TTL

Intro to Webpage Design Using HTML

Version 1.0

Student Guide

www.transitiontechlab.org

Information in this document is subject to change. No liability is assumed for technical or editorial omissions contained herein.

Created for www.transitiontechlab.org

Author: Doug McIntire, MCP, CNA, DCSE, A+, Network+

Transition Technologies Laboratories
www.transitiontechlab.org

Intro to Webpage Design Using HTML

Lesson 1

Template, Title, Comments, Headings, Breaks, and Paragraphs

Time

3 hours, with a 15 minute break midway

Description

This lesson introduces you to the HyperText Markup Language (HTML). It includes comprehensive exercises where you will create HTML pages using Microsoft Windows Notepad.

Objectives

After completing this lesson, you will be able to:

- Create an HTML page using Microsoft Windows Notepad.
- Describe and use the HTML tag, the Head tag, the Title tag, and the Body tag.
- Display the importance of comments in HTML code.
- Demonstrate the six different styles of headings.
- Use breaks and paragraphs to format your HTML page.
- Align your HTML page to justify text left, right, or centered.

Prerequisites

Before attending this course, you should:

- Be familiar with the use of a Personal Computer.
- Be familiar with the concept of File Management, including opening, executing, and saving files, and moving files between the hard drive and the floppy drive.
- Be familiar with the use of a browser, in this class, Microsoft Internet Explorer.
- Be familiar with normal word processing (typing).
- Be familiar with navigation within a Microsoft Windows environment.
- Be fluent in the English language.

Instructional Strategy

The following instructional strategies are used to teach this lesson:

- Presentation/Lecture
- Lab/Exercise
- Discussion/Summary

Materials Needed

The following materials are needed for this lesson:

Hardware

- An IBM-compatible computer
  - 32 MB minimum of memory (possibly more, depending on the version of Microsoft Windows installed)
  - Pentium class processor or greater

Software

- Microsoft Windows 95, 98, NT Workstation, 2000 Professional, or XP Home Edition or Professional
- Microsoft Windows Notepad
- Microsoft Internet Explorer or another modern web browser

Other Materials

- A pen or pencil
- Writing Paper or notepad
- One of more 3.5” 1.44 MB floppy diskettes

Document Conventions

- All acronyms are defined the first time they are used in the text and the first time they are used in a procedure or exercise.
- In procedures or exercises, keywords and filenames are formatted in **bold** text for quick recognition or to demonstrate bold text in HTML.

Classroom and Campus Considerations

- Turn off all cell phones and pagers, or set them to vibrate.
- Do not save questions for break times. Your question may be of interest to others in the class as well.
- Be on time for the beginning of the training.
- Be polite to your fellow students and the instructor.
- There is no smoking on any Austin Independent School District (AISD) campuses.
- Obey all campus policies.

Classroom Procedures

- Class time is 3 hours.
- One 15-minute break will be given ~90 minutes into the class time.
- All files must be saved onto a floppy disk. The computers used in the Lab Exercises are subject to be updated without notice, which means that any files saved on the hard drives may be erased between classes.
- No food is allowed in the classrooms. Beverages are allowed in bottles with caps that can be securely closed.

Safety Considerations

Students are **not** authorized to open any computers or perform any maintenance or troubleshooting of any lab computers or equipment. If your computer is malfunctioning, notify the instructor or lab attendant immediately of the malfunction.

All student input will be accomplished via the keyboard and mouse.

Lesson 1 Contents

1. **Introduction to HTML**

   This presentation introduces the concepts of HyperText Markup Language (HTML) and how various web browsers interpret HTML.

2. **Overview of HTML**

   This presentation goes over some of the general rules for HTML programming. The presentation also explains why we are using Microsoft Windows Notepad to program HTML pages rather than using an HTML editor.

   This presentation also introduces the use of .htm or .html file extensions, and why you would use an index.html file, and the use of white space when you code.

3. **HTML Tags**

   This presentation discusses how HTML tags are used, opening tags, closing tags, and the few considerations of tags that aren't *closed*.

