

Creating a Web Page at the University Of Pittsburgh

Introduction

Your University Computer Account gives you access to space in the AFS, including space where you may host a personal web page. Some departments may also have University Computer Accounts where they can host home pages for their department, instead of maintaining a separate server.

When creating web pages, you will need to use HyperText Markup Language (HTML) to make your pages display properly. This help sheet covers some of the basics of HTML. More information on HTML can be found in the brief guide to HTML hosted by the World Wide Web Consortium, available on the web at <http://www.w3.org/MarkUp/Guide/>.

Creating a Web Directory

Before you can make your web pages publicly available, you will need to set up a web directory in your AFS space so that the web servers can access your files.

1. Open an SSH connection to `unixs.cis.pitt.edu` and log in with your University Computing Account username and password. You are now connected to the Unix Timesharing Service.
2. At the UNIX system prompt type `cd public` and hit **Enter**.
3. Next, type `mkdir html` and hit **Enter**.
4. Type `ls` and hit **Enter**. You should see your `html` directory.
5. Type `cd html` and hit **Enter**.

You are now in the area of your AFS account which the web servers can access. Any files that you place here, as well as any subdirectories that you create within the `public/html` directory, will be accessible over the web.

HTML Basics

HTML is based in plain text and does not require a special application to create it, although many helpful HTML authoring programs exist. This help sheet assumes that you are using a text editor such as Notepad, SimpleText, `emacs`, or `pico`. If you are using an HTML authoring program such as Macromedia Dreamweaver, you should refer to the program's documentation and internal help.

Note: If you are creating your web pages outside of the UNIX Timesharing Service, you will need to upload your pages to your web directory before you can see them on the web. To do this, use an FTP program such as `WS_FTP` (for Windows) or `Fetch` (for Macintosh) to connect to your AFS space and transfer the files.

HTML uses a simple set of codes - known as "tags" - to make plain text appear in a formatted form (such as bold or italics) when the document is viewed by a web browser such as Netscape Navigator or Microsoft Internet Explorer. Tags are marked by the angle brackets `<` and `>`.

Most tags work as part of a set that contains an opening tag and a closing tag. Opening tags, `<tag>`, start a particular feature, and closing tags, `</tag>`, close the feature. For example, if you want text to display in boldface, you will need an opening `` tag and a closing `` tag. It is important to keep track of your opening and closing tags. If you forget to close a tag, you can end up with improper formatting throughout your document. HTML tags can nest inside of each other, so you can use multiple kinds of formatting at once.

Note: Not all tags require closing tags. Some are stand-alone tags. Many people use closing tags with stand-alone tags in order to make their HTML easier for others to read, or so that they do not accidentally forget a necessary closing tag. Some HTML authoring programs will automatically remove or insert these extra closing tags, and web browsers will ignore the tags when displaying pages.

Required Tags

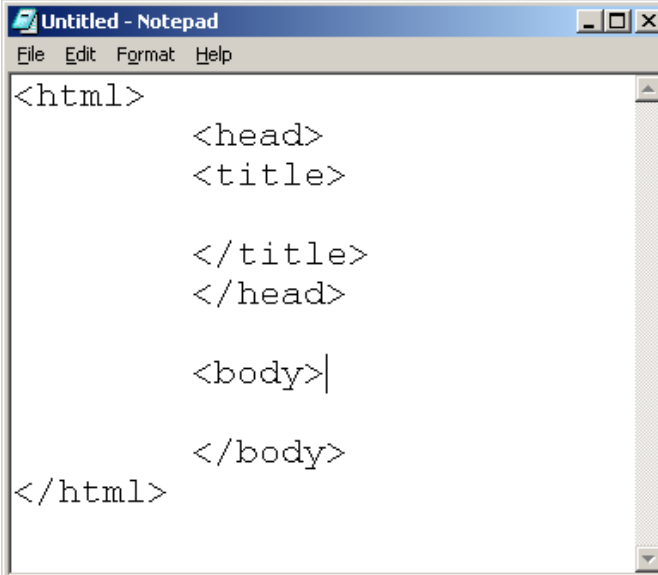
The first thing you want to do when writing your web page is to set up the opening and closing tags that are required for web browsers to understand the document properly.

<html>...</html> mark the beginning and end of the entire document, and tell the web browser to display the file as HTML instead of in some other format. All other tags should be nested inside the **<html>** tags.

<head>...</head> create a header for your page. They contain the **<title>** tags. In more advanced pages, the header may also contain other information such as search engine keywords or Javascript.

<title>...</title> create a title which displays at the top of the browser window. They must be nested inside of a **<head>** tag.

