

Advanced Programming with Python. Session 3

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Plan for today

- Sending files from folder
- working with HTML

Serving static files

Being able to serve static files is vital for websites. They can be images, videos, CSS templates, or anything you imagine.

Serving static files

In flask we can serve static files using the **send_from_directory** function.

```
from flask import send_from_directory

@app.route("/images/<image>.jpg")
def serve_image(image):
    return send_from_directory(
        "images/",
        filename="{}.jpg".format(image))
```

Serving static files

Do you see something that can go wrong in the previous route? Try to search for an image that's not there.

Serving static files

Luckily, **send_from_directory** comes with error control builtin, but we can fine-tune it if we want

```
from flask import send_from_directory, abort
from werkzeug.exceptions import NotFound
```

```
@app.route("/images/<image>.jpg")
def serve_image(image):
    try:
        return send_from_directory(
            "images/",
            filename="{}.jpg".format(image))
    except NotFound:
        return abort(404)
```

Practice

<https://github.com/mcsbt-advanced-python-2020/session-3>

See example-1

Serving HTML

HTML files, as files of any other type can be served using the **`send_from_directory`** function.

Serving HTML

```
@app.route("/")  
def index():  
    return send_from_directory("html", filename="index.html")
```

Practice

<https://github.com/mcsbt-advanced-python-2020/session-3>

See example-2

HTML stands for **Hypertext Markup Language**. It's a language that describes how the information should be presented in webpages

HTML documents are defined by tags, which look as follows:

```
<tag>content</tag>
```

Let's see a real world example

```
<p>this is a paragraph</p>
```

the `<p>` tag is used to represent paragraphs!

HTML structure

In HTML, all the visible structure of the document must go inside the **<body>** tag

```
<body>  
  <p>the 'p' tag represents a paragraph</p>  
</body>
```

HTML structure

On the other hand, all the HTML tags that are not meant to be rendered go inside the `<head>` tag.

For example, the title tag is one of these tags:

```
<head>
  <title>this is the title</title>
</head>
<body>
  <p>the 'p' tag represents a paragraph</p>
</body>
```


HTML structure

Finally, for an HTML document to be well formed, it needs to be wrapped in the HTML tag

```
<html>
  <head>
    <title>this is the title</title>
  </head>
  <body>
    <p>the 'p' tag represents a paragraph</p>
  </body>
</html>
```

HTML structure

Let's create our first web page!

Some HTML tags

Now let's see some HTML tags

Paragraphs

text paragraphs in HTML are represented with the `<p>` tag

```
<p>
```

```
this is the first paragraph of my text. As you can see it  
also contains <strong>other tags</strong>
```

```
</p>
```

```
<p>
```

```
In the second paragraph, I wanted to write this other thing  
but I'm running out of ideas for what to write
```

```
</p>
```

```
<p>
```

```
In the last paragraph of my text I want to <strong>finish</strong>  
it
```

```
</p>
```

Headings

Headings are used in html in the same way a word doc, or in a newspaper, to capture reader's attention.

What's the most important heading in the image? and the second one?

Headings

HTML provides us with 6 different tags to represent 6 different levels of headings: `<h1>`, `<h2>`, `<h3>`, `<h4>`, `<h5>`, and `<h6>`.

```
<h1>this is the h1</h1>
```

```
<h2>this is the h2</h2>
```

```
<h3>this is the h3</h3>
```

```
<h4>this is the h4</h4>
```

```
<h5>this is the h5</h5>
```

```
<h6>this is the h6</h6>
```

Hyperlinks

Hyperlinks are the most vital part of HTML. They allow us to go to other documents when clicking them.

Hyperlinks

We create links in HTML using the `<a>` tag.

```
<a>this is a link, but doesn't have an address to go to...</a>
```

In order to give an address to the link, we need to use the **href attribute**:

```
<a href="https://google.com">this takes you to Google!</a>
```


We use the **img** tag with the **src** attribute in order to create images in our HTML documents

```

```

Homework

Create the HTML for what it could be your Wikipedia entry.

- different parts of your life
- links to your presence in the web

Resources

Free course to learn HTML:

<https://www.codecademy.com/courses/learn-html>

Mozilla development network docs:

<https://developer.mozilla.org/en-US/docs/Web/HTML>