

CSCI E-12 Assignment 0

0 points (**but required!**)

Due by Monday, February 10, 12 noon EST

Submit via the "Assignments" area of the course site (<http://cscie12.dce.harvard.edu/>)

Caution and Note:

If you are not able to complete this assignment, you will not be prepared for the remaining work in the course. If you are finding this assignment very difficult to complete, then you will probably find the remaining assignments extremely difficult and challenging.

This assignment is not graded, but it is required. This assignment is an opportunity to get things setup and troubleshoot any issues you may encounter without the stress of an assignment grade. It is important to complete this so that you are ready to start working on the substance of Assignment 1.

Note too that video screencasts are available on the course web site that demonstrate SSH, SFTP, and validation.

Assignment 0 focuses on creating valid markup documents, interacting with a web hosting server in order to publish documents on the web, and understanding the relationship between URL paths and directory locations on the host server.

Goals:

1. **Create Valid HTML and XHTML documents.** Create valid documents of three commonly encountered markup types on the web today: HTML5, XHTML 1.0 Strict and HTML 4.01 Strict.
2. **Publish a document on the course web hosting server.** Use your account on the course web hosting server to publish a document on the web. This will require preparing the account by creating a directory for web documents, setting appropriate permissions, and transferring a file to this area.
3. **Understanding URLs.**
 - a. Understand the relationship between the URL path and the disk location of file for some given web hosting scenarios.
 - b. Understand relative URLs and how they are resolved to full URLs.

Getting Started with Assignment 0

You can work on any computer you wish to for this assignment (except where noted -- you must use the course server to publish a document in Part 2).

- Download the Assignment 0 "zip" file from the course web site and unzip it.
- Keep the file names and directory structures the same.
 - You may add your own images to the "images" directory if needed for Part 1.
 - You should see the following files/directories:

```

|-- aboutme-html5.html
|-- aboutme-html401s.html
|-- aboutme-xhtml1s.html
|-- answers.html
|-- images
-- my_published_file_for_morpheus.html

```

- Edit "answers.html" to provide any answers to questions.
- When you are done with the assignment, zip the contents of the assignment folder and submit the zip file the course web site.

Part 1. Create Valid XHTML and HTML documents.

Create a markup document whose content purpose is to tell the teaching staff a little about you. The technical purpose is to create valid markup documents and to use the elements appropriately to define document and content structure. The markup should include the following elements (it may include others, but it must contain this list):

- headings (`h1` and `h2`)
- unordered list (`ul`) or ordered list (`ol`)
- hyperlink (`a`)
- image (`img`)
- paragraph text (`p`)

You will create two versions of this document, each conforming to a different XHTML or HTML document type (the content should remain the same). You should use the [W3C Markup Validation Service](http://validator.w3.org/) (<http://validator.w3.org/>) to test markup validity.

File	Make into valid
aboutme-html5.html	HTML5
aboutme-xhtml1s.html	XHTML 1.0 Strict
aboutme-html401s.html	HTML 4.01 Strict

Hint: Begin making a valid XHTML 1.0 document, and then use this as a starting point for the other. For the HTML file, experiment with leaving off end tags and quotes around the attribute value to get a feel for the difference between XHTML and HTML syntax. Also, note that the [W3C Markup Validation Service](http://validator.w3.org/) allows you to validate documents by URI, file upload, or by direct input. Your document should pass validation with no errors. A warning about encoding is acceptable for this part of the assignment (UTF-8 encoding will be assumed).

Part 2. Publish Documents to the Course Web Hosting Server.

You will publish the "my_published_file_for_morpheus.html" to the course web hosting server (server hostname: morpheus.dce.harvard.edu) so that this file is accessible via the web. The steps of this are:

1. Determine your username and initial password
 - a. Change your password
2. Login (via an SSH client)
 - a. Create "public_html" directory
 - b. Change permissions
3. Using an FTP client, transfer "my_published_file_for_morpheus.html" to your "public_html" directory on morpheus.dce.harvard.edu.
4. Confirm that you can view the file with your Web browser.

There are several resources on the course site, and also in sections, that will help you through this process.

