

FastTrackIT

<https://nmatei.github.io/web-intro-presentation/index.html>

Intro in **HTML**, **CSS**, **JS**

by **Matei Nicolae**

<https://www.linkedin.com/in/nicolaematei>

Have you played with LEGO?



What do we need to make them look like this?



Features, Tips, and Techniques you Must Know about:

HTML, CSS, JS

What is HTML?

HTML is a **markup** language for **describing** web documents (web pages).

- HTML stands for **Hyper Text Markup Language**
- A markup language is a set of **markup tags**
- HTML documents are described by **HTML tags**
- Each HTML tag **describes** different document content

Read more about [HTML](#)

What is CSS?

- **CSS** stands for **Cascading Style Sheets**
- CSS defines **how HTML elements are to be displayed**
- Styles were added to HTML 4.0 **to solve a problem**
- CSS saves a lot of work
- External Style Sheets are stored in **CSS files**

Read more about [CSS](#)

What is JS?

- **JavaScript** is the most popular **programming language** in the world.

Read more about [JS](#)

Better let's create our first html document ;)

and see **how** and **why** we need this theory!

Then you will search for theory when you feel you need it, not when I tell you.

Create a new empty file

1. name it **index.html**
2. Edit it with **notepad++**
3. **Write** some info inside (*only text*)
4. **Save** the file
5. Double click on file name (*run it*)
6. It should open it in your default browser. *Hope is not IE ;)*

Now let's organize our info

Let's assume we need to expose our info like a document (*MS Word / Open Office*)

So we need some:

- spaces - or enters
- underlines
- **bold**
- *italic*
- **mix format**
- tables
- titles

[more stuff](#)

The need of html TAGS

It is time to read more about HTML, and understand some items from of html structure

Tag example

```
1 <tagname>
2     content
3 </tagname>
```

or no content tags:

```
1 <tagname/>
```

Types of tags

- visible elements
- layout elements (not visible by default)

Read more about tags

1) The most used layout tags

```
1 <h1>Headings 1, 2, ... 6</h1>
2 <p>Paragraphs</p>
3 <strong>Strong/Bold</strong>
4 <ul>
5     <li>unordered list item1</li>
6     <li>unordered list item2</li>
7 </ul>
8 <table>
9     <tr>
10        <td>table cell inside row</td>
11    </tr>
12 </table>
13
14 <div>section *</div>
15 <span>section *</span>
```

 Organize your document with this tags

2) The most used visible tags

```
1 
2 <a href="http://fasttrackit.org">link</a>
3 <form action="http://fasttrackit.org"
4     method="post">
5     <label for="user-email">Email</label>
6     <input type="email" required
7         id="user-email" name="email"/>
8     <button type="submit" name="submit">
9         Subscribe
10    </button>
11 </form>
```



link

Email

Subscribe

Nested Elements

```
1 <p>  
2     You can have images inside a link  
3         and all that inside a paragraph  
4         <a href="http://fasttrackit.org">  
5               
6         </a>  
7     </p>
```

You can have images inside a link and all that inside a
paragraph



Form example

```
1 <form action="" method="get">
2   <label for="email">Email:</label>
3   <input
4     name="email"
5     type="email"
6     placeholder="email@sdl.com"
7     required="required"
8   />
9
10  <button type="submit">Submit</button>
11 </form>
```

Email:

HTML5 New Input Types:

color, date, datetime, datetime-local, email, month, number, range, search, tel, time, url, week

The Semantic Header and Footer

```
1 <div id="header">  
2 ...  
3 </div>  
4  
5 <div id="footer">  
6 ...  
7 </div>
```

Because divs, by nature, have no semantic structure —

```
1 <header>  
2 ...  
3 </header>  
4  
5 <footer>  
6 ...  
7 </footer>
```

Audio Support

```
1 <audio autoplay="autoplay"  
2     controls="controls">  
3     <source src="file.ogg" />  
4     <source src="file.mp3" />  
5     <a href="file.mp3">Download.</a>  
6 </audio>
```



Video Support

```
1 <video controls preload>
2   <source src="video.ogv"/>
3   <source src="video.mp4"/>
4   <p> Your browser is old.
5     <a href="video.mp4">Download.</a>
6   </p>
7 </video>
```



Attributes

On visible tags we've seen **more info after tag name**, they are called attributes, and look like this:

```
1 <p  
2   id="unique-id"  
3   class="css-class"  
4   style="color: red; text-align: right"  
5   title="info on mouse over"  
6 >  
7   paragraph with attributes  
8 </p>
```

paragraph with attributes

More style attributes

```
1  text-align: right;  
2  font-weight: bold;  
3  margin: 5px 6px 7px 8px;  
4  padding: 10px;  
5  width: 400px;  
6  height: 60px;  
7  
8  border: 4px solid red;  
9  background-color: yellow;  
10 color: blue;
```

paragraph with style



Apply some style on your elements

Making a standard document

Add next code to beginning of document

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <title>Page Title</title>
5 </head>
6 <body>
```

?

Add next code at the end of document

```
1 </body>
2 </html>
```

?

Look at [HTML Page Structure](#)

Is time to improve our document

✍ Create a new empty file

1. name it **style.css**
2. include it in **index.html** file after title tag

```
5 <link type="text/css" rel="stylesheet"
6 href="style.css"/>
```

Understand css syntax.

