



HTML 5

The past, the present, the future

HTML Basics

Telerik Software Academy

<https://telerikacademy.com>

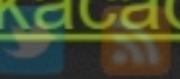
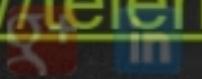
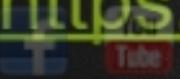




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Hypertext Markup Language

```
<!DOCTYPE html>
<html>
<head>
<title>Welcome</title>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8" />
<meta name="viewport" content="width=device-width, initial-scale=1.0" />
```

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Hypertext Markup Language

- HTML – Hyper Text Markup Language
 - A notation for describing
 - document structure (semantic markup)
 - formatting (presentation markup)
 - Looks (looked?) like:
 - A Microsoft Word document
- The markup tags provide information about the page content structure
- A HTML document consists of many tags





- An HTML document must have an `.htm` or `.html` file extension
- HTML files can be created with text editors:
 - *Notepad*
 - *Notepad++*
 - *Sublime Text 2/3*
 - *Atom*
 - *Visual Studio Code*
- Or HTML editors (WYSIWYG Editors):
 - Microsoft WebMatrix
 - Microsoft Expression Web
 - Microsoft Visual Studio
 - Adobe Dreamweaver



HTML – Past, Present, Future

- 1991 – HTML first mentioned – Tim Berners-Lee – HTML tags
- 1993 – HTML (first public version, published at IETF)
- 1993 – HTML 2 draft
- 1995 – HTML 2 – W3C
- 1995 – HTML 3 draft
- 1997 – HTML 3.2 – “Wilbur”
- 1997 – HTML 4 – ”Cougar” – CSS
- 1999 – HTML 4.01 (final)
- 2000 – XHTML draft
- 2001 – XHTML (final)
- 2008 – HTML5 / XHTML5 draft
- 2011 – feature complete HTML5
 - http://en.wikipedia.org/wiki/HTML_5#Plan, 2014





HTML Terminology

Tags, Attributes and Elements





- Concepts in HTML

- Tags

- Opening tag and closing tag
 - The smallest piece in HTML

- Attributes

- Properties of the tag
 - Size, color, etc...

- Elements

- Combination of opening, closing tag and attributes

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- Tags are the smallest piece in HTML Document
 - Start with < and end with >
- Two kinds of tags
 - Opening
 - Mark the start of an HTML element
 - Closing
 - Mark the end of an HTML element
 - Starts with </

```
<html>
  <body>
    <h1>Hello Pesho!</h1>
  </body>
</html>
```

Opening tags

Closing tags





Attributes

- Attributes are properties of HTML Elements
 - Used to set size, color, border, etc...
 - Put directly in the tags
 - Has value surrounded by single ' ' or double " " quotes
 - The value is always a string

```
<!-- makes a hyperlink to Google -->  
<a href="http://google.com"> go to Google</a>
```

```
<!-- makes a horizontal line -->  
<hr width="95%" size="3px"/>
```

Some tags don't have
closing tag

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```
<!-- adds an image in the web page -->  

```





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Some tags don't have closing tag

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```





Most Common Attributes

- There are some **attributes** that are common for every HTML element
 - id, class, name, style
- Some attributes are **specific**
 - For example the attribute src of the img element
 - Shows the path to the image to be shown

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HTML Elements

- HTML Elements are combination of tags and attributes
 - Opening tag with some or none attributes and a closing tag

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