Determine your username and password

If you already have a computer account on a DCE system, the same username and password will grant access to morpheus.dce.harvard.edu. If this is the first time you have used DCE computer systems, your username and password are:

- **Username:** first letter of first name concatenated with up to the first 7 letters (only count "word" characters) of your last name, all lower-case
- **Initial Password:** up to the first 8 word characters of your last name, all lower-case
- **Get Help with Your Username and Initial Password:**
You can always look your username and reset your password at:
<https://ac-web.dce.harvard.edu/index.php?req=uca>
- **Change your Password:**
<https://ac-web.dce.harvard.edu/index.php?req=passwd>

Connection Information for SSH and FTP	
Hostname:	morpheus.dce.harvard.edu
Username:	
Password:	
Directory for Web content:	public_html

Login with an SSH Client

Which SSH client? For Windows, we recommend [PuTTY](#) or [SecureCRT](#). For Macs, there is a built-in "ssh" client from a shell prompt. Additional software options are listed on the course web site.

Then you'll need to create a "public_html" directory if you don't already have one, and then the permissions on your home directory and your public_html directory to allow the web server to access files in your public_html directory:

```
bash$ mkdir ~/public_html
bash$ chmod o+x ~/
bash$ chmod o+x ~/public_html
```

Notes:

- The "mkdir" command creates a directory (or folder).
- The "~/ " is a shortcut for your home directory (i.e. for the user 'jharvard', this would be /home/courses/j/h/jharvard/).
- The "chmod" command changes permission. By changing these permissions on your home directory and public_html directory, the web server running on morpheus will be granted access to read the files in your public_html directory.

Transfer with SFTP

Which SFTP client? For Windows, we recommend [WinSCP](#) or [SecureFX](#).

For Firefox users, there is the [FireFTP](#) add-on. For a more expansive list, see the course web site for software suggestions.

Using an SFTP client, transfer the "my_published_file_for_morpheus.html" to your "public_html" folder on your morpheus account.

Confirm with a Web Browser

For example, the user "jharvard" would access the URL:

http://morpheus.dce.harvard.edu/~jharvard/my_published_file_for_morpheus.html

Note that the "public_html" of the **file path** does not appear in the **URL path**.

See the next page for screenshots of what you might encounter.

Possible Problems	Success
<div>Forbidden</div> <div><p>You don't have permission to access /~jharvard/my_published_</p></div> <div><p>Apache/2.2.9 (Fedora) Server at morpheus.dce.harvard.edu</p></div> <p>If you see "Forbidden" then most likely you have a problem with permissions.</p> <div>Not Found</div> <div><p>The requested URL /~jharvard/my_published_file_for_morphe</p></div> <div><p>Apache/2.2.9 (Fedora) Server at morpheus.dce.harvard.edu</p></div> <p>If you see "Not Found" then most likely you have transferred the file into your public_html directory (or you have the URL wrong in the browser).</p>	<div>A Simple File</div> <div><p>This file should be published on the course web server host.</p></div> <p>This should be the result.</p>

Part 3. Understanding URLs

Write the answer to these in "answers.html"

1. Understanding URLs -- Relative and absolute URLs. This is an exercise in understanding how relative URL addresses are resolved based upon the current document location (URL). The URL for a *fictitious* XHTML document:

`http://www.acme.com/products/road_runner_traps/model_a.html`

The document contains “href” and “src” attributes whose values reference the following URLs. Give the **fully qualified URL** (i.e. the “absolute” URL, beginning with “http://”) of each resource listed.

- a. `model_b.html`
- b. `../images/model_a.png`
- c. `../../css/site.css`
- d. `manuals/model_a_manual.pdf`
- e. `http://looneytunes.warnerbros.com/`

2. Understanding URLs – How URLs map to files on morpheus. The course web server maps an incoming URL path to a path on the file system. For the table below, provide the missing piece of information (either the fully qualified URL, or the full disk path). An example is given for the user “jharvard”:

Example Fully Qualified URL	Example Full Disk Path
<code>http://morpheus.dce.harvard.edu/~jharvard/primates/lemurs.html</code>	<code>/home/courses/j/h/jharvard/public_html/primates/lemurs.html</code>
<code>http://morpheus.dce.harvard.edu/~jharvard/primates/images/lemur.png</code>	<code>/home/courses/j/h/jharvard/public_html/primates/images/lemur.png</code>

	Fully Qualified URL	Full Disk Path
a.		<code>/home/courses/j/h/jharvard/public_html/primates/tarsier.html</code>
b.		<code>/home/courses/j/h/jharvard/public_html/reptiles/index.html</code>
c.	<code>http://morpheus.dce.harvard.edu/~jharvard/reptiles/iguana.html</code>	
d.	<code>http://morpheus.dce.harvard.edu/~jharvard/birds/</code>	
e.	<code>http://morpheus.dce.harvard.edu/~jharvard/images/tarsier.png</code>	