



MERN – ES6 + React

Module 10: DOM Application

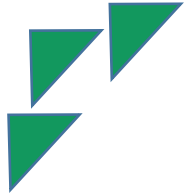
Outline

Module 10

- ▶ DOM Model Application
- ▶ Understanding of methods `myvariable.style.color`
- ▶ Understanding of methods `myvariable.textContent`
- ▶ Understanding of methods `myvariable.innerHTML`
- ▶ Understanding of methods `myvariable.getAttribute()`
- ▶ Understanding of methods `myvariable.setAttribute()`

Document Object Model

- In this section we will learn about the Document Object Model (DOM)
- The DOM will allow us to interface our Javascript code to interact with HTML and CSS



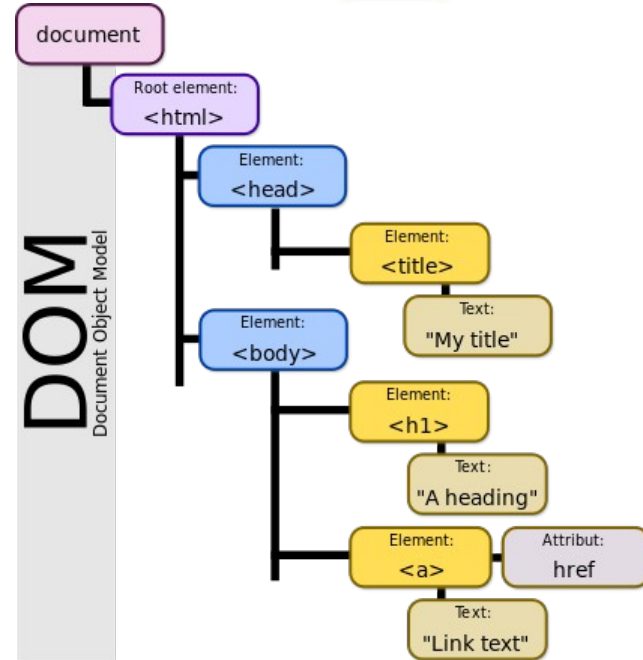
- Browsers will construct the DOM, which basically means storing all the HTML tags as Javascript objects.
- Let's see a simple example...

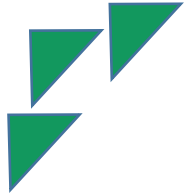


```
<!DOCTYPE html>
<html>
  <head>
    <title> My Title </title>
  </head>
<body>
  <h1>A heading </h1>
  <a href= "websiteLink">Link
text</a>
</body>
```

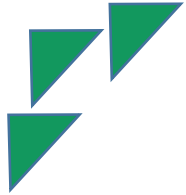
A heading

[Link text](#)

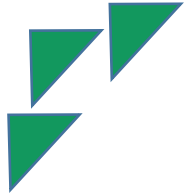




- We can see the DOM of any website.
- Go to a website and in the console type:
 - document
- That will return the HTML text of the page. To see the actual objects use:
 - `console.dir(document)`



- This DOM will allow us to use Javascript to interact with the web page.
- The DOM is enormous, most developers won't use all the properties.
- We will cover the common objects used, but be prepared for the unknown!



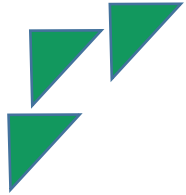
- Let's explore this in the browser!
- Afterwards in the next lecture we will go through an example of using Javascript with the DOM.



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Part 1 -DOM Interaction

Using Javascript to interact with DOM elements!



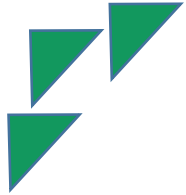
- In this lecture we will begin to see examples of how to grab HTML elements from the DOM.
- The HTML elements are properties of the DOM

- We'll cover how to grab large groups of elements, like the entire body or head of the HTML
- And then focus on grabbing specific HTML items, like classes or ids.

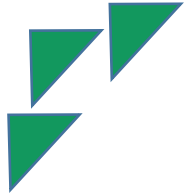
- Here are some important document attributes:
 - `document.URL`
 - `document.body`
 - `document.head`
 - `document.links`

- There are many methods for grabbing elements from the DOM:
 - `document.getElementById()`
 - `document.getElementsByClassName()`
 - `document.getElementsByTagName()`
 - `document.querySelector()`
 - `document.querySelectorAll()`

- Check out the relevant files:
 - Part1_MainPage.html
 - Part1_Color_Changer.js
- We will start by disconnecting the html file and exploring it a bit manually, then we will code out a complex example.



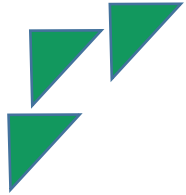
- Let's explore these various methods!



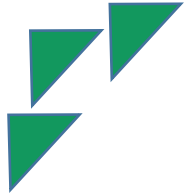
- Once you have grabbed an element, you can interact with it!
 - `myvariable.style.color` (Many CSS options)
 - `myvariable.textContent`
 - `myvariable.innerHTML`
 - `myvariable.getAttribute()`
 - `myvariable.setAttribute()`

Part 2 - Content Interaction

Document Object Model



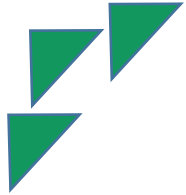
- In this lecture we will see more examples of how to interact with the HTML from the DOM.
- We will show how to change text, HTML code, and attributes.



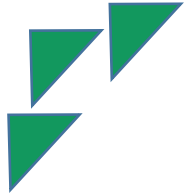
- Relevant files are:
 - Part2_Content.html
 - Part2_Interact.js
- Let's get started!

Part 3 - DOM Events

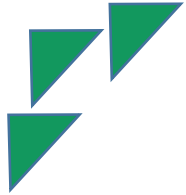
Using Javascript to trigger on events!



- We don't always want to have to specify beforehand how to interact with the DOM
- Many times we only want the interaction to occur on a particular event, such as a click or a hover.



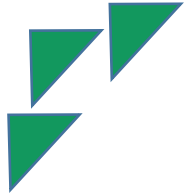
- We achieve this by adding an Event Listener
- The javascript will be “listening” for an event to occur and then execute a function when it happens.
- Let see some example code!



- Listening for an event looks like this:
 - `myvariable.addEventListener(event, func);`

- An example:

```
var head =  
document.querySelector('h1');  
  
head.addEventListener("click", change  
Color);
```

- There are many, many possible events!
 - Clicks
 - Hovers
 - Double Clicks
 - Drags
 - Much More!
- <https://developer.mozilla.org/en-US/docs/Web/Events>

Summary

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