

NGG-GAiN

HTML / CSS / JavaScript

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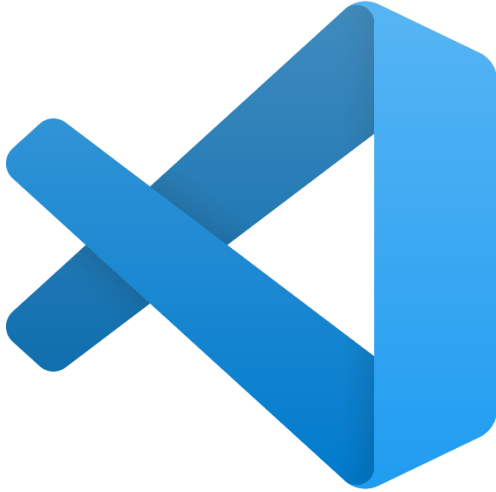


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Software

In this course we will work with Visual Studio code. It is a free code editor from Microsoft. Visual Studio Code is available cross-platform for the operating systems Windows, macOS and Linux.



Download: <https://code.visualstudio.com/download>

HTML

What is «HTML»?

HTML (HyperText Markup Language) is the basic building block of the web. It describes and defines the content of a web page together with the basic layout of the web page. In addition to HTML, other technologies are generally used to describe the appearance (CSS) or functionality/behaviour (JavaScript) of a web page. The tags in HTML are case-insensitive. This means that they can be written in upper and lower case letters or in a mixture. Example <title> tag can be written as <title>, <TITLE> or in any other way. HTML consists of elements, each of which can be modified by a number of attributes. HTML documents are linked to each other by links.

Basic HTML tags

Document structure

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
    <link rel="stylesheet" type="text/css" href="style.css">
  </head>
  <body>

  </body>
</html>
```

- <html>: Document type declaration
- <head>: (header data, e.g. information on title, etc.)
- <Body>: (body - content to be displayed, that is, text with headings, references, graphic references, and so on)

Head data

- <title>: (title of the page displayed in the tab)
- <Link>: (relationships to other documents in the Web space)
- <script>: (für Script-Anweisungen innerhalb des Dokumentes)

Text structuring

- <h1>, <h2> ... <h6>: Headings
- <p>: Plain text
- : Ordered list
- : Unordered list
- : Elements in and
- <div>: Container element

Links

- <a>: Link

Tables

```
<table>
  <tr>
    <td>Inhalt</td>
  </tr>
</table>
```

- <table>: Table definition tag
- <th>: Table head
- <tr>: Table row
- <td>: Table data

Multimedia and Graphics

```

```

- : Integrate graphic files
- src: Path of the file
- alt: alternative text

Form

An HTML form is used to collect user input.

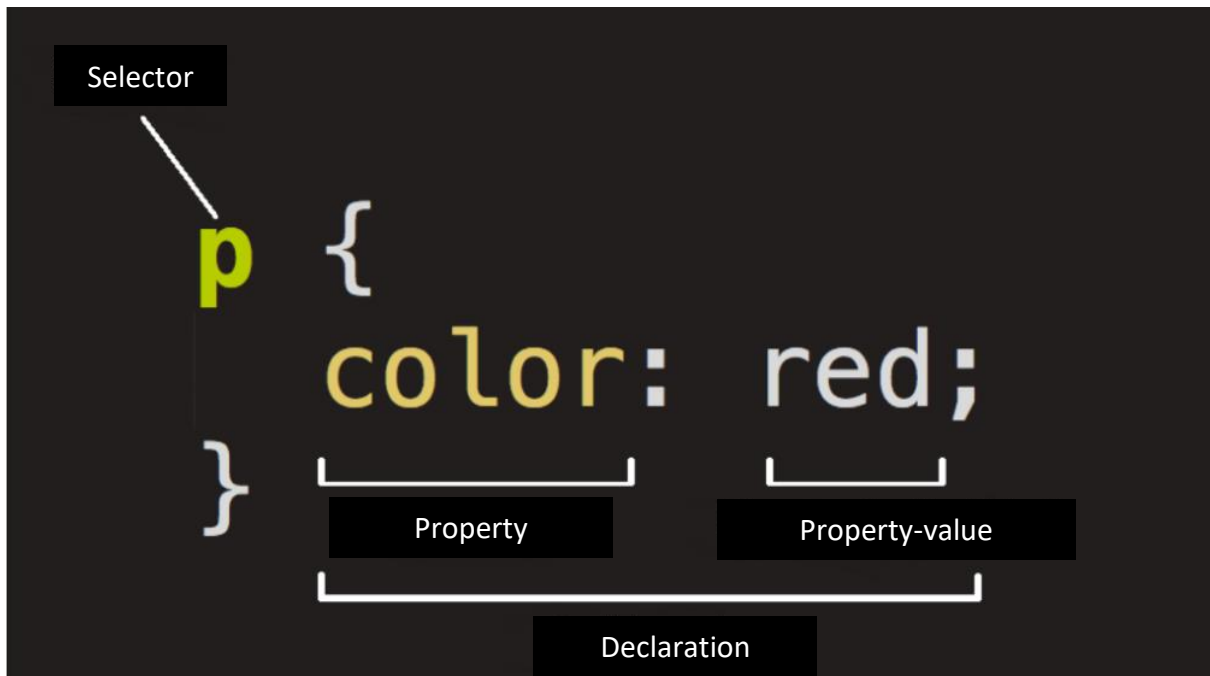
```
<form action="/action_page.php">
  <label for="fname">First name:</label>
  <input type="text" name="fname">
  <label for="lname">Last name:</label>
  <input type="text" name="lname">
  <input type="submit" value="Submit">
</form>
```

- <form>: Form definition tag
- <label>: defines a label for many form elements
- <input>: Input to collect data
- Type: Defines the type of the input

CSS

What is «CSS»?

Like HTML, CSS is not really a programming language. It is also not a markup language, but a stylesheet language that allows you to specify the appearance of elements on the page. For example, to select all paragraphs (<p>) and color their content.



