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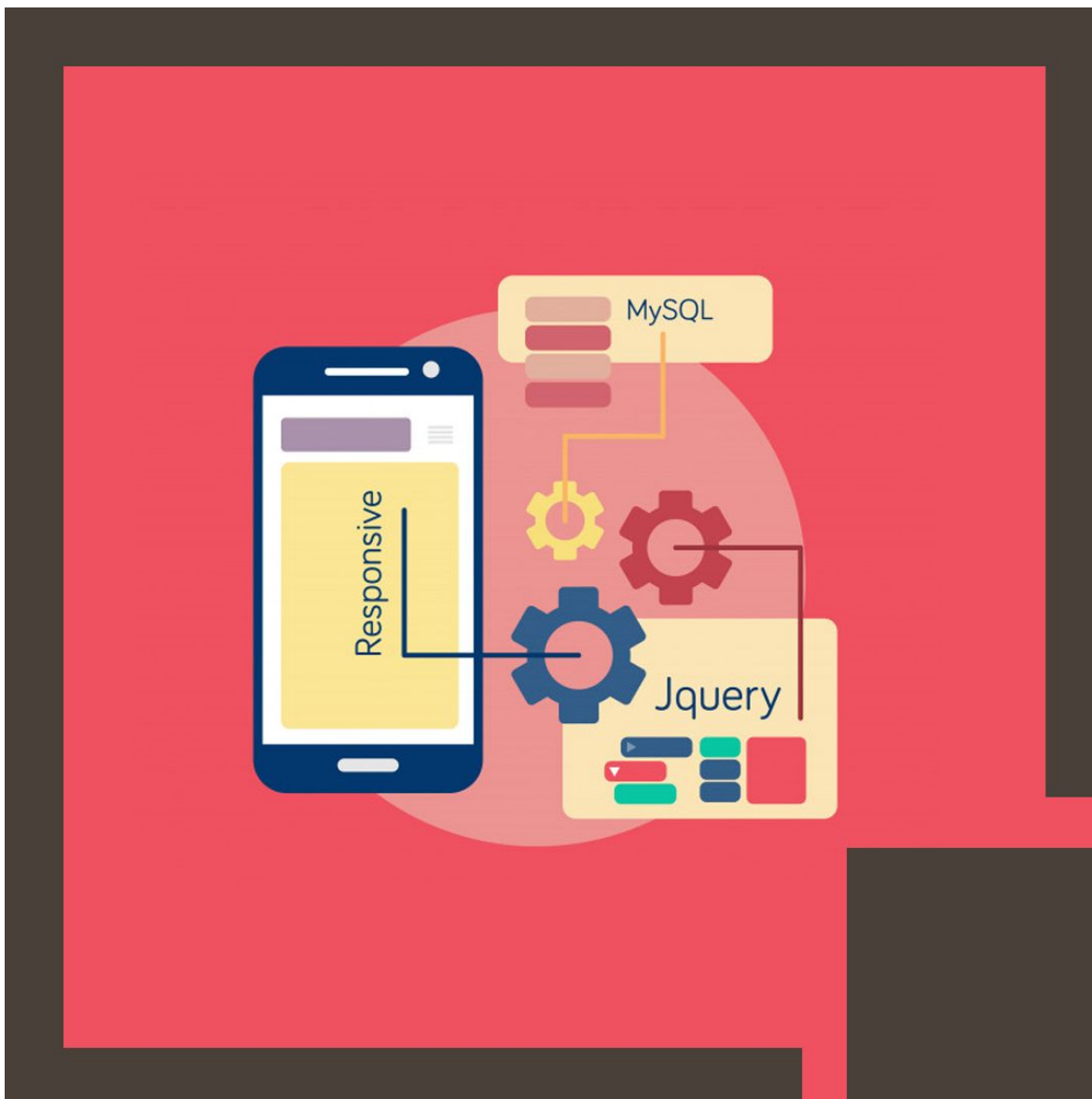
Learning Style: Virtual Classroom

Technology: jQuery

Difficulty: Intermediate

Course Duration: 4 Days

Mastering JQuery (with Advanced Topics) (TT4665)

About this course:

Learning jQuery offers an intro to and experience interacting with the programming language of JavaScript in the environment it is mostly used in the browser. JavaScript is elegant and simple, but it is also hard to work with and it is so distinct from the programming languages in which most developers operate.

This program also examines jQuery and offers a realistic and hands-on experience in developing rich web apps with the chosen JavaScript library. When you create for the web, mastering jQuery can change the way JavaScript is written, operating through many platforms and browsers.

The JQuery Developer can earn an average salary of $87,682 per annum.

Course objective:

Working within a flexible, realistic learning atmosphere, directed by our team of experts, participants will:

- Discover what is and learn techniques to add it to your apps
- Create rich web pages that discuss user experiences
- Use a diverse range of plugins and discover how to compose your own
- Get both familiar with and confident enough to operate with the language in any way
- Using jQuery to pick complex sets of DOM-Elements
- Using Ajax to communicate with your server Code
- Check your apps to ensure that your JavaScript is as stable as most of your code

Audience:

- It is an introductory web development program intended for experienced Web/JavaScript developers who want to expand their web development and design skills.

