

# 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>