4. **Creation of a Blank Template HTML File**

   This presentation discusses the key tags that should be contained in all the HTML files you will create throughout the remainder of this course. This presentation concludes with a lab exercise, Exercise 1, to create the file discussed in this lecture.

5. **Use of the Title HTML Tag and the Use of Comments**

   This presentation introduces the use of the Title tag, and the use of comments. This presentation concludes with a lab exercise, Exercise 2, to add a Title and Comments to the file created in Exercise 1.

6. **The Use of Headings in Webpage Design**

   This presentation introduces the six HTML Heading tags. This presentation concludes with a lab exercise, Exercise 3, which demonstrates the six HTML Heading tags.

7. **The Use of Breaks, Paragraphs, and Alignment**

   This presentation introduces the use of Breaks, Paragraphs, and alignment to format your HTML pages. This presentation concludes with a lab exercise, Exercise 4, which demonstrates the use of Breaks, Paragraphs, and alignment formatting.

8. **Lesson Review**

   This is a group discussion covering all of the presentations and lab exercises of this lesson.

Introduction To HTML

Description

This presentation introduces the concepts of HyperText Markup Language (HTML) and how various web browsers interpret HTML, including the following topics:

- What is a Markup Language
- Modern Browsers
- How Browsers Interpret HTML

What is a Markup Language

Markup Language is the process of putting special text around what you want to signify. For example, if I were to type **<b>something</b>** to be bold, I would use the **b** (bold) markup element in front of the text that should be bold.

The important thing to remember here is that Markup Language uses an *opening tag* and a *closing tag*,

Unseen to the user, Microsoft Word and Google Docs are also Markup Languages, but the user doesn't see the code behind the scenes to make the text **bold**, *italics*, underlined, etc.

Modern Browsers

Modern browsers, such as Google Chrome, Microsoft Internet Explorer, Mozilla Firefox, Apple Safari, and all the others, know how to interpret the HTML Markup Language to display the text (and other elements) as intended.

How Browsers Interpret HTML

There are other aspects required to make websites, which are beyond the scope of this training, but HTML is the foundational language that browsers interpret to make websites displayable in the browser. A browser reads the raw HTML code, interprets it, and displays what we see when we browse the Internet.

Overview of HTML

This presentation goes over some of the general rules for HTML programming, including the following topics:

- Why we are using Notepad to program HTML Webpages
- What are HTML editors
- .HTM and .HTML file extensions
- Index.html
- White space
- Using Upper or Lower Case

Why We Are Using Notepad to Program HTML Webpages

First and foremost, Notepad is free and comes on every computer with the Microsoft Windows operating system.

Notepad is harder to use than other HTML editors, but it works well for HTML code. As stated above, Microsoft Word adds extra formatting. This extra formatting can make it difficult to convert to HTML code.

Finally, with Notepad, it is simple to “save as” and convert a text (.txt) file to an HTML (.htm) file.

What are HTML Editors

There are several programs designed to work in HTML. Homesite is one of these HTML editors. They are easy to use and help identify errors in your code. These programs are generally not free. They also require “administrator permissions” to install on these computers.

.HTM and .HTML File Extensions

To modern browsers, the file extensions .htm and .html are identical. The reason to use one over the other is based on the operating system version in use. Older operating systems don’t support file extensions with more than three letters. Modern operating systems support file extensions with more than three letters, and .html has become normal.

Note: .htm file extensions are still “backward compatible” and can still be used. For class purposes, we will use .htm as the file extension.

Index.htm

Index.htm (or index.html) is the typical “first file” of a website. So, if you were to go to www.dell.com, it’s probably that index.htm is the default file that is displayed. This could also be termed the “home page” or “main page”.

For classroom purposes, index.htm will be the main page of the websites we create.

White Space

White space is the extra space in the HTML code that makes it easier for humans to read. For example, consider these two pieces of code:

```
<html>
<head>

<title>With White Space</title>

</head>
<body>

<p>This is an example of HTML code using white space. This makes the HTML
code easier to read and edit.</p>

</body>
</html>
```

compared to not using extra white space:

```
<html><head><title>Without White Space </title></head><body><p>This is an
example of HTML code that does not use white space. This makes the HTML code
harder to read and edit.</p></body></html>
```

The first example is much easier to read.

