
Web Engineering

Introduction to HTML



HTML

- HTML stands for Hypertext Markup Language.
- It is the standard markup language for creating web pages.
- HTML uses a system of markup tags enclosed in angle brackets (< >).
- Tags are used to define the structure and content of a web page.

Basic Structure

- `<!DOCTYPE html>`

`<html>`

`<head>`

`<title>Page Title</title>`

`</head>`

`<body>`

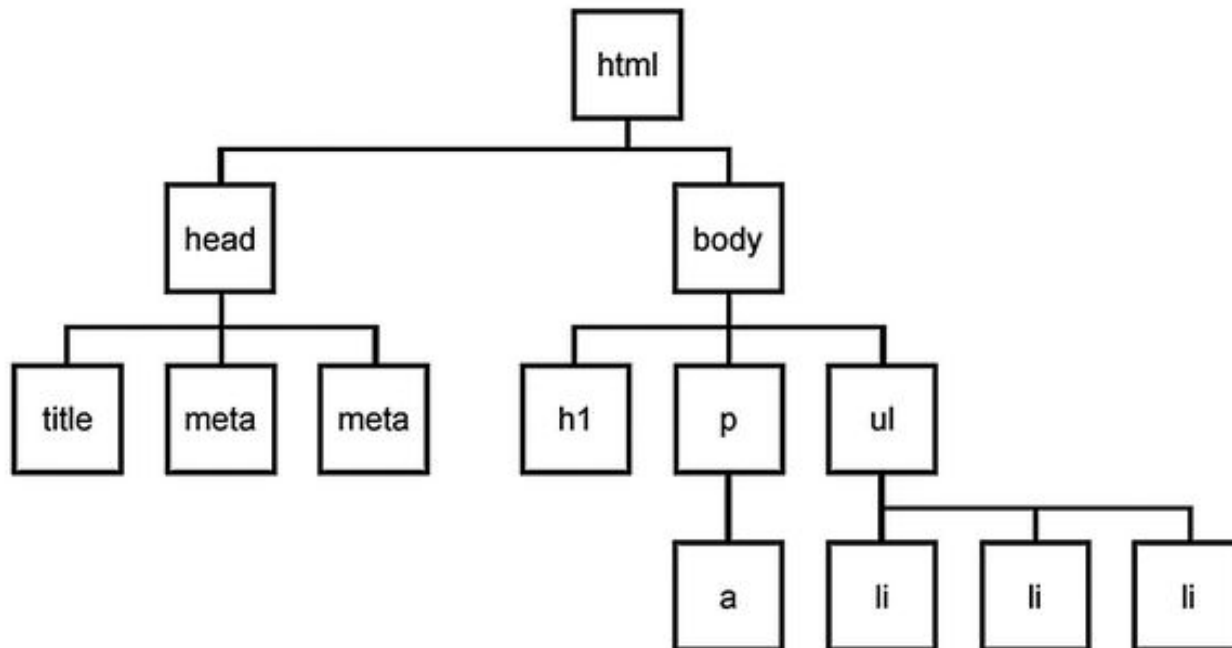
`<h1>This is a Heading</h1>`

`<p>This is a paragraph.</p>`

`</body>`

`</html>`

Basic Structure



Key HTML Tags

- `<html>`: The root element that wraps the entire web page.
- `<head>`: Contains meta-information about the document.
- `<title>`: Sets the title displayed in the browser tab.
- `<body>`: Contains the visible content of the web page.

HTML elements and HTML tags

- HTML elements and HTML tags are often confused.
- The tags are used to open and close the object, whereas the element includes both tags and its content.
- Let's consider an example with the <h1> tag:
- <h1> Title of the document </h1> - is an element,
- and <h1>, </h1> - are tags.

