
Mastering JavaScript & JQuery Essentials (TT4115)

Overview

This hands-on course is geared for web developers who need to learn basic JavaScript and JQuery to use with today's systems and architectures to build sophisticated web interfaces. JavaScript is simple and elegant but is often difficult to work with because it's so different from the programming languages most developers are used to utilizing. You will experience a balanced mixture of theory and practical labs to gain core JavaScript skills to ease the development of advanced web applications. If you are building for the web, learning jQuery will change the way you write JavaScript, working across multiple browsers and platforms. After this course, you will be able to hit the ground running applying essential JavaScript to projects at both an architectural as well as a line by line coding level.

Target Audience

This is an introductory level course for experienced software developers seeking to enhance and extend their core web development skillset leveraging JavaScript and JQuery. Attendees should have practical experience developing basic software applications. This course provides an excellent foundation for continued learning to gain in-demand skills in in-demand skills and technologies such as NodeJS, Angular, React, Redux and more. This course can also be tailored for less experienced or non-developers as needed

Course Objectives

Throughout the course, students will explore practical use of the umbrella of technologies that work in conjunction with JavaScript as well as some of the tools, toolkits, and frameworks that can be used in conjunction with web development and deployment. The course begins with an initial look at JavaScript and how it is used within the context of web applications, walking students through the different technologies that are used with JavaScript and exploring core aspects of JavaScript and JQuery in terms of web applications, security, tools and frameworks.

Working within in a dynamic, hands-on learning environment, guided by our expert team, attendees will:

Become both familiar with the language and confident enough to work with it in any context

Learn enough of the DOM API to bend it to your will

Make communication between the browser and your server possible

Understand and effectively leverage closures

Understand how JavaScript's object model differs from the model classical object-oriented programming languages

Learn what jQuery is and how to add it to your applications

Use jQuery to select complex sets of elements from the DOM

Develop rich web pages that respond to user interaction

Interact with your server-side code using Ajax

Explore a wide variety of plugins and learn how to write your own

Test your applications to make sure your JavaScript is as solid as the rest of your code

Students will explore:

What is JavaScript, how does it relate to other programming languages, and how do you script your web pages with it?

How do you traverse and manipulate the DOM and how do you handle events in ways that work in all browsers?

What is Ajax and how does JavaScript make it possible?

What are closures and prototypes and other exotic features of JavaScript?

What is jQuery and why should you use it?

How does jQuery reduce the amount of code that you have to write to add rich functionality to both existing and new web pages?

How does jQuery make Ajax programming easier?

What best practices are there for using jQuery so that it works unobtrusively and performs well?

What plugins and extensions are available to enhance your applications even more than the core jQuery library can provide?

Course Outline

1 - Core JavaScript Essentials

JavaScript Basics
Debugging Tools
JavaScript Functions
JavaScript Arrays, Math and Date
JavaScript Event Handling and the DOM
Object-Oriented JavaScript

2 - jQuery

Why jQuery?
Basic jQuery
Manipulating the DOM
More on Element Selection

3 - Working with jQuery

Attributes, Forms, and DOM
More jQuery!
Event Handling
More On Elements!
Ajax

4 - jQuery Plugins and Enhancements

jQuery Plugins
jQuery UI
Templates

5 - JavaScript Object Notation (JSON)

JSON Objects
JSON Syntax and Processing
jQuery, JSON, and AJAX

6 - Advanced JavaScript Topics

ES6: The Next Step
HTML5 JavaScript API
TypeScript
JavaScript Best Practices
JavaScript Scheduling, Execution, and Security
Performance and Optimization
Download Options
Security

7 - Web Design

Responsive Web Design
User Interface Principles
Layout Techniques
Navigation Techniques
Selection Techniques