```
<html>...</html>
```

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HTML Terminology

Demo



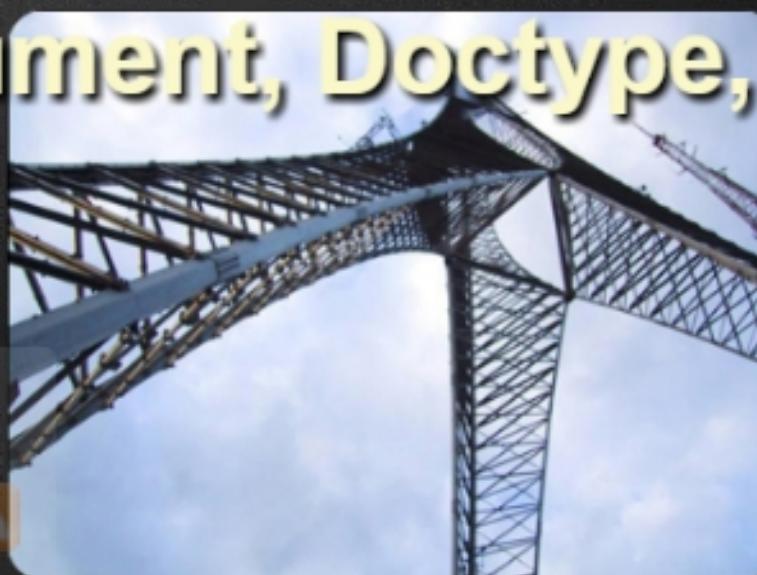
Follow





HTML Document Structure

HTML Document, Doctype, Head, Body



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HTML Document Structure

- Some elements are **essential** to each HTML Document:
 - html, head, body, doctype
- The html element
 - Used to **mark the beginning** and ending of a HTML document
 - All the content of the web page is inside this tag

```
<html>
    <!-- content goes here -->
</html>
```

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Head Element

- The head tag contains markup that is not visible to the user (i.e. the person using the browser)
 - But **helps the browser** to render correctly the HTML document
- What is in there?
 - Styles, scripts
 - Declare encodings
 - Etc..
 - The title tag - the text in the tab of a browser





Body Element and Doctype

- body element contains all the visible to the user markup
 - Headings, text, hyperlinks, images, etc...
 - Textboxes, sliders, buttons...
- Doctype is kind of the validator of the page
 - Tells the browser in which version of HTML the page is written
 - HTML 5 Doctype

```
<!DOCTYPE html>
```

Follow us:





HTML Document Structure

Demo





Text Formatting

- Text formatting tags modify the text between the opening tag and the closing tag
 - Ex. `Hello` makes "Hello" bold
 - Many of the formatting tags are deprecated
 - Use CSS instead

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Text Formatting - Tags

Tags

Meaning

bold

<i></i>

italiazed

<u></u>

underlined

sample^{superscript}

sample_{bold}

strong

emphasized

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<pre></pre>

preformatted text





Some Simple Tags

- Hyperlink Tags

```
<a href="http://www.telerik.com/"  
    title="Telerik">Link to Telerik Web site</a>
```

- Image Tags

```

```

- Text formatting tags

```
This text is <em>emphasized.</em>  
<br />new line<br />  
This one is <strong>more emphasized.</strong>
```



Hyperlink Tags

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Headings and Paragraphs

- Heading Tags (h1 – h6)

```
<h1>Heading 1</h1>
<h2>Sub heading 2</h2>
<h3>Sub heading 3</h3>
```

- Paragraph Tags

```
<p>This is my first paragraph</p>
<p>This is my second paragraph</p>
```

- Sections: div and span

```
<div style="background: skyblue;">
    This is a div
</div>
```





Ordered Lists: Tag

- Create an Ordered List using :