<body>...</body> mark the beginning and end of the visible part of the document, the part displayed inside the window of the web browser. Any visible elements, such as text and graphics, must be nested inside the **<body>** tag. The body tag can have certain properties set, such as background color. For example, to set a page background to white, use the tag **<body bgcolor="white">**.



```
Untitled - Notepad
File Edit Format Help
<html>
    <head>
    <title>

    </title>
    </head>

    <body>|

    </body>
</html>
```

Browsers use the **<html>**, **<head>**, **<title>**, and **<body>** tags to determine the basic look of a page. These elements must be nested as shown or the browser will not interpret them correctly.

Formatting and Spacing Tags

Web browsers do not display text exactly as it appears in the source HTML file. In order to have a web browser display formatting such as headers, bold, or italics, the text you want to format must be enclosed in formatting tags. You will not be able to see the tags themselves when you view the file through the web browser.

<h1>...</h1> is the largest header tag. It is often used to put a title across the top of a page.

<h2>...</h2> and **<h3>...</h3>** are smaller headers often used to set off subsections.

... will bold text.

<i>...</i> will italicize text.

Web browsers also ignore more than one space between words or after punctuation, and any blank spaces between lines. There are three tags you can use to manage how your text is laid out once it is viewed with a web browser.

Creating Lists

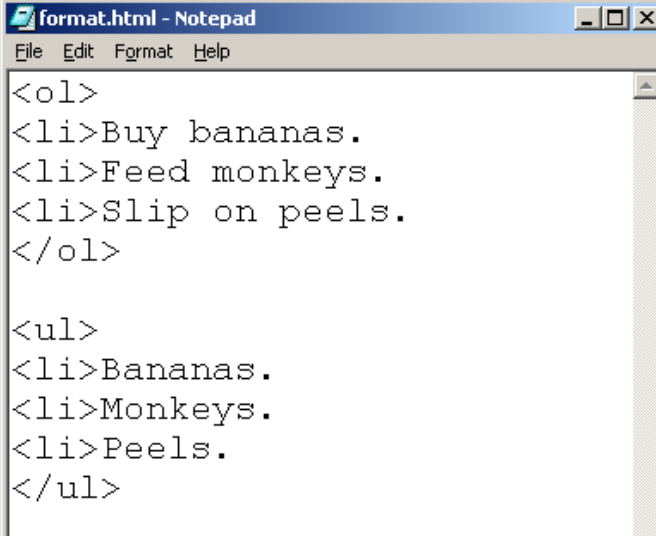
There are two kinds of lists that people usually want to create on web pages: numbered lists and bulleted lists. HTML calls these lists "ordered lists" and "unordered lists".

`...` sets up an ordered (numbered) list.

`...` sets up an unordered (bulleted) list.

`` marks off the items in the list. This tag does not require a closing tag. As with the `<p>` tag, many people do use a closing `` their code more understandable to others.

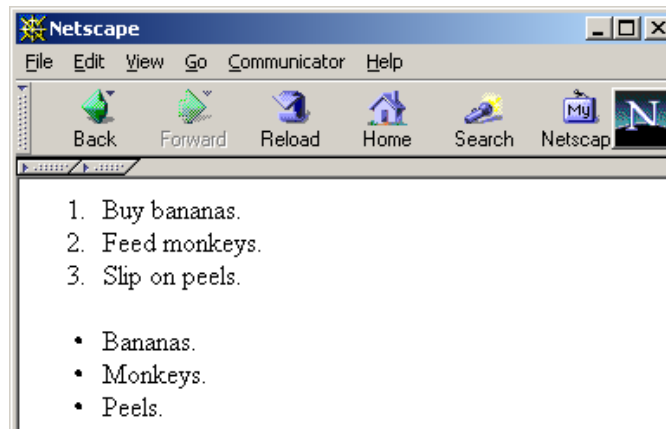
The following HTML:



```
format.html - Notepad
File Edit Format Help
<ol>
<li>Buy bananas.
<li>Feed monkeys.
<li>Slip on peels.
</ol>

<ul>
<li>Bananas.
<li>Monkeys.
<li>Peels.
</ul>
```

generates the following browser output:

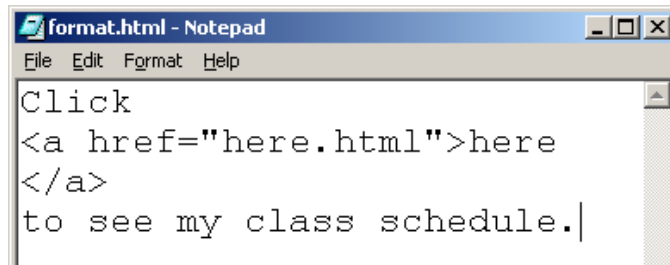


Linking to Other Documents

HTML allows you to create what are called **hypertext links** to other files on the web.