Browsers ignore the extra white space. In the two examples above, both pages would be displayed the same way. These examples are short. Imagine a webpage that has multiple paragraphs and thousands of words. The first example would be easier for a person to review and edit.

Note: Using two spaces after a period is no longer normal. Browsers ignore the second space. In other words, only one space after a period is displayed.

Note: There are times when multiple spaces are appropriate. You can use &nbsp; (code for non-breaking space) one or more times to make extra space show up. This will be covered in greater detail in later lessons.

Using Upper or Lower Case

There are two types of webservers in use today, based on Microsoft Windows or Linux.

With Windows, Filename.HTM is exactly the same as filename.htm.

With Linux, Filename.HTM is a completely different file as filename.htm.

In other words, Linux filenames are case-sensitive.

When creating websites, you might not know whether the website will be hosted on a Windows server or a Linux server.

Best Practice: Always use lowercase letters for filenames. It’s a good habit, and it’s the industry standard. If you always name your files using all lowercase letters, when hyperlinking to these pages from other pages, it will not matter if they are hosted on a Windows server or a Linux server, they will always work.

HTML Tags

This presentation discusses how HTML tags are used, including the following topics:

- Opening HTML tags
- Closing HTML tags
- When not to close HTML tags

Opening HTML Tags

Opening tags are words or letters surrounded by < (the less than symbol in math) and > (the greater than symbol in math). For example:

- <b> is the opening tag to make text **bold**
- <i> is the opening tag to make text *italics*
- <u> is the opening tag to make text underlined

Closing HTML Tags

Similar to opening HTML tags, closing tags are the same, but include a slash (/) before the tag name. For example:

- </b> is the opening tag to make text **bold**
- </i> is the opening tag to make text *italics*
- </u> is the opening tag to make text underlined

When Not to Close HTML Tags

There is one example in HTML when you don't close a tag. A "break" <br> is like a carriage return on a typewriter, or the Enter key on computer keyboards. A break simply takes your code to the next line. It's common to see a break as <br> or <br />. Either way, **there isn't a </br> command** in HTML. The open <br> tag is used alone.

Creation of a Blank Template HTML File

This presentation discusses the key tags that should be contained in all the HTML files you will create through the remainder of this course, including the following:

- HTML opening and closing tags
- Opening and closing Head tags
- Opening and closing Title tags
- Opening and closing Body tags

This presentation concludes with a lab exercise, Exercise 1, to actually create the file discussed in this lecture.

HTML Opening and Closing Tags

For browsers to interpret HTML pages, the page must be declared as an HTML page. This is done by using HTML opening and closing tags. This is done by the following tags:

- <html>
- </html>

The opening <html> tag is at the very top of the page, and the </html> closing tag is at the bottom of the page.

Note: The opening <html> tag can contain a lot of additional information, such as the language of the page, and more. For purposes of this class, <html> will be used without additional information included.

Opening and Closing Head Tags

There are two “areas” of an HTML page: The “head” and the “body”. The head is where the “title” of the page is added. It also includes a lot of “metadata”, which is beyond the scope of this lesson.

The body is where the majority of webpage information resides.

Best Practice: Open and close the <head> (and </head>) tags between the <html></html> tags.

Opening and Closing Title Tags

Between the <head> and </head> tags, add the title tags (<title></title>).

Opening and Closing Body Tags

After the closing head tag (</head>), open and close the body tags (<body> and </body>).

Exercise 1

1. Open Microsoft Windows Notepad
2. Place opening and closing HTML tags at the beginning (just after the comments) and at the end of the document

   Hint: <html> & </html>
3. Place opening and closing Head tags between the HTML tags

   Hint: <head> & </head>
4. Place opening and closing Title tags between the Head tags

   Hint: <title> & </title>
5. Place opening and closing Body tags after the closing Head tag and before the closing HTML tag

   Hint: <body> & </body>
6. Save the file as **blank.htm**

   Hint: Be sure to save all of your work to a floppy diskette so that you can take your work with you. Remember that the lab computers can be changed at any time and any files left on the computers could be lost.
7. Execute the file blank.htm by double-clicking on it. This should open it in Microsoft Internet Explorer.

