

LAB 8: HTML to DOM

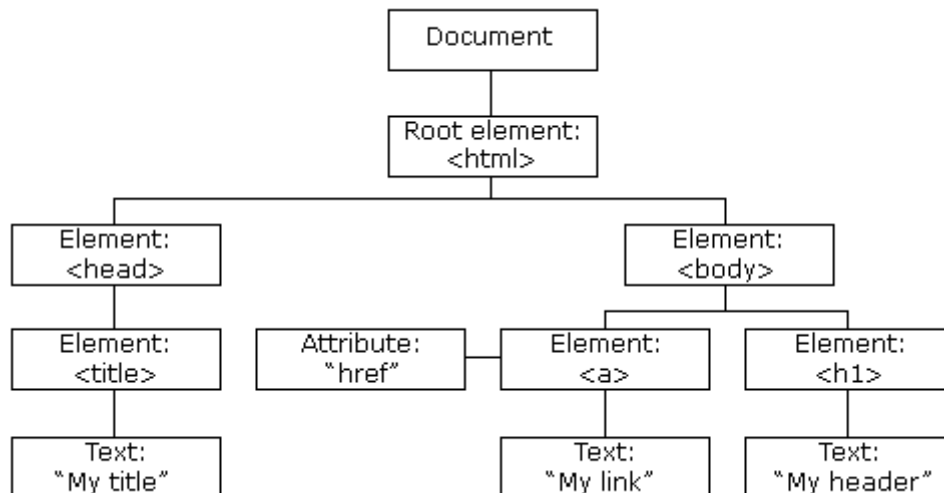
What is DOM?

DOM stands for Document Object Model.

When a web page is loaded in the browser (example: Google Chrome, Firefox etc), the browser creates a **Document Object Model** of the page.

A well-formed HTML document encodes a tree-structure called **Document Object Model** (DOM) constructed as a **tree of Objects**. It helps define:

- HTML elements as Objects
- Events for HTML elements
- Properties for HTML elements
- Methods for HTML elements



- The DOM is an abstract representation of HTML syntax
- The DOM is extended by additional information, e.g., style
- The DOM can be modified, e.g., by CSS or JavaScript
- The DOM is rendered by a browser to what users see

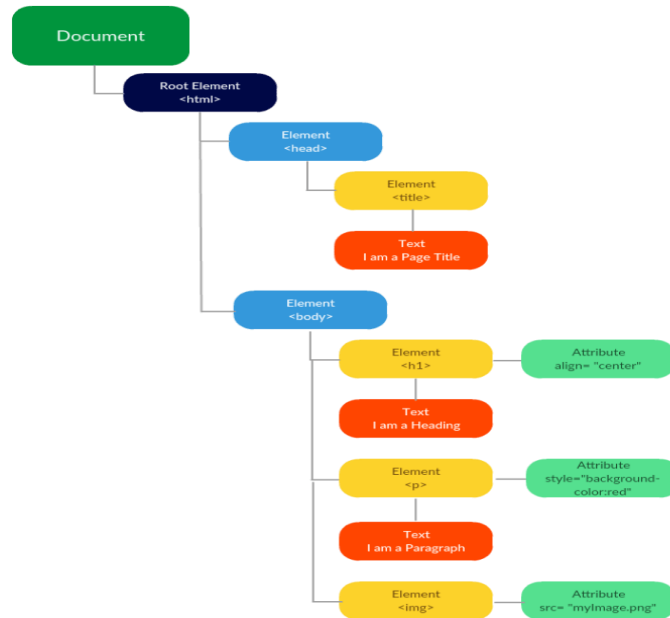
Properties of the DOM

- The DOM contains object nodes (boxes) and edges (showing containment).
- The DOM always starts with an object node named "document"
- All other object nodes are labelled with the name and attributes of an opening HTML tag.
- Only when tag contains another tag as content then there is an edge from nodes t1 to t2.

EXAMPLE

In the DOM below, you can see – How a web page loads in a browser?

HTML DOM Diagram and its Explanation



DOM **Starts** at the **document object**, which is provided by the Browser Window object. This is the container in which a web page loads in.

Then, the page has a Root **Element** which is HTML `<html>`

This HTML element then have **child elements** in this example the HTML element contains 2 child elements which are –

- Head `<head>`
- Body `<body>`

Both Head and Body then have their individual child elements –

Head has a child named Title `<title>` that has text assigned to it – “I am a Page Title”

And, Body Element has 3 child elements named –

- Heading1 `<h1>` which has an attribute that align the h1 element to the center and a text assigned to it – “I am a Heading”.
- Paragraph `<p>` which has a style attribute which sets red as its background color.
- Image `` which has a src (source) attribute that allows to define path/source of the image file.

