JavaScript Beginner's Course
Part 3

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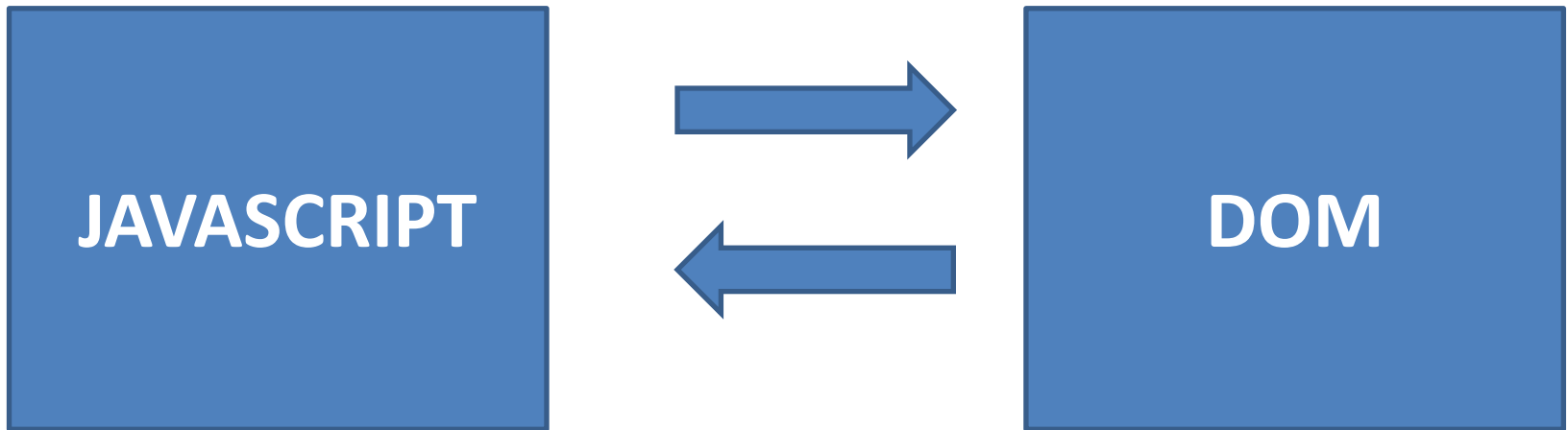
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Agenda

1. Document Object Model – DOM
2. DOM Manipulation
3. HTML Crashcourse
4. Accessing DOM Elements
5. Selectors
6. Creating DOM Elements
7. Adding DOM Elements
8. Adding Event Listeners

1. DOM

- **DOM** Document Object Model

- Structured representation of HTML document

- The DOM is used to connect webpages to scripts like JavaScript

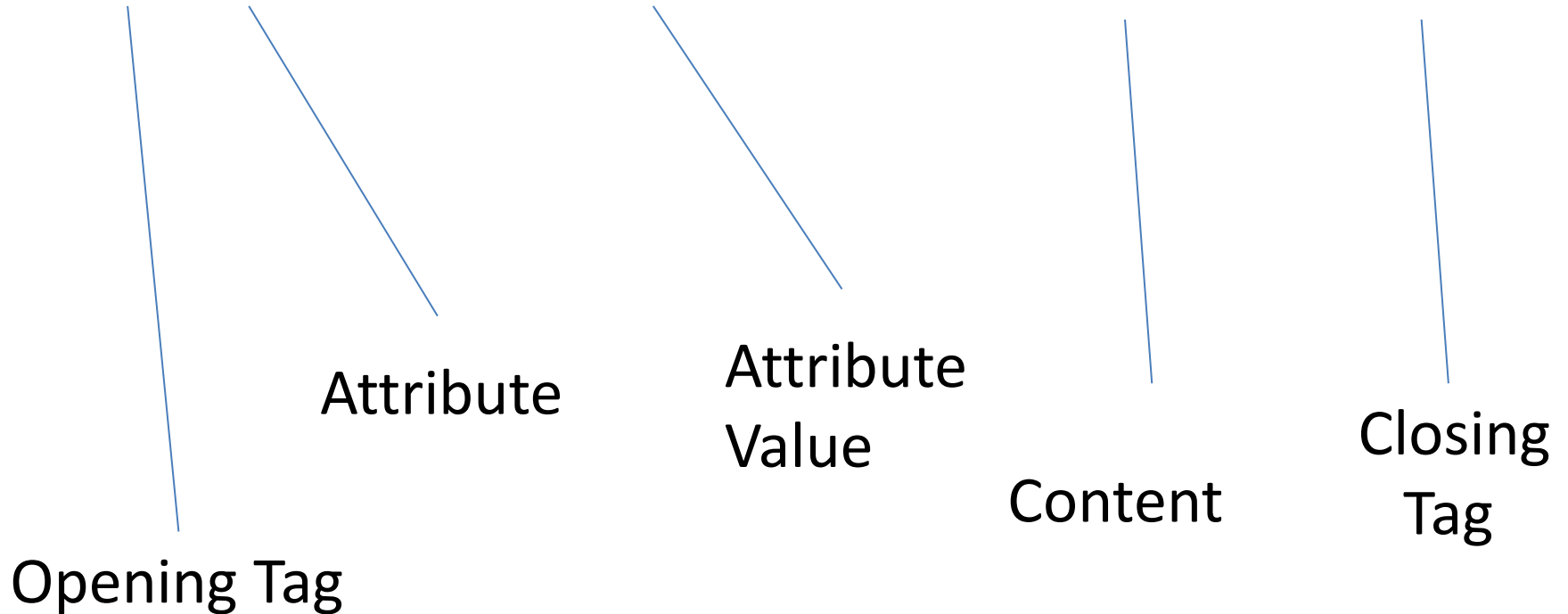- For each HTML box, there is an object in the DOM that we can access and interact with

```
<body>
  <section>
    <p>A paragraph, the first one. <p>
    <p>Another second paragraph.</p>
  <section>

  <section>
    <img src="x.jpg" alt="The DOM">
  </section>
</body>
```