   Hint: Internet Explorer should be "empty", or in other words, you should not see any content.
8. In the tool bar of Internet Explorer, click on **View -> Source** to see the text HTML file you just created.

   Hint: The file **blank.htm** should look something like this:

```
<html>
<head>

<title>  </title>

</head>
<body>

</body>
</html>
```

9. Remember that browsers treat all white space, regardless of how much, as one space, so be sure to spread out your HTML code so it can be easily read.

10. You will be using a version of this *template* for every HTML file you create in this course. Be sure to save this exercise so that you can refer back to it if necessary.

Use of the Title HTML Tag and the Use of Comments

This presentation introduces the use of:

- The Title tag
- Comments

This presentation concludes with a lab exercise, Exercise 2, to add a Title and Comments to the file created in Exercise 1.

The Title Tag

The title tag is what shows up at the top of the browser in the tabs. Titles should be as descriptive as possible, but concise.

Comments

A best practice for any type of coding is to add comments about the code. Comments added to HTML code are ignored by the browsers. They are there for anyone reading the code to help them understand the intentions of the author. Our code will be simple, but there are still comments that can be helpful.

A comment starts with <!-- and ends with -->. For example:

- <!-- Author: Doug McIntire -->

This comment will not be visible in the browser, only in the HTML file. Use comments frequently if the code is not clearly obvious.

Exercise 2

1. Open up the file you just created, **blank.htm**, and immediately save the file as **template.htm**

2. Insert the text **Template.htm** in between the two Title tags

3. Place two comments at the beginning of the document. The first comment will be the filename, the second comment will be the author's name

Hint: <!-- Filename: template.htm --> & <!-- Author: Your Name -->

4. Save the file

5. Execute the file **template.htm**

Hint: Notice that the title in the browser is now **Template.htm**

6. In the tool bar of Internet Explorer, click on **View -> Source** to see the text HTML file you just created.

Hint: The file **template.htm** should look something like this:

```
<!-- Filename: template.htm -->
```

```
<!-- Author: Your Name -->

<html>
<head>

<title> Template.htm </title>

</head>
<body>

</body>
</html>
```

The Use of the Headings in Webpage Design

This presentation introduces the six HTML Heading tags. This presentation concludes with a lab exercise, Exercise 3, which demonstrates the six HTML Heading tags.

HTML Heading Tags

Like Microsoft Word, HTML has several Headings that are prebuilt. While the Heading styles can be modified, these are examples of what Headings look like in HTML.

Exercise 3

1. Open up the file you just created, **template.htm**, and immediately save the file as **headings.htm**

2. Insert the following comments:

- Filename: **headings.htm**
- Title: **Examples of Headings**

3. Between the opening and closing Body tags, insert the following elements:

- Heading 1 (<h1>): This is an example of Heading 1
- Heading 2 (<h2>): This is an example of Heading 2
- Heading 3 (<h3>): This is an example of Heading 3
- Heading 4 (<h4>): This is an example of Heading 4
- Heading 5 (<h5>): This is an example of Heading 5
- Heading 6 (<h6>): This is an example of Heading 6

Hint: Be sure to close each tag. For example: <h1></h1>

4. Save the file (**Hint:** the keyboard shortcut is ctrl+s)

5. Execute the file **headings.htm**

Hint: You should see examples of the six Heading Styles

6. In the tool bar of Internet Explorer, click on **View -> Source** to see the text HTML file you just created.

Hint: The file **headings.htm** should look something like this:

```
<!-- Filename: headings.htm -->
<!-- Author: Your Name -->

<html>
<head>

<title>Examples of Headings</title>

</head>
<body>
```

```
<h1>This is an example of Heading 1</h1>
<h2>This is an example of Heading 2</h2>
<h3>This is an example of Heading 3</h3>
<h4>This is an example of Heading 4</h4>
<h5>This is an example of Heading 5</h5>
<h6>This is an example of Heading 6</h6>

</body>
</html>
```

The Use of Breaks, Paragraphs, and Alignment

This presentation introduces:

- Breaks
- Paragraphs
- Alignment is used to format your HTML pages.