More HTML Tags

A few most important HTML tags are listed below:

- `<div>`: a container, usually represents a rectangular area with information inside.
- ``: an image
- `<a>`: a clickable link to go to another URL
- `<p>`: a text paragraph
- `<h1>`: a title (h2,h3,h4 are titles of less importance)
- `<input>`: a widget to let the user introduce information
- `<style>`: to insert CSS rules
- `<script>`: to execute Javascript
- ``: a null tag (doesn't do anything)

HTML Syntax Example

HTML: syntax example



The diagram illustrates the syntax of an HTML document with several annotations:

- Tag name:** Points to the `<div>` tag.
- attributes:** Points to the `id="main"` attribute.
- comment:** Points to the `<!-- this is a comment -->` comment.
- text tag:** Points to the `<button>` tag.
- self-closing tag:** Points to the `` self-closing tag.

```
<div id="main">  
  <!-- this is a comment -->  
  This is text without a tag.  
  <button class="mini">press me</button>  
    
</div>
```


HTML: Tagging correctly

HTML: tagging correctly

Try to avoid doing this:

```
<div>  
Title  
  
Here is some content  
Here is more content  
</div>
```

DONT DO THIS

Do this instead

```
<div>  
  <h1>Title</h1>  
  <p>Here is content.</p>  
  <p>Here is more content</p>  
</div>
```

HTML Formatting Elements

Formatting elements were designed to display special types of text:

- `` - Bold text
 - `` - Important text
 - `<i>` - Italic text
 - `` - Emphasized text
 - `<mark>` - Marked text
 - `<small>` - Smaller text
 - `` - Deleted text
 - `<ins>` - Inserted text
 - `<sub>` - Subscript text
 - `<sup>` - Superscript text
-

HTML Lists

- HTML lists are specified with the tag that is used for specifying an unordered list, or with the tag that is used to create an ordered list, followed by tags.

```
<h2>An unordered list</h2>
<ul>
  <li>Pen</li>
  <li>Pencil</li>
  <li>Ruler</li>
  <li>Book</li>
</ul>
<h2>An ordered list</h2>
<ol>
  <li>Pen</li>
  <li>Pencil</li>
  <li>Ruler</li>
  <li>Book</li>
</ol>
```

An unordered list

- Pen
- Pencil
- Ruler
- Book

An ordered list

1. Pen
2. Pencil
3. Ruler
4. Book

HTML Horizontal Lines

The HTML <hr> tag breaks the page into different parts and with the help of a horizontal line, which runs from left to right edge of the page, creates horizontal margins. This is an empty tag.

```
<p>Learn to design and build a professional website</p>  
<hr>
```

HTML Attributes

- HTML attributes are used within the opening tag. They provide additional information about [HTML elements](#). An attribute edits the default functionality of an element or offers functionality to specific element types that cannot function properly without them. The attribute has a name, followed by the equals sign(=) and a value placed inside the quotation marks("").
-
- **Syntax**
- `<tag attribute="value">Your Text</tag>`

HTML Link

- **The href Attribute**

- The <a> tag defines a hyperlink. The href attribute specifies the URL of the page the link goes to:

- **Example**

- `Visit W3Schools`

HTML Image

HTML tag with the src, width, height, alt and style attributes

```

```

HTML CSS

- Cascading Style Sheets (CSS) is used to format the layout of a webpage.

CSS can be added to HTML documents in 3 ways:

- **Inline** - by using the `style` attribute inside HTML elements
- **Internal** - by using a `<style>` element in the `<head>` section
- **External** - by using a `<link>` element to link to an external CSS file

Inline CSS

```
<h1 style="color:blue;">A Blue Heading</h1>
```

```
<p style="color:red;">A red paragraph.</p>
```

```
<h1 style="background-color:powderblue;">This is a heading</h1>
```

```
<p style="background-color:tomato;">This is a paragraph.</p>
```

Internal CSS

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: powderblue;}
h1   {color: blue;}
p    {color: red;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

External CSS

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

"styles.css":

```
body {
  background-color: powderblue;
}
h1 {
  color: blue;
}
p {
  color: red;
}
```



THANK



YOU