```
/* ALL "p" elements */
p {
  color: red;
}

/* ALL elements with "header" class */
.header {
  height: 40px;
  width: 100%;
}

/* Element with "logo" id */
#logo {
  margin: 10px;
}
```

Arrows point from the CSS rules to corresponding HTML elements:

- From `p {` to `<p>I am a Paragraph.</p>`
- From `color: red;` to `<p>I am a paragrah too!</p>`
- From `.header {` to `<div class="header"></div>`
- From `#logo {` to ``

Basics Selectors

Selector	Example	Result
.class	.header	Selects all elements with class="header"
#id	#logo	Selects the element with id="logo"
*	*	Selects all elements
element	p	Selects all <p> elements
Element, element...	div, p	selects all <p> and <div> elements

Basics Properties

- Width
- Height
- font-size
- font-family
- Color
- Background
- Padding
- Margin
- Border

```
.example {  
  width: 100%;  
  height: 40px;  
  font-size: 12px;  
  font-family: Arial;  
  color: ■white;  
  background: ■blue;  
  padding: 20px 10px 40px 50px;  
  margin: 40px;  
  border: 1px solid ■black;  
}
```

Integrate CSS in HTML

There are 3 ways to integrate CSS in HTML but usually only one proper way.

Version 1: Best way

```
<!DOCTYPE html>  
<html>  
  <head>  
    <title>Js outside Html</title>  
    <link src="./style.css" rel="stylesheet" type="text/css">  
  </head>  
  
  <body>  
    <h1>Hello World!</h1>  
  </body>  
</html>
```

Version 2:

```
<!DOCTYPE html>  
<html>  
  <head>  
    <title>Js outside Html</title>  
  </head>  
  
  <body>  
    <h1>Hello World!</h1>  
  
    <style>  
      h1 {  
        color: ■red;  
      }  
    </style>  
  </body>  
</html>
```

Version 3:

```
<div style="width: 100px; border: 1px solid red;"></div>
```

Combinators

```
div, p { color: red }
```

> Selects all "div" elements and all "p" elements

```
div p { color: red }
```

> Selects all "p" elements inside "div" elements

```
div > p { color: red }
```

> Selects all "p" elements placed directly in "div" element

```
div + p { color: red }
```

> Selects all "p" elements placed directly after a "div" element

```
div ~ p { color: red }
```

> Selects all "p" elements that are siblings to "div" elements

```
var places = ['shire', 'rohan', 'mordor', 'isengard'];
var listItems;

for (var i = 0; i < places.length; i++) {
    listItems += '<li>' + places[i] + '</li>';
}

document.getElementById('list').innerHTML = '<ul>' + listItems + '</ul>';
```