This presentation concludes with a lab exercise, Exercise 4, which demonstrates the use of Breaks, Paragraphs, and alignment formatting.

Breaks

As mentioned above, a break (<br> or <br />), takes the code down to the next line.

Paragraphs

A paragraph tag is opened and closed (<p> and </p>), and the text of the paragraph is typed in between the opening and closing tags.

Alignment Used to Format Your HTML Webpage

Within the opening paragraph tag (<p>), additional elements can be added. For example:

- <p align="left"> will align the text “left justified”.
- <p align="center"> will “center justify” the text.
- <p align="right"> with “right justify” the text.

Note: This alignment can also be accomplished using “Styles”, beyond the scope of this training.

Exercise 4

1. Open up the file you just created, **template.htm**, and immediately save the file as **paragraphs.htm**
2. Insert the following comments:
   - Filename: **paragraphs.htm**
   - Title: **Examples of Breaks, Paragraphs, and Alignment**
3. Between the opening and closing Body tags, insert the following elements:
   - Paragraph (<p>), left aligned (align="left"):
     This is a paragraph that is aligned on the left of the browser. If you keep on typing, you will also see how the word wrap feature of web browsers works. You have to enter enough text so that you have more than one line of text. This should be enough.
   - Paragraph, centered:
     This is a paragraph that is aligned in the center of the browser.

- Paragraph, right aligned:
  This is a paragraph that is aligned on the right side of the browser.
- Paragraph, alignment unspecified, formatted as follows (using <br />):
  This is how you would use
  breaks to make the line stop where ever
  you want it to.
  A break acts like a carriage return in typing.
  You will also notice that if you don’t
  specify any alignment, that left aligned is the default.

4. Save the file

5. Execute the file **paragraphs.htm**

6. In the tool bar of Internet Explorer, click on **View -> Source** to see the text HTML file you just created.

Hint: The file **paragraphs.htm** should look something like this:

```
<!-- Filename: paragraphs.htm -->
<!-- Author: Your Name -->

<html>
<head>

<title>Examples of Breaks, Paragraphs, and Alignment </title>

</head>
<body>

<p align="left"> This is a paragraph that is aligned on the left of the browser. If you
keep on typing, you will also see how the word wrap feature of web browsers works.
You have to enter enough text so that you have more than one line of text. This
should be enough. </p>

<p align="center"> This is a paragraph that is aligned in the center of the
browser.</p>

<p align="right"> This is a paragraph that is aligned on the right side of the
browser.</p>

<p>This is how you would use<br />
breaks to make the line stop where ever<br />
you want it to.<br />
A break acts like a carriage return in typing.
<br />A break can be at the beginning of  a line, or at the end of a line.<br />
You should be consistent whether you place breaks at the beginning of line of text, or
at the end.<br />
```

```
You will also notice that if you don’t<br />
specify any alignment, that left aligned is the default.</p>

</body>
</html>
```

Lesson Review

This is a group discussion covering all the presentations and lab exercises of this lesson. It includes the following topics:

- Introduction To HTML
    - What is a Markup Language
    - Modern Browsers
    - How Browsers Interpret HTML
- Overview of HTML
    - Why we are using Notepad to program HTML Webpages
    - What are HTML editors
    - .HTM and .HTML file extensions
    - Index.html
    - White space
    - Using Upper or Lower Case
- HTML Tags
    - Opening HTML tags
    - Closing HTML tags
    - When not to close HTML tags
- You created a Template HTML file that included:
    - <html> tags
    - <head> tags
    - <title> tags
    - <body> tags
- You created Title HTML Tags and Comments
- You demonstrated the use of Headers and how they compared.
- You created Breaks, Paragraphs, and demonstrated how Alignment works