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The Learning House
427 S. 4th Street #300
Louisville KY 40202



Web UI

Lesson 2 - JavaScript and jQuery

Objectives

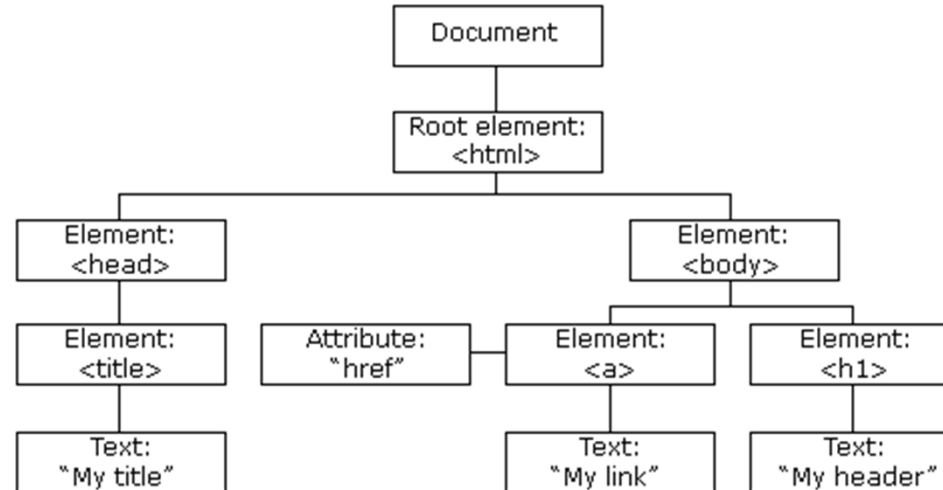
- Understand similarities/differences with Java
- Understand how JavaScript works with HTML elements and events
- Understand jQuery basics:
 - Installation
 - Effects
 - HTML
- Move from Code Academy browser to real files

JavaScript & Java

- Not directly related, but both descendents of C
- Similarities:
 - Statements, ifs, loops, functions, etc
 - Some object similarities
- Differences:
 - JavaScript is a scripting language — interpreted, not compiled
 - JavaScript is not strongly typed
 - For our purposes, JavaScript runs in the browser

JavaScript and HTML DOM

- DOM stands for Document Object Model
- The HTML DOM model is a tree of objects:



JavaScript and HTML DOM (2)

- JavaScript can interact with the DOM in the following ways:
 - Change any HTML element on the page
 - Change any HTML attribute on the page
 - Change any CSS style on the page
 - React to any event in the page
- In this way, JavaScript can create dynamic HTML

Finding HTML Elements

- You can find elements by:
 - Id
 - Tag name
 - Class name

```
var x = document.getElementById("foo") ;
```

Changing Values

- You can change HTML content using the innerHTML property:

```
document.getElementById(id).innerHTML = "New Value";
```

- You can change the style of an element:

```
document.getElementById(id).style.<property> = <new style>;
```


HTML DOM Events

- We can write code to react to events like:
 - Mouse clicks
 - Page load
 - Image load
 - Mouse over
 - Field value changes
 - Form submission
 - Key strokes

jQuery

- jQuery is a JavaScript library that makes many tasks much easier
- There are many JavaScript frameworks — jQuery is one of the most popular and is the most extendable
- In addition to base functionality, there are many jQuery plug-ins available

jQuery Installation

- Simply download the jQuery JavaScript file from [jQuery.com](https://jquery.com)
- Reference jQuery js file in your page

```
<script src="jquery-1.11.1.min.js"></script>
```

- Start coding

Basic jQuery Syntax

`$(selector).action()`

- Examples:
 - `$(this).hide()` — hide current element
 - `$("p").hide()` — hide all `<p>` elements
 - `$(".test").hide()` — hide all elements with `class="test"`
 - `$("#test").hide()` — hide element with `id="test"`
- jQuery selectors use CSS syntax

Document Ready

```
$(document).ready(function() {  
    // Do something  
});
```

- The code above is the entry point for most JQuery apps
- This ensures that no jQuery code runs before the page is completely built

Events

- You can respond to events in jQuery just as you can in regular JavaScript
- Example:

```
$ ("p").click(function() {  
    // action goes here!!  
});
```

Effects

- Hide/Show
- Face
- Slide
- Animate