```
<ol type="1">
  <li>Apple</li>
  <li>Orange</li>
  <li>Grapefruit</li>
</ol>
```

- Attribute values for type are 1, A, a, I, or i

1. Apple
2. Orange
3. Grapefruit

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A. Apple
B. Orange
C. Grapefruit

a. Apple
b. Orange
c. Grapefruit

I.

II.

III.

A

II.

III.

a

II.

III.

I

II.

III.

i. Apple
ii. Orange
iii. Grapefruit

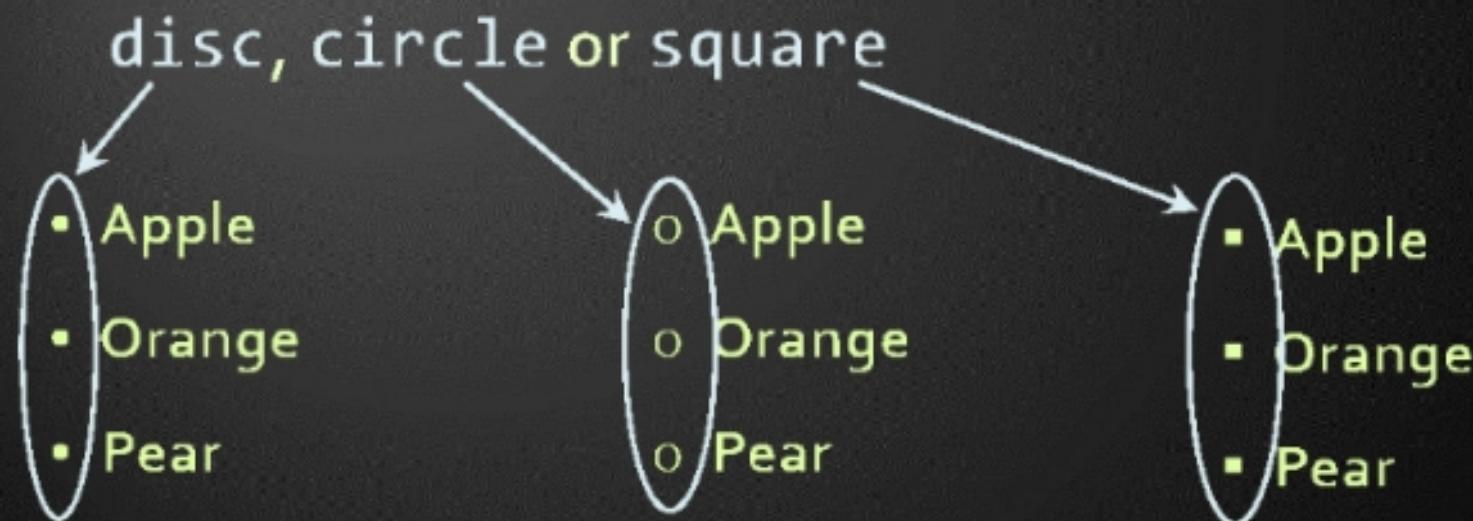
Apple
Orange
Grapefruit



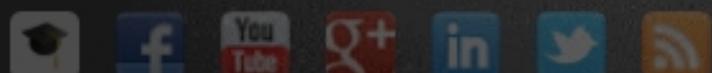


Unordered Lists: Tag

- Create an Unordered List using :
- Attribute values for **type** are:



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Definition lists: <dl> tag

- Create definition lists using <dl></dl>
 - Pairs of text and associated definition; text is in <dt></dt> tag, definition in <dd></dd> tag

```
<dl>
<dt>HTML</dt>
<dd>A markup language ...</dd>
<dt>CSS</dt>
<dd>Language used to ...</dd>
</dl>
```

- Renders without bullets
- Definition is indented

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HTML Common Elements

Demo

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Section Elements

The <div> and the

