


CS471 - Web Technologies

HTML Fundamentals I


Semester: 452

Lecture: 4

Outline

- 
- About HTML.
 - HTML document and dom
 - Categorize of HTML tags
 - Meta and structure tags
 - HTML layout and Django

What is HTML?

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- HTML (hyper text markup language)
 - A language for describing web pages
 - Consists of HTML tags used in a HTML document
 - HTML documents = web pages
 - A tag is a name surrounded by angle brackets
 - Example: <h2> means headings level 2
 - Latest version of HTML is 5 (released back in 2012)
 - We also have xHTML, which is more strict than HTML

HTML vs XHTML



- XHTML document is well-formed, (following defined rules)
 - Follows XML rules of validation for HTML elements
- If HTML is used, the page is viewed regardless if there is syntax error
- XHTML is more strict, if there is a syntax error, it won't executed.
- Defined rules:
 - documenttype, html, head, title, and body tags are mandatory
 - HTML elements must be appropriately nested
 - Any opened tag must be closed
 - Tag attribute must be all quoted
 - Element names must be all in lowercase

HTML tags

- HTML tags can be categorized into groups
 - Meta and document structure tags
 - Content tags
 - Formatting tags
 - Forms tags
 - Media tags
 - Object tags (list and tables)

Metadata and document tags

Demo
Next

- Tags are used for structuring the HTML document
 - The table below shows basic ones that are used frequently.

<code><!DOCTYPE></code>	Indicate type and version of HTML
<code><html></code>	Starting of HTML document
<code><head></code>	Provides information about the HTML document: encoding system, document author, document description. These are metadata of document.
<code><title></code>	Define title of the document (the name appears on the tab of the browser)
<code><body></code>	Define the document body
<code><section></code> <code><div></code>	Define sections and group elements. Section has semantics and div is generic and used for any grouping of elements. Section is introduced in HTML5
<code><!-- comment --></code>	Write comment lines in HTML document

Content tags

Demo
Next

- Tags are used for display contents on the web pages
- Sementially are defined within <body> tag

<h1><h2>...<h6>	Define headings
<p>	Defines a paragraph
<hr>	Defines a line break

HTML layout



- For good UI and UX, HTML document should be divided into 'areas'.
- An area for header: display fixed content at the top of body of HTML,
- An area for main content that changes at every request
- An area for sidebar: display fixed content to either right or left of page
- An area for footer: display fixed content at the bottom of body of HTML

HTML layout (cont.d)

Demo
Next

DOCTYPE, HTML, and head tags (base title, metadata, links to base CSS and JS tags)

Body

Header

Sidebar

Container/Main

Sidebar

Footer

HTML layout (cont.d)

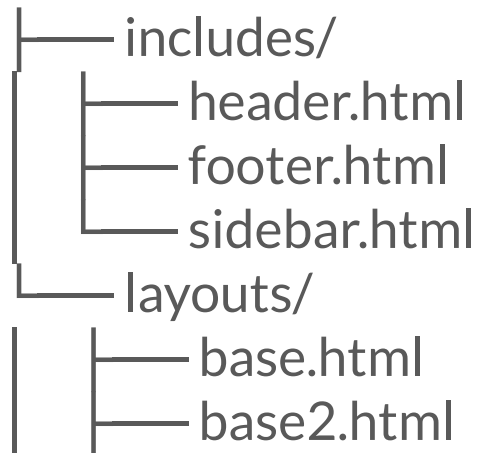
- Repeating the layout for every HTML is time consuming
- Web-development frameworks usually provide mechanism to overcome that
 - Following some structure, yield the area that is needed every time
- Dry: do not - repeat - yourself

Django layout

- Layouts should be part of templates, the structure is:

templates/

...



Base layout

DOCTYPE, HTML, and head tags (base title, metadata, links to base CSS and JS tags)

Body

We link header if any

We link sidebar if any

We link footer if any

Insert Python in HTML

- To include other templates into layout, we use the Django command

```
include 'template_path'
```

- To insert Django/python code inside a HTML, we use the following:

```
{% python_code %}
```

For example,

```
{% if 'Mohammand' in book.author %}  
  <p>The book belongs to Mohammad</p>  
{% else %}  
  <p>The book belongs to Abdullah</p>  
{% endif %}
```

Base layout (cont.d)

Demo
Next

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width">
    <title>
      EBook - {% block title %}{% endblock %}
    </title>
  </head>
  <body>
    {% include 'includes/header.html' %}
    {% include 'includes/sidebar1.html' %}

    {% block content %}
    {% endblock content %}

    {% include 'includes/sidebar2.html' %}
    {% include 'includes/footer.html' %}
  </body>
</html>
```

Base layout (cont.d)

Demo
Next

- After constructing the base layout, all we need is to include it in every template
- To include it we use the following command:

```
{% extends "layouts/base.html" %}
```

- We use the above command at the beginning of each HTML document

Ex, in books.html

Django layout (cont.d)

- Other Django commands that can be used in HTML documents

```
{% block title %}...{% endblock title %}
```

```
{% block content %}...{% endblock content %}
```

```
{% block stylesheets %}...{% endblock stylesheets %}
```

```
{% block javascripts %}...{% endblock javascripts %}
```