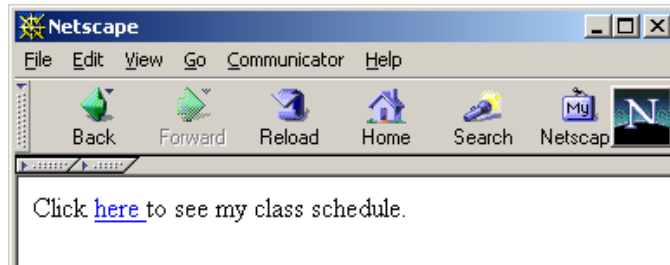
`<a>...` creates a link. You need to specify where the link should go within the opening tag. To specify the link address, you use the `href` parameter inside the `<a>` tag.

The following HTML:



```
format.html - Notepad
File Edit Format Help
Click
<a href="here.html">here
</a>
to see my class schedule.
```

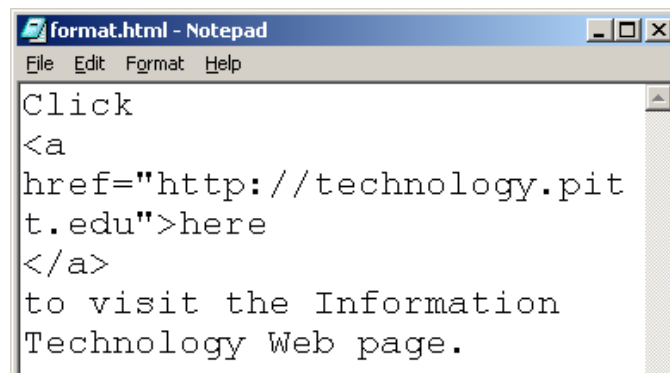
generates the following browser output:



In this instance, the file `here.html` must be in the same directory as the file it is linked from. This is called a **relative link**, since it uses the location of the two files *relative to each other* to locate the linked file. You can use relative links to any files inside your `public/html` directory, including subdirectories.

Note: if the file is in a subdirectory of `public/html`, you will have to specify the subdirectory or directories, separated with a slash. For example, `` would look in the subdirectory `class`, then in the `schedule` directory inside of `class`, and then look for `here.html`.

If the document to which you want to link is not in your AFS space, you will have to enter the full location of the document in the HTML code. This includes the `http://` at the beginning of the URL. These links are called **absolute links**, because rather than using relative position, they use *the full (absolute) location of the file on the web*.



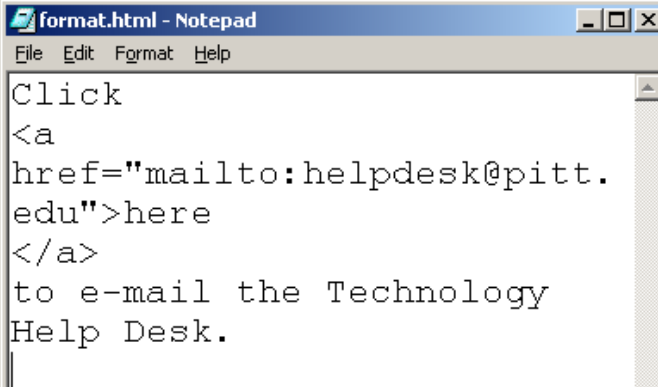
```
format.html - Notepad
File Edit Format Help
Click
<a
href="http://technology.pit
t.edu">here
</a>
to visit the Information
Technology Web page.
```

Note: The code for a hyperlink can be broken up over several lines, and can contain multiple words and images. Remember that unless there is a `
` or `<p>` tag, the web browser will ignore all line breaks, so the `<a>` tag (or any other tag) will not be "broken" by being spread over multiple lines.

IMPORTANT! Remember to close your link tags. If you fail to insert the closing `` tag, everything that follows the opening `` tag will be the clickable link.

E-mail Links

E-mail links use the same tags as regular hyperlinks, but instead of entering a URL beginning with `http://` inside the `` tag, you enter an e-mail address beginning with `mailto:`.



```
format.html - Notepad
File Edit Format Help
Click
<a
href="mailto:helpdesk@pitt.
edu">here
</a>
to e-mail the Technology
Help Desk.
```

Many people will type in the e-mail address as the linked word, so that readers can either write down the e-mail address or print the page to use as a reference.

Including Images


Images on the web are usually in one of two formats: CompuServe Graphic Interchange Format (GIF) and Joint Photographic Experts Group (JPEG) format. You can identify these files by the extensions `.gif` and `.jpg` (or `.jpeg`).

