

Information Infrastructure II

INFO I211 – Spring 2014 – Sections 18530 & 22519

Lecture 4 – 2014.01.27-2014.01.28

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CGI hosting on the SoIC web server/1

All I211 students should have a Burrow user account by now, and ought to be able to login to the Burrow, e.g. `ssh to username@silo.soic.indiana.edu`.

...not able to create CGI hosting via the Homepage Management web interface?

- Create your CGI web hosting by running "make-cgi -y".
- The web interface would not be available for students who are not declared SoIC majors (CSCI or INFO).

Note: the Burrow cluster **could** support running one's own web server.

This is just an "FYI", not required for the course.

For I211, students this semester are not asked to run their own web servers.

CGI hosting on the SolC web server/2

...the Burrow cluster *could* support running one's own web server?

- ... but this is just an "FYI", not required for the course.
- Note: for I2I I, students this semester are **not** asked to run their own web servers.

We'll use *burrow* accounts

- with *sharks* permissions (which we all have by now), which means that we are allowed to run our own CGI scripts written in Python, to be executed on the main SolC CGI server.
- We will not need separate servers/port numbers for I2I I class use.

What is HTML?

Hyper Text Markup Language

These days, HTML
can be considered a
subset of XML that
has formatting
information built-in.

```
<html>
<head><title>Example</title></head>
<body>
    <br/>
    <p>This is <i>italic</i> text and this is
    <b>bold</b> text followed by
    a <a href="http://www.google.com">
    hyperlink</a>
    </p>
</body>
</html>
```

Let's review some basic tags.

HTML Basics

HTML documents have `<html>` as their outer container tag.

Inside that, the main containers are `<head>` and `<body>`.

`<head>` can include a `<title>` for the page.

Connect to *silo*, *cd to cgi-pub*, open **pico** and save this as **basics.html**

```
<html>
<head>
  <title>TITLE OF PAGE</title>
</head>
<body>
  CONTENT OF PAGE
</body>
</html>
```

HTML Basics

Bold text:

Italicized text: <i></i>

New line:
 (this is its own closing tag)

```
<html>
```

```
<head>
```

```
  <title>TITLE OF PAGE</title>
```

```
</head>
```

```
<body>
```

```
  <b>BOLD</b>
```

```
  <br>
```

```
  <i>ITALIC</i>
```

```
</body>
```

```
</html>
```

HTML Basics

Paragraphs: `<p></p>` Notice the automatic spacing!

```
<html>
<head>
  <title>TITLE OF PAGE</title>
</head>
<body>
  <p>Paragraph 1</p>
  <p>Paragraph 2</p>
</body>
</html>
```

HTML Basics

Links: `Text for link`

```
<html>
```

```
<head>
```

```
  <title>TITLE OF PAGE</title>
```

```
</head>
```

```
<body>
```

```
  <a href="http://www.google.com">go to Google</a>
```

```
</body>
```

```
</html>
```


HTML Tables

Tables are commonly used to display information or for quick layout managing.

The outer container is `<table>`. Each row is contained in `<tr>`, and each cell is contained in `<td>`.

```
<table>
  <tr>
    <td>Row 1, Col 1</td>
    <td>Row 1, Col 2</td>
  </tr>
  <tr>
    <td>Row 2, Col 1</td>
    <td>Row 2, Col 2</td>
  </tr>
</table>
```

Row 1, Col 1	Row 1, Col 2
Row 2, Col 1	Row 2, Col 2

HTML Tables

If you want a **border**, add this:

```
<table border="1">
```

```
<tr>
```

```
<td>Row 1, Col 1</td>
```

```
<td>Row 1, Col 2</td>
```

```
</tr>
```

```
<tr>
```

```
<td>Row 2, Col 1</td>
```

```
<td>Row 2, Col 2</td>
```

```
</tr>
```

```
</table>
```

Row 1, Col 1	Row 1, Col 2
Row 2, Col 1	Row 2, Col 2

Unlike Python, the indentation is not required. We use it for legibility.

HTML Reference Pages

- <http://www.w3schools.com/html/>
- http://www.w3schools.com/html/html_examples.asp
- <http://htmlhelp.com/reference/html40/olist.html>

Basic UNIX

We can make a Python file *executable* on a Unix/Linux system.

Put this in the first line of the file:

```
#!/usr/bin/env python
```

(warning: to enter the above line in your file, do *not* copy/paste from these lecture notes)

Then, type this in the directory where the file is:

```
chmod a+x [filename.py]
```

Now you can run it by typing:

```
./[filename.py]
```

Basic UNIX

Running python files:

Make sure you're in the same directory as the
python file and type
`python [filename.py]`

For now, don't try to run anything with a GUI
on a Burrow cluster machine.

HTML Table (Group Work (on silo.soic.indiana.edu/!))

Assume you have a Python *list of lists*, where every inner list is the same length.

Example:

```
my_list = [[1,2,3],[4,5,6],[7,8,9]]
```

Write a Python 2.6 program that takes this list and *writes it out to a file* as an HTML table: an HTML file.

Example output:

1	2	3
4	5	6
7	8	9

some useful Python 2.x calls:

```
fileToBeOpened = open("filename", "w")  
fileToBeOpened.write(some-text-string)  
fileToBeOpened.close()
```

HTML Table (Solution)

```
my_list = [[1,2,3],[4,5,6],[7,8,9]]

print my_list

out = open("html_table.html", "w")

out.write("<html><body><table border='1'>")

for sublist in my_list:
    out.write("<tr>")
    for elem in sublist:
        out.write("<td>" + str(elem) + "</td>")
    out.write("</tr>")

out.write("</table></body></html>")

out.close()

print "Finished writing."
```