HTML, CSS & JS

Introduction

Shadi Lahham - Programmazione web - Frontend - HTML e CSS

Anatomy of a Website

Anatomy of a Website

HTML
Structure

CSS
Presentation

Javascript
Logic

HTML Boilerplates

HTML Boilerplate

```html
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Website Title</title>
  <meta name="description" content="My new wonderful website">
  <meta name="author" content="Mister X">
  <link rel="stylesheet" href="css/styles.css?v=1.0">
  <!--[if lt IE 9]>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/html5shiv/3.7.3/html5shiv.js"></script>
  <![endif]-->
</head>

<body>
  <div>My Website</div>
  <!-- end of the body -->
  <script src="js/scripts.js"></script>
</body>
</html>
```

The Doctype

The first thing on an HTML page is the doctype, which tells the browser which version of the markup language the page is using.

For XHTML 1.0 Strict:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

For HTML4 Transitional:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
    "http://www.w3.org/TR/html4/loose.dtd">
```

For modern HTML5:
```
<!doctype html>
```

The html Element

```
<!doctype html>
<html lang="en">

</html>
```

You might also see the following in older code for compatibility reasons:

```
<!DOCTYPE html>
<!--[if lt IE 7]>      <html class="no-js lt-ie9 lt-ie8 lt-ie7"> <![endif]-->
<!--[if IE 7]>         <html class="no-js lt-ie9 lt-ie8"> <![endif]-->
<!--[if IE 8]>         <html class="no-js lt-ie9"> <![endif]-->
<!--[if gt IE 8]><!--> <html class="no-js">
</html>
```

The head Element

UTF-8 is a character encoding capable of encoding all possible characters, or code points, defined by Unicode. The encoding is variable-length and uses 8-bit code units.

XHTML and HTML4:
```
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">
```

HTML5:
```
<meta charset="utf-8">
```

The head Element

```html
<head>
  <meta charset="utf-8">
  <title>Website Title</title>
  <meta name="description" content="My new wonderful website">
  <meta name="author" content="Mister X">
  <link rel="stylesheet" href="css/styles.css?v=1.0">
</head>
```

```
Quick Exercise:
What is this for?
?v=1.0

How does the browser cache work?
```

HTML Shiv

For older browsers that don't understand HTML5

```
<!--[if lt IE 9]>
  <script src="https://cdnjs.cloudflare.com/ajax/libs/html5shiv/3.7.3/html5shiv.js"></script>
<![endif]-->
```

You don't need to use this on modern sites and apps

The body Element

```
<body>
  <!-- end of the body -->
  <script src="js/scripts.js"></script>
</body>
```

XHTML and older:
```
<script src="js/scripts.js" type="text/javascript"></script>
```

HTML5:
```
<script src="js/scripts.js"></script>
```

The <script> tag is used to define a client-side script (JavaScript).
The <script> element either contains scripting statements, or it points to an external script file through the src attribute.

HTML Boilerplate - Complete picture

```html
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>Website Title</title>
  <meta name="description" content="My new wonderful website">
  <meta name="author" content="Mister X">
  <link rel="stylesheet" href="css/styles.css?v=1.0">
  <!--[if lt IE 9]>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/html5shiv/3.7.3/html5shiv.js"></script>
  <![endif]-->
</head>

<body>
  <div>My Website</div>
  <!-- end of the body -->
  <script src="js/scripts.js"></script>
</body>
</html>
```

<script> tag placement

```html
<!doctype html>
<html lang="en">
<head>
  .
  .
  .
  <script src="js/earlyLoadingScript.js"></script>
</head>

<body>
  .
  .
  <!-- end of the body -->
  <script src="js/postDOMScript.js"></script>
</body>

</html>
```

File and folder structure

```
<body>
  <!-- end of the body -->
  <script src="js/main.js"></script>
</body>
```