The output of this DOM will be a HTML page with a title, heading, paragraph and an image.

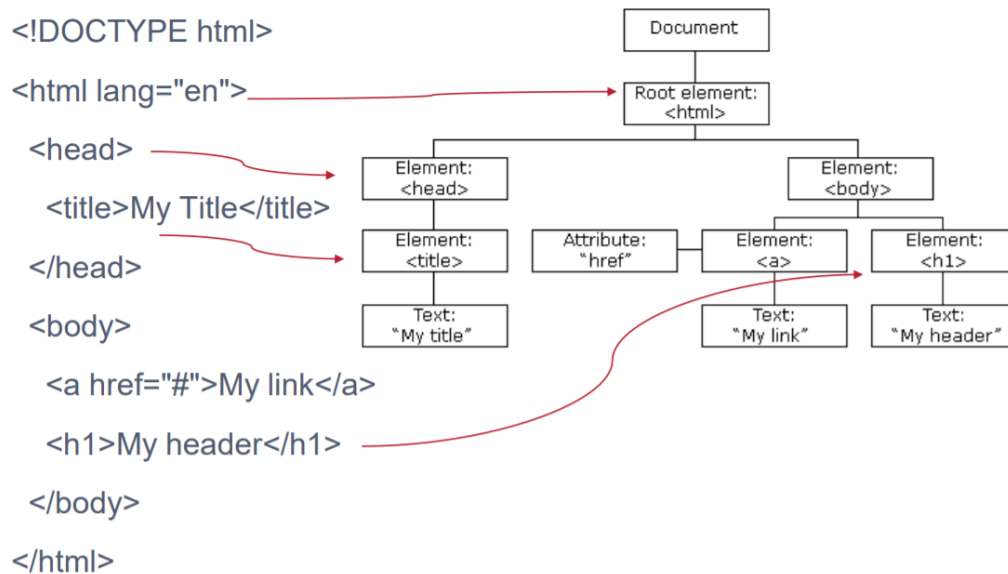
I am a heading

I am a Paragraph



mrvirk.com

```
1 <html>
2   <head>
3     <title>
4       I am a Page Title
5     </title>
6   </head>
7   <body>
8     <h1 align="center">
9       I am a heading
10    </h1>
11    <p style="background-color: red;">
12      I am a Paragraph
13    </p>
14    
15  </body>
16 </html>
17
```



TASK 1: HTML to their HTML DOM

Convert the following HTML to their HTML DOM representations.

```
<!DOCTYPE html>
<html lang="fr">
  <head><title>Mon Titre</title></head>
  <body>
    <article>
      <h1> Ma tête </h1>
      <section>
        <p>mon paragraphe</p>
      </section>
    </article>
  </body>
</html>
```

```
<!DOCTYPE html>
<html>
  <head><title>My Title</title></head>
  <body>

  <h2>Basic HTML Table</h2>

  <table style="width:100%">
    <tr>
      <th>Firstname</th>
      <th>Lastname</th>
      <th>Age</th>
    </tr>
    <tr>
      <td>Jill</td>
      <td>Smith</td>
      <td>50</td>
    </tr>
  </table>

  </body>
</html>
```

TASK 2: HTML Validation

Validate the following HTML. In case it has errors, fix the errors until the HTML validates correctly. Use the validator from <https://validator.w3.org/nu/#textarea>.

The text below must be written as a single line and not copied.

```
<!DOCTYPE html>
<html lang=en>
<head>
</head>
<body>

<p>This is a paragraph.
<p>This is a paragraph.

</body>
</html>
```

```
<!DOCTYPE html>
<html>
<body>

<h2>HTML Image</h2>
<a href="http://google.com">

</body>
</html>
```

```
<!DOCTYPE html>
<html lang=en>
  <head>
    <title>Tables</title>
  </head>

  <body>

    <h2>Basic HTML Table</h2>

    <table style="width:100%">
      <tr>
        <th>Firstname</th>
        <th>Lastname</th>
        <th>Age</th>
      </tr>
      <tr>
        <td>Jill</td>
        <td>Smith</td>
        <td>50</td>
      </tr>

    </body>
  </html>
```

TASK 3: HTML CREATION

Create an HTML page for a news report using any editor on the computer. The report can be made up or inspired by a real event or person. Make use of at least the following HTML elements:

- Headings <h1>, <h2>
- Paragraphs <p>
- Links <a>
- Table <table> https://www.w3schools.com/html/html_tables.asp

And at least one of the following

- Images https://www.w3schools.com/html/html_images.asp
- Videos <video> https://www.w3schools.com/html/html5_video.asp
- a youtube video https://www.w3schools.com/html/html_youtube.asp

Make sure the HTML document is valid by using

https://validator.w3.org/#validate_by_input