Image files, like your other files, need to be in your `public/html` directory for the University's web servers to access them. You will probably want to use an FTP program to upload the files to your directory.

Once the file is uploaded, you can either link to it as you would to any other file, or you can embed it into a web page.

`` can be used to embed a file into a page. Like the `<a>` tag, you must tell it where to find the file to embed. You do this by setting the `src` parameter. The `` tag does not need a closing tag.

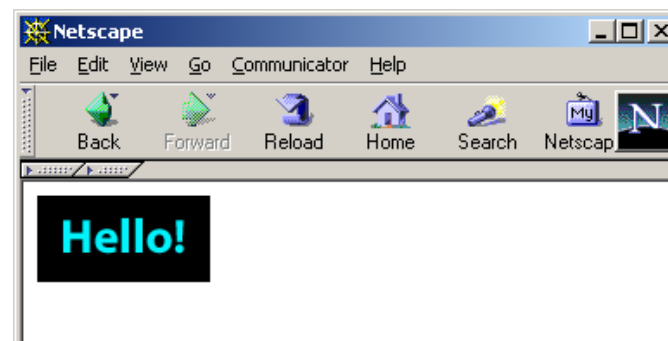
The following HTML:



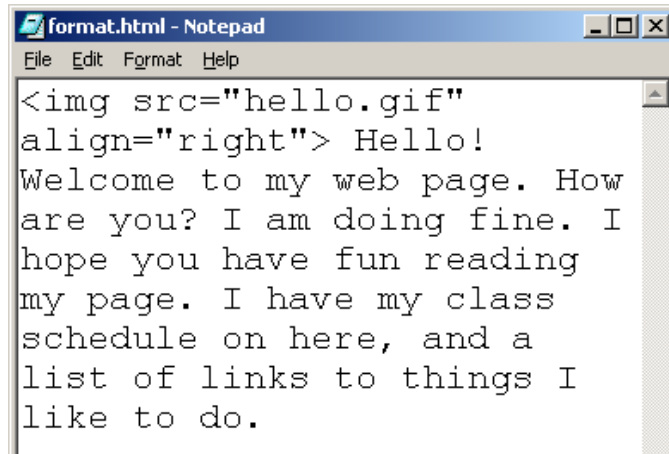
```
format.html - Notepad
File Edit Format Help

```

generates the following browser output:

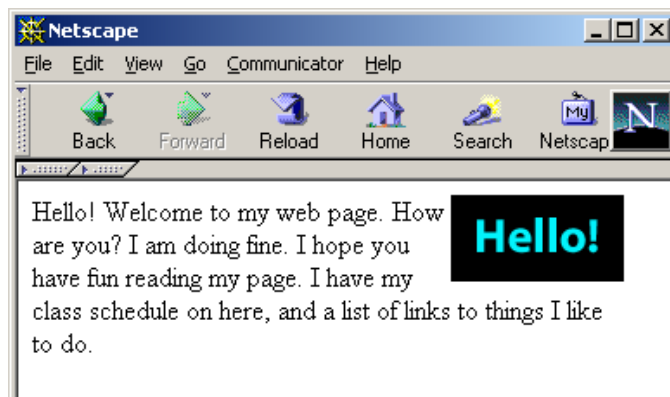


Many people place `<p>` tags before and after `` tags so that text does not run into the image. You can also use the `align` parameter to wrap text around an image. The following HTML:



```
format.html - Notepad
File Edit Format Help
 Hello!
Welcome to my web page. How
are you? I am doing fine. I
hope you have fun reading
my page. I have my class
schedule on here, and a
list of links to things I
like to do.
```

generates the following browser output:



Viewing Your Web Pages

Once you have created your pages (and uploaded them, if you did not create them directly in your AFS space), you can view them by typing their web address into a web browser.

The web address of a file you have created will be `http://www.pitt.edu/~username/file.html` where *username* is your University Computer Account username, and *file.html* is the name of the file you created.

If you create a file named `index.html` and place it in your `public/html` directory, you can access it by using `http://www.pitt.edu/~username/` as the URL. Web browsers will look for an `index.html` file when they go to a directory, so you do not need to type in the `index.html` part of the address.

Note: Web users will get a "directory listing denied" message if they try to view directories on the Pitt web servers that do not have `index.html` files. You should create an `index.html` file in your `public/html` directory and in all of its subdirectories, with links to all of the files you want people to be able to access.

Getting Help

For help setting up your directories or with FTP, contact the **Technology Help Desk** at (412) 624-HELP [4357] or via the Web at <http://technology.pitt.edu>. The Help Desk is available 24 hours a day, seven days a week.

CSSD does not provide HTML consulting through the Help Desk. For help with HTML, you may wish to consult the resources available from <http://www.w3c.org>.