2. DOM Manipulation

3. HTML Crashcourse

<div class="wrapper clearfix"> Hallo Welt </div>

Opening Tag

Attribute

Attribute Value

Content

Closing Tag

3. HTML Crashcourse

- Difference between **class** and **id** Tag ?

3. HTML Crashcourse

- Difference between **class** and **id** Attribute ?
  - Multiple HTML Elements can have the same class attribute
  - Not Multiple HTML Elements can have the same id attribute, **id is unique**

3. HTML Crashcourse

- HTML Document structure

1. Head
    - Additional Information (Title, Page keywords)
    - Import Stylesheets, JavaScript

2. Body
    - Visible Content

3. HTML Crashcourse

- HTML: The **content** of the webpage
- CSS: The **presentation** of HTML
  - Rules to style the webpage
  - Most common selector: the class name (".")
  - Other selectors:
    - Type selector ("body")
    - Universal selector ("*")

4. DOM Access Methods

- Most Used Methods for DOM Access
  - document.**getElementById(id)**
    - returns an Object
  - document.**getElementsByClassName(tagName)**
    - returns an Array of Objects
  - document.**querySelector(selector)**
    - returns an Object
  - document.**querySelectorAll(selector)**
    - returns an Array

5. Selectors

- Most Used Selectors

Selector	Description
*	Selects all elements
.CLASSNAME	Selects all elements with a specific class = CLASSNAME
#IDNAME	Select one element with a specific id = IDNAME
TAG1 TAG2	Selects all TAG2 elements which are children to TAG1 i.e. **li a** would give all anchor-tags within
TAG1 > TAG2	Selects all TAG2 elements which are **direct children** to TAG1 i.e. **li > a** would give all anchor-tags within as
TAG.CLASSNAME	Selects all TAG elements which have the class CLASSNAME
TAG#IDNAME	Selects all TAG elements which have the class IDNAME
TAG1 + TAG2	Selects the first adjacent TAG2 element after the TAG1 element

6. Creating DOM Elements

- Most Used Methods:
  - document.**createElement(** tag **)**

    var newHeading = document.**createElement(**“h1“**)**;
    newHeading.innerHTML = “Hallo Welt“;

7. Adding DOM Elements

- Most Used Methods for Adding DOM Elements
  - DOMOBJ.appendChild(DOMCHILDOBJECT);
  - DOMOBJ1.insertAdjacentHTML(position, DOMOBJ2)
    - position = "beforebegin" => Before DOMOBJ1 itself
    - position = "afterbegin" => Inside, before 1st child
    - position = "beforeend" => Inside, after last child
    - position = "afterend" => After DOMOBJ1 itself

8. Adding Event Listeners

- An Event: Something happens
- DOMOBJ.addEventListener(event, callback);
  - **click**: the user clicks on the element
  - **mousemove**: the user user moves the cursor on the object
  - **mouseover**: the user moves the cursor on the element
  - **mouseout**: the user leaves the element with the cursor

8. Adding Event Listeners

- **Until we cover callback functions, we use DOMOBJ.onclick = function() {**

     ...
  }

  The same as
  DOMOBJ.addEventListener("click", function() {
       ...
  }

9. Show and Hide Elements

- To **<u>hide</u>** an HTML – Element

  obj.style.display = 'none';

- To **<u>show</u>** an HTML – Element

  obj.style.display = 'block';

Task

Users | Comments | Add User | Add Comment

Name	Email	ID
Test1	test1@gmail.com	1
Test2	test2@gmail.com	2
Test3	test3@gmail.com	3

Build this Webapp
And Use JavaScript
Show and Hide
HTML Elements
When switching
Navigation points

Task

Users | **<u>Comments</u>** | Add User | Add Comment

From Test1

Email is Test1@gmail.com

Hallo, I think that Test1 is a super great user name.

Build this Webapp
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Task

Users | Comments | **Add User** | Add Comment

TEXTBOX username

TEXTBOX mail

BUTTON Submit

Build this Webapp
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Task

Users | Comments | Add User | **Add Comment**

TEXTBOX username

TEXTBOX mail

TEXTAREA text

BUTTON Submit

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