Prerequisite:

- The participants will have a working knowledge or prior experience in software apps development. Clear experience in a programming environment is a must.

Course Outline:

Module 1: jQuery

Lesson: Why jQuery?

- JavaScript Evolution
- Why jQuery?

- jQuery Usage
- Downloading jQuery

Lesson: Basic jQuery

- jQuery: Operational Overview
- jQuery Capability Overview
- Basic Selectors
- Multiple Selector
- Selecting by Order
- Exercise: Installing and Testing jQuery

Lesson: Manipulating the DOM

- Attributes vs. Properties
- CSS Box Model Properties
- Element Content
- Manipulating Children
- Wrapping and Unwrapping
- Effects (Basic Animation)
- Effects Queues
- Exercise: CSS Selection

Lesson: More On Element Selection

- Hierarchical Selectors (Combinators)
- Attribute Selectors
- Basic vs. Child Filters
- Filtering Methods
- Traversing Methods
- Exercise: Delving Into jQuery

Module 2: Working with jQuery

Lesson: Attributes, Forms, and DOM

- Selecting From Forms
- Selecting Parent and Children
- Automatic DOM Traversal
- Manipulating DOM Elements
- Getting and Setting Attribute Values
- Removing Attributes
- Exercise: Dynamic DOM

Lesson: More jQuery!

- The jQuery Function
- The jQuery Object
- Some jQuery "Static" Methods

- Utility Methods
- Exercise: jQuery Practice

Lesson: Event Handling

- Binding Multiple Events to Same Handler
- Multiple Events to Different Handlers
- Event Targets
- Triggering Events
- Custom Events
- Live Events
- Exercise: jQuery Events

Lesson: More On Elements!

- Changing HTML Content
- Changing Text Content
- Managing Elements
- Introduction to Animations

Lesson: Ajax

- Posting Data
- Global Ajax Handlers
- JSONP
- Serialization
- Deferred Objects
- Promises and Piping
- Chaining Tasks
- Exercise: jQuery Selectors and Content Manipulation

Module 3: jQuery Plugins and Enhancements

Lesson: jQuery Plugins

- jQuery Validation Plugin
- jQuery Form plugin
- jQuery BBQ (Back Button & Query) Plugin
- jQuery Hotkeys Plugin
- jQuery Color Plugin
- Exercise: jQuery Plugins

Lesson: jQuery UI

- jQuery UI Effects
- Advanced Easing
- Interactions
- Position Utility
- Widgets

- Icons
- Exercise: jQuery UI

Lesson: Templates

- Micro Templates
- jQuery Template Plugin
- Compiling Templates Template Items

Module 4: JavaScript Object Notation (JSON)

Lesson: JSON Objects

- Understand JavaScript's literal syntax for creating arrays and objects
- Understand object literals
- Understand arrays
- Understand arrays in objects
- Understand objects in arrays

Lesson: JSON Syntax and Processing

- Understand JSON Syntax
- Understand JSON Parsers
- Read and write object and array literals in JavaScript
- How to use JSON in an Ajax application
- Understand the advantages of using JSON
- Understand the disadvantages of using JSON
- How to use JSON in an Ajax application
- How to transfer data to and from the server

Lesson: jQuery, JSON, and AJAX

- jQuery AJAX Utility Method
- jQuery and JSON
- jQuery and Other Data Types
- Serialization
- Deferred Objects
- Promises and Piping
- Chaining Tasks
- Exercise: Implementing JSON

Module 5: Advanced JavaScript Topics

Lesson: Debugging Tools

- Using the strict mode and setting breakpoints
- Browser debugging tools
- Monitoring resource usage and performance

- Emulating devices Exceptions in JavaScript
- Exercise: JavaScript Debugging

Lesson: JavaScript Best Practices

- Code Conventions for the Lifecycle
- Resolving Shared Resources
- Constructs to Use
- Constructs to Avoid
- Memory Considerations

Lesson: Performance and Optimization

- Code Optimization
- JavaScript Verbosity Tradeoffs
- Memory Considerations
- Cyclic References

Lesson: Download Options

- Explain the basic principles underlying web application performance optimization
- Understand the role of downloading options in smoothing bandwidth usage
- Understand how caching can reduce bandwidth usage

Lesson: Security

- Security: The Complete Pictur**?**
- Unvalidated Input
- Injection Flaws
- XSS
- Spoofing
- How Attackers See JavaScript Applications
- OWASP Top Ten for 2017

Module 6: Web Design

Lesson: Responsive Web Design

- Adapting to Varying Screen Sizes
- Scaling Page and Text Content
- Scaling and Adapting for Media
- Options for Adjusting Media
- Exercise: Make a Responsive Page

Lesson: User Interface Principles

- Design Principles
- Improving Interactions with Users

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- Matching Web Flow to User Expectations

Lesson: Layout Techniques

- Page Layout Consideration
- Stacking Content
- Handling Excessive Content
- Providing Consistency Across Web Presence
- Exercise: Design: Using Responsive Web Design Patterns

Lesson: Navigation Techniques

- Handling Excessive Content
- Providing Context and State Feedback
- Navigation Placement and Techniques
- Exercise: Design: jQuery Events Project

Lesson: Selection Techniques

- Improving Text Input
- Improving Enumerated Input
- Accessibility