```
.
├── css
│   └── style.css
├── js
│   └── main.js
├── index.html
```

```
<body>
  <!-- end of the body -->
  <script src="myJavascript/file.js"></script>
</body>
```
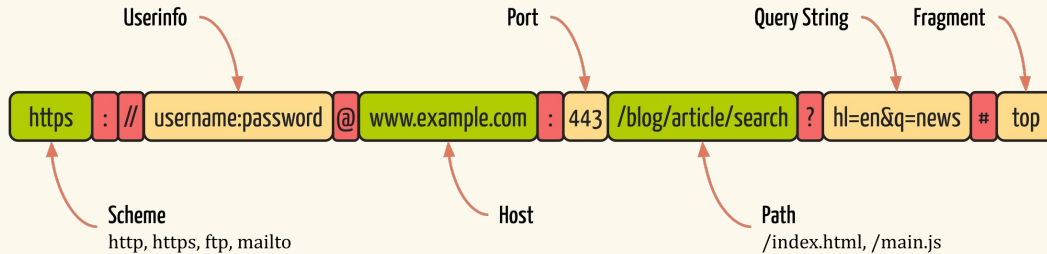
```
.
├── css
│   └── style.css
├── myJavascript
│   └── file.js
├── index.html
```

Components of a URL

Uniform Resource Locator: an address for locating a unique resource on the net like a file or an app

The components of a URL

Main components
Some of the components show here are
simplified and some are optional

Userinfo   Port   Query String   Fragment

https : // username:password @ www.example.com : 443 /blog/article/search ? hl=en&q=news # top

Scheme
http, https, ftp, mailto

Host

Path
/index.html, /main.js

© Shadi Lahham

15

Local, remote or inline Javascript?

Remote:
```html
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.0/jquery.min.js"></script>
```
Local:
```html
<script src="js/main.js"></script>
```

Inline:
```html
<script>
  window.jQuery || document.write('<script src="js/vendor/jquery-1.10.2.min.js"><\/script>')
</script>
```
External file:
```html
<script src="js/plugins.js"></script>
```

Inline Javascript

```html
<!DOCTYPE HTML>
<html>
<body>
  <p>Header...</p>
  <script>
    console.log('Hello, World!');
  </script>
  <p>...Footer</p>
</body>
</html>
```

note: inline javascript shouldn't be used except in very few justified cases

External Javascript

index.html

```html
<body>
  <!-- end of the body -->
  <script src="js/main.js"></script>
</body>
```

main.js

```javascript
console.log('Hello, World!');
```

Embedded CSS

```
<!DOCTYPE html>
<html>
<head>
<style>
p {
  color: red;
  text-align: center;
}
</style>
</head>
<body>
<p>Hello CSS!</p>
<p>Nice to meet you.</p>
</body>
</html>
```

note: embedded CSS shouldn't be used except in very few justified cases

External CSS

index.html

```html
<head>
  <meta charset="utf-8">
  <link rel="stylesheet" href="css/style.css">
</head>
```

style.css

```css
p {
  color: red;
  text-align: center;
}
```

Your turn

1.Boilerplate

Go to http://www.initializr.com/ and build your first HTML boilerplate project

- Play with the various settings
- Examine the generated files
- Try to understand what the various settings affect in index.html
- **Bonus**: try to understand what the other generated files do
- Compare initializer (old) to the newer HTML5 Boilerplate

Create a folder named **01-boilerplate** with your results.

Create a separate subfolder for each configuration

HTML5 Boilerplate Explained In Simple Terms

2.New JS

Build your first Javascript project

- Write your index.html file from scratch
- Add a main.js file that writes your name to the console

Create a folder named **02-new-js** with your results

Note: all files should be in [kebab-case](#) ([italiano](#))

[Console Overview | Tools for Web Developers](#)

[JavaScript Debugging](#)

3.The cache

Remember the line?

```html
<link rel="stylesheet" href="css/styles.css?v=1.0">
```

- What does `?v=1.0` do?
- How does the browser cache work?

Create a folder named **03-the-cache**

Inside the folder create a **.txt** or **.doc** or **.md** file with your answers

Note: all files should be in [kebab-case](#) ([italiano](#))

References

[HTML doctype declaration](#)

[HTML link tag](#)

[HTML meta tag](#)

Validate your code:

[The W3C Markup Validation Service](#)

Check browser compatibility:

[Can I use… Support tables for HTML5, CSS3, etc](#)

References

URL components

[URL Syntax](#)

[Understanding the Components of a URL](#)