(150) What is jQuery?

The Overwhelming World of JavaScript Libraries

Before we dive into the jQuery magic, it's important to acknowledge that the JavaScript landscape is vast, with thousands of libraries and frameworks. As you progress through this course, we'll explore some of these alternatives. However, none have garnered as much usage and admiration as jQuery. So, what makes jQuery stand out?

A Glimpse at the Complexity of JavaScript

Let's begin by examining a piece of code that you might be familiar with. The code snippet's purpose is to find all the HTML button elements within a document, add event listeners to detect clicks on these buttons, and then change the color of associated h1 elements to red.

```
// Vanilla JavaScript
const buttons = document.querySelectorAll("button");
for (const button of buttons) {
button.addEventListener("click", () => {
const h1Elements = document.querySelectorAll("h1");
for (const h1 of h1Elements) {
h1.style.color = "red";
}
});
}
```

As you can see, this pure JavaScript code, although functional, appears somewhat convoluted for a seemingly straightforward task. This complexity can be daunting, especially for beginners. The verbosity of the code may leave you wondering why something relatively simple requires so many lines of code.

The Birth of jQuery

Enter John Resig, the creator of jQuery. John was dissatisfied with JavaScript's intricacies and verbosity in web development. Unlike most of us who might grumble momentarily and then move on, John took action. He embarked on a mission to write a library that could achieve the same results as the lengthy JavaScript code but in a concise, elegant manner.

And thus, jQuery was born.

jQuery is a library—a collection of pre-written code created by someone else that you can incorporate into your own projects. Its primary goal is to simplify web development and make your life easier. If you've previously used Bootstrap, another popular library, you're already familiar with the concept of incorporating code written by others to enhance your projects.

jQuery's Conciseness and Readability

jQuery's true power lies in its ability to streamline JavaScript code. Consider the previous JavaScript example, which involved traversing the DOM, selecting elements, and manipulating their properties. With jQuery, the code becomes significantly shorter and more readable.

```
// jQuery
$("button").click(function () {
$("h1").css("color", "red");
});
```

In this jQuery snippet, we achieve the same result with just a few lines of code. The readability and brevity make it not only easier to write but also simpler to debug and maintain.

(151) How to Incorporate jQuery into Websites

In the realm of web development, jQuery stands out as a powerhouse library that can supercharge your projects with ease. In this article, we will explore how to obtain and seamlessly incorporate jQuery into your websites, enabling you to unlock its remarkable potential.

Acquiring jQuery

Before we dive into the integration process, let's first address how you can acquire jQuery for your web development needs.

Step 1: Visit jQuery's Official Website

Start by navigating to the official jQuery website, jquery.com. This serves as the central hub for all things jQuery, and it offers two primary methods for obtaining

the library.

Option 1: Download from the Website
- On the jQuery website, you have the option to download the jQuery code files directly from their download page. This is the ideal choice if you plan to host the jQuery files on your own server.

Option 2: Embrace the Power of CDNs
- Alternatively, much like the Bootstrap framework, jQuery extends the convenience of utilizing a Content Delivery Network (CDN). CDNs are Content Delivery Networks, which are globally distributed networks of servers designed to deliver web content efficiently to users based on their geographical location. This method enables you to load jQuery from a remote server rather than hosting it locally.

Unveiling the Advantages of CDNs

To truly appreciate the benefits of using CDNs, let's revisit the concept briefly. CDNs are a resourceful means of delivering web assets, including JavaScript libraries like jQuery, to users. When you opt for a reputable CDN such as Google's, you tap into a vast network that has likely been accessed by countless users before. Here lies the magic: if someone has visited a website that employs the same CDN to fetch the jQuery library, it's already cached and securely stored in their browser. This results in considerably faster load times for your website, enhancing user experience.

Selecting the Latest jQuery Version

For the purpose of this demonstration, we will be working with jQuery version 3.3.1. However, it's crucial to acknowledge that software versions evolve over time. To ensure you are always working with the latest and most up-to-date version, follow these steps:

1. **Visit jQuery's Official Website**: Head to jquery.com.
2. **Locate and Copy the Script Tag**: On the jQuery website, identify the script tag corresponding to the latest jQuery version, and copy it.

```
<script src="https://code.jquery.com/jquery-3.3.1.min.js"></script>
```

Setting Up Your Project

With jQuery in your toolkit, it's time to embark on your web development journey. Let's set up your project environment, step by step:

1. **Create a Project Folder**: Navigate to your designated web development project folder and craft a new directory dedicated to your jQuery project. Choose a name that accurately reflects your project's essence, for instance, "jQuery."
2. **Open the Project in Your Text Editor**: Access your preferred text editor and seamlessly import the newly created project folder. In this illustration, we will utilize Atom as our text editor.
3. **Establish the Essential Files**: Within your project folder, create the following critical files to lay the foundation of your web development project:
   - `index.html` : This file will serve as the cornerstone of your web page's structure.
   - `styles.css` : Create this file to wield CSS magic and style your web page to perfection.
   - `index.js` : Craft this JavaScript file to house your code, and get ready to incorporate jQuery to elevate the interactivity and functionality of your website.

```
<!-- index.html -->
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Your jQuery-Powered Website</title>
<link rel="stylesheet" href="styles.css">
</head>
<body>
<h1>Welcome to the jQuery World!</h1>
<script src="https://code.jquery.com/jquery-3.3.1.min.js"></script>
<script src="index.js"></script>
</body>
</html>
```

Conclusion

Now, equipped with jQuery and a well-structured project environment, you're poised to embark on a journey of web development excellence. Following these

steps, you have successfully acquired the latest version of jQuery and set up the essential groundwork for your web project.

In the forthcoming lessons, we will delve deeper into harnessing the myriad features of jQuery to bolster your web development skills. Be prepared for an array of hands-on tutorials and insights to enable you to maximize the potential of this versatile library, enabling you to create dynamic and interactive websites. Stay tuned for a wealth of knowledge to come!