```
1 /* selector { styles } */
2 p { color: red; }
3 #home-elem-id { color: blue; }
4 .favorite-class { color: green; }
```

✍ Move all style attributes to css file

Css Layout: Menu using list with links

```
1 <ul id="top-menu-bar">
2   <li><a href="#">HOME</a></li>
3   <li><a href="#">Projects</a></li>
4   <li><a href="#">About</a></li>
5   <li><a href="#">Contact</a></li>
6 </ul>
```

- HOME
- Projects
- About
- Contact

Css Layout: Menu using list with links

```
1 #top-menu-bar {  
2     text-align: center;  
3     background-color:#334455;  
4     color:#fff;  
5 }  
6 #top-menu-bar li {  
7     display:inline; margin:0;  
8     padding:0;  
9 }  
10 #top-menu-bar a {  
11     text-decoration: none;  
12     padding: 0 15px 0 15px;  
13     color: #fff;  
14 }  
15 #top-menu-bar a:visited {color: #fff;}  
16 #top-menu-bar a:hover {  
17     color: #334455; background: #fff;  
18 }
```

HOME Projects About Contact

Are you wonder if this nice effects are a result of html5?

well.... NO ;)

js just impress.js

- Based on the power of CSS3 transforms and transitions in modern browsers.

of course
lot
of JavaScript

DHTML intro

What we did until now was static html and css

DHTML stands for **Dynamic HTML**, and is made with
JavaScript

Web:

- Site
- Application

Web Application examples

Applications you use?

- emails

Libraries & Frameworks

- [JQuery](#)
- [JQuery UI demos](#)
- [Bootstrap](#)
- [Knockout](#)
- [Angular](#)
- [React](#)
- [Sencha ExtJs Examples](#)
- [other JavaScript frameworks](#)

one more thing...

HTML is not a programming language!

But you can do a lot of things combining it with CSS and JS

Script Tag

 At the end of the body
(before </body>), add next tag:

```
1 <script>  
2     // add your code here  
3     console.info("page loaded");  
4 </script>
```

Now refresh your page and press F12 (on chrome or firefox),
then go to Console tab and see the result.

Learning Pure JS (variables)

```
1  var employed = false;          // boolean
2  var age = 24;                  // number
3  var name = 'First Last';      // string
4  // object (array)
5  var skills = ['html', 'css', 'js'];
6  // object (json)
7  var person = {
8      employed: true,           // boolean
9      age: 29                   // number
10 };
11 // object (DOM, other)
12 var el = document.getElementById('el');
```

JSON Objects

```
1 var person = {  
2     employed: true,  
3     age: 29,  
4     name: 'First Last',  
5     skills: ['html', 'css', 'js']  
6 };  
7 console.debug(person);  
8 console.info(person.name);  
9 console.debug(person.age);  
10 console.debug(person.employed);
```

In this case person object is storing all info about one person (like packaging).

Read more about [JSON](#)

(35 / 39)

Functions

```
1 // declaration
2 function getInfo(name) {
3     var msg = "Hello " + name + ", " +
4         "welcome at FastTrackIT.";
5     return msg;
6 }
7 // store result of call to function
8 var info = getInfo("Matei");
9 console.info(info);
```



Read more about [functions](#)

Is time to improve our document

✍ Create a new empty file

1. name it **functions.js**
2. include it in **index.html**

```
5 <script src="functions.js"
6     type="text/javascript">
7 </script>
```

3. move all your code from preview script tag into functions.js

Don't forget HTML is a markup language for describing web documents (web pages), so keep all its info clear and organized.

In JS you can write code as you wish, so how you organize your code, will make the difference!

Document Object Model

HTML DOM Methods

```
1 // var element = ... (get elements)
2 var motto, favorite, links;
3 motto    = document.getElementById('motto');
4 favorite = document.getElementsByClassName("favorit")
5 links    = document.getElementsByTagName("a");
6
7 motto.innerHTML = "Hello World!";
8 favorite[0].style.display = 'none';
9 links[0].onclick = function () {
10     console.info('click on link', this);
11 };
```



Read more about [DOM](#)

Practice

& Homework

Play & Try to understand project:

<https://github.com/nmatei/web-programming-tutorial>

Create <https://github.com/> account