```
4 <head>
5 <meta http-equiv="Content-Type" ...
6 <title>Home</title>
7 <link rel="stylesheet" href="sty...
8 <style type="text/css">
9 .style1 {
10   color: #FF0000;
11 }
12 </style>
13 </head>
14
```

You will have to purchase a separate license to use the OpenCube media player.

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The <div> Tag

- <div> creates logical divisions within a page
 - Block element
 - Used with CSS
- Example:



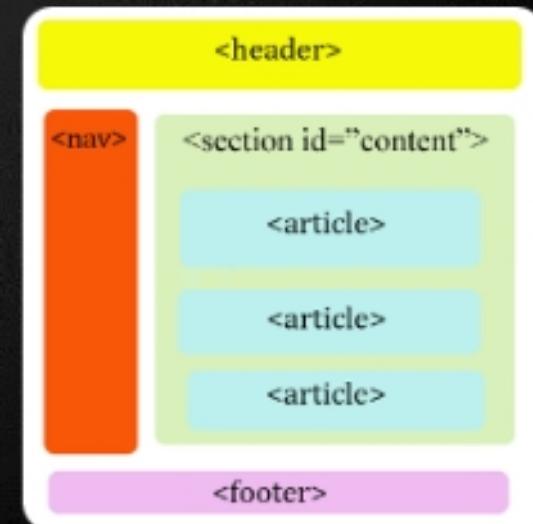
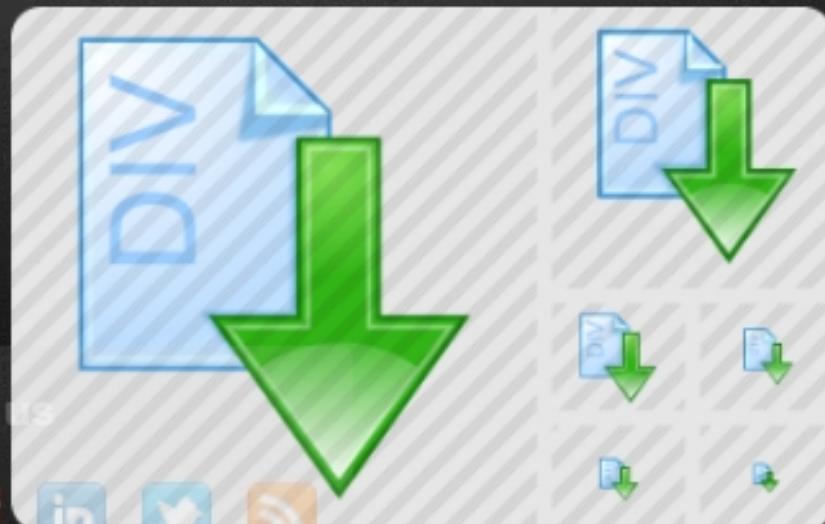
```
<div style="font-size:24px; color:red">DIV example</div>
<p>This one is
    <span style="color:red; font-weight:bold">only a
test</span>.
```





<DIV>

Demo



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The Tag

- **Inline style element**
- Useful for **modifying a specific portion** of text
 - Don't use it to create a **separate area** (paragraph) in the document
- Mainly used to style parts of a text



```
<p>This one is
    <span style="color:red; font-weight:bold">only a
test</span>.
</p>
<p>This one is another
    <span style="font-size:32px; font-weight:bold">TEST</sp
```



Demo

Hello World

The quick brown fox *jumped* over the lazy dog.

1999 2002 2005
2001 2010 2011
2009 2018 2019



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Semantic Structural Tags

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The Structure of a Web Page

- A sample layout structure of a Web Page

Logo + Header

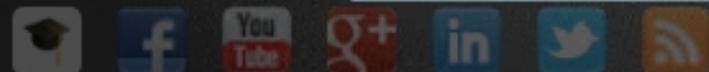
Navigation

Content

Side bar

Footer

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The "HTML 4 and Before" Way

- Using **divs** with **IDs**
 - The **IDs** are needed for styling

```
<html>
<head> ... </head>
<body>
    <div id="header"> ... </div>
    <div id="navigation"> ... </div>
    <div id="sidebar"> ... </div>
    <div id="content"> ... </div>
    <div id="footer"> ... </div>
</body>
</html>
```

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The HTML 4 Way

Demo

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The HTML5 Way

- In HTML5 there are semantic tags for layout
 - <nav>, <header>, <footer>, <section>

```
<html>
<head> ... </head>
<body>
    <header> ... </header>
    <nav> ... </nav>
    <aside> ... </aside>
    <section> ... </section>
    <footer> ... </footer>
</body>
</html>
```

- Work only in newer browsers

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Semantic Structural Tags

Demo

HTML5
Unleashed

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Remember

- It is important to have the **correct vision and attitude** towards HTML
 - HTML is only about structure, not appearance
 - Browsers tolerate invalid HTML code and parse errors – you should not
 - Always think about **semantics**
- The **W3C HTML Validator** is a way to validate your HTML
 - <http://validator.w3.org/>

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