html" with the text editor again. Edit the file so that it contains something you would like other people to know about you. Make sure to use proper indentation and whitespace. Save the file periodically as you make changes.

    a. After the existing paragraph, add a horizontal line (use <hr>).

    b. Create a heading 2 (use <h2>) that displays your name.

    c. Below your name, write a paragraph (use <p>) about yourself.

    d. Then create an unordered list (use <ul> and <li>) to list the name of your current courses.

    e. In the end, create a link (use <a>) to Langara College.

7. While your web page is open in browser and you make changes in the editor, you will need to save your file and Reload or Refresh the web page in the browser (usually a circular arrow at the top) to see the results.

B. Validate your web page with HTML5 validator

HTML5 coding can be tedious and it is easy to make a mistake. Each time you create or change a web page, you should get it validated as correct HTML5 before posting to a production web server (as we will do in upcoming labs) to ensure that it conforms to the appropriate standard.

1. Open W3C HTML Validator on http://validator.w3.org/.

2. Select "Validate by File Upload" tab. Click on "Choose File" button and select your local HTML file to be validated. If the page fails, error information is given, and you can use that to locate and correct your errors. Start with the first error, find and correct it and then re-validate. Sometimes a result that shows many errors is the result of only the first error cascading through the code.

3. Take a screenshot from the results on the validation page and save as "validation_Lab1.png" under the Lab1 folder you created in part A.

C. Work with the instructional server

1. Open WinSCP on your computer and login with your Langara credentials.

2. A window opens with the computer local files on the left pane and the files on the server on the right pane. Make yourself familiar with the environment.

3. The subfolder "public_html" on the server (on the right pane) will hold the files for your website on instructional server. Open that folder in WinSCP and create a subfolder called "lab1".

4. Navigate to the "public_html" folder you created on your local machine (on the left pane). Drag and drop your Lab1 web page ("index.html") from the "CPSC1030\Labs\Lab1\public_html\" to the "public_html/lab1" on the right pane. This should start the transfer and you should see a progress bar briefly.

5. At the end of the transfer, you should see the "index.html" file on the instructional server inside the server's "public_html/lab1". You may close the WinSCP session at this time.

Note that you can also validate your web page at this stage by entering the address of your web page (given below) on W3C HTML Validator page.

D. View your web page in a browser

1. Enter the following URL (the address of your web page) into the browser: http://mylinux.langara.bc.ca/~yourlangaraID/lab1 (replace yourlangaraID with your Langara ID, do not remove ~ sign). Your web page (index.html) should come up and look the same as when you viewed it locally. The difference is that you are now viewing this page over the Internet rather than just on the local machine. If it does not work, use WinSCP to verify that the correct file is residing within the "public_html" subfolder on the instructional server. If needed, you can use WinSCP to delete a file and transfer the correct one to the correct location.

2. Check your web page on a different device using the above URL.

3. Check that your web page works well (and should be reasonably similar) with Firefox, Google Chrome, and Microsoft Edge browsers. There may be small differences in the rendering, but nothing substantial.

4. Look for Developer Tools on your browser. Usually, it opens with F12. Play around and check your page elements. This is a useful testing and troubleshooting tool.

Lab Submissions

1. The "index.html" file you created as part of this lab

2. A screenshot of the validation results

3. The URL of your web page (in the comments of submission page)

Marking Scheme

- 8 points for a web page (index.html) which meets the requirements

- 4 points for a validated HTML file with no errors

- 4 points for a working website on the instructional server