JQuery

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- jQuery is a lightweight, "**write less, do more**", JavaScript library by Jhon Resig in 2006.

- The purpose of jQuery is to make it much easier to use JavaScript on your website.

- jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.

- jQuery also simplifies a lot of the complicated things from JavaScript, like AJAX calls and DOM manipulation.

- The jQuery library contains the following features:
  - HTML/DOM manipulation
  - CSS manipulation
  - HTML event methods
  - Effects and animations
  - AJAX
  - Utilities

Why jQuery?

- There are lots of other JavaScript frameworks out there, but jQuery seems to be the most popular, and also the most extendable.
- Many of the biggest companies on the Web use jQuery, such as:
  - ➤ Google
  - ➤ Microsoft
  - ➤ IBM
  - ➤ Netflix
- jQuery will run exactly the same in all major browsers.
- Why?
  - Easy to manipulate DOM
  - Cross browser platform
  - Large community
  - 1000s of plugin

- **<u>Adding jQuery to Your Web Pages</u>**
- There are several ways to start using jQuery on your web site. You can:
  - Download the jQuery library from jQuery.com
  - Include jQuery from a CDN, like Google
- **<u>Downloading jQuery</u>**
- There are two versions of jQuery available for downloading:
  - Production version - this is for your live website because it has been minified and compressed
  - Development version - this is for testing and development (uncompressed and readable code)

```
<head>
<script src="jquery-3.3.1.min.js"></script>
</head>
```

- **Do you wonder why we do not have type="text/javascript" inside the <script> tag?**
  This is not required in HTML5. JavaScript is the default scripting language in HTML5 and in all modern browsers!

jQuery CDN

- If you don't want to download and host jQuery yourself, you can include it from a CDN (Content Delivery Network).

- Both Google and Microsoft host jQuery.

- **<u>Google CDN:</u>**

```
<head><script src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.0/jquery.min.js"></script></head>
```

- **<u>Microsoft CDN:</u>**

```
<head><script src="https://ajax.aspnetcdn.com/ajax/jQuery/jquery-3.6.0.min.js"></script></head>
```

- **One big advantage of using the hosted jQuery from Google or Microsoft:**

Many users already have downloaded jQuery from Google or Microsoft when visiting another site. As a result, it will be loaded from cache when they visit your site, which leads to faster loading time. Also, most CDN's will make sure that once a user requests a file from it, it will be served from the server closest to them, which also leads to faster loading time.

jQuery Syntax

- The jQuery syntax is tailor-made for **selecting** HTML elements and performing some **action** on the element(s).

- Basic syntax is: **$(*selector*).*action*()**
  - A $ sign to define/access jQuery
  - A (*selector*) to "query (or find)" HTML elements
  - A jQuery *action*() to be performed on the element(s)

- Examples:

- $(this).hide() - hides the current element.

- $("p").hide() - hides all <p> elements.

- $(".test").hide() - hides all elements with class="test".

- $("#test").hide() - hides the element with id="test".

jQuery uses CSS syntax to select elements.

The Document Ready Event

- It is good practice to wait for the document to be fully loaded and ready before working with it. This also allows you to have your JavaScript code before the body of your document, in the head section.

- Here are some examples of actions that can fail if methods are run before the document is fully loaded:

- Trying to hide an element that is not created yet

- Trying to get the size of an image that is not loaded yet

- **Tip:** The jQuery team has also created an even shorter method for the document ready event:

```
$(document).ready(function()
{
    // jQuery methods go here...
})
```

```
$(function(){
    // jQuery methods go here...
})
```

jQuery Selectors

jQuery selectors are used to **"find" HTML elements based on their name, id, classes, types, attributes, values of attributes** and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors. All selectors in jQuery start with the dollar sign and parentheses: $().

The element Selector

The jQuery element selector selects elements based on the element name. You can select all <p> elements on a page like this: $("p")

The #id Selector

The jQuery #id selector uses the id attribute of an HTML tag to find the specific element. An id should be unique within a page, so you should use the #id selector when you want to find a single, unique element. To find an element with a specific id, write a hash character, followed by the id of the HTML element: $("#test")

The .class Selector

The jQuery class selector finds elements with a specific class. To find elements with a specific class, write a period character, followed by the name of the class: $(".test")

Example – element selector

```html
<html><head>
<script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.0/jquery.min.js">
</script><script>
$(document).ready(function(){
    $("button").click(function(){
        $("p").hide();
    });
});
</script></head><body>
<h2>This is a heading</h2><p>This is a paragraph.</p>
<p>This is another paragraph.</p><button>Click me</button>
</body></html>
```

This is a heading

This is a paragraph.

This is another paragraph.

Click me

This is a heading

Click me

Example – id selector

```
<html><head><script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.
js"></script><script>
$(document).ready(function(){
    $("button").click(function(){
        $("#test").hide();
    });
});
</script></head><body>
<h2>This is a heading</h2><p>This is a paragraph.</p>
<p id="test">This is another paragraph.</p>
<button>Click me</button></body></html>
```

Example – class selector

```
<html> <head> <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.
js"></script><script>
$(document).ready(function(){
    $("button").click(function(){
        $(".test").hide();
    });
});
</script></head><body>
<h2 class="test">This is a heading</h2>
<p class="test">This is a paragraph.</p>
<p>This is another paragraph.</p>
<button>Click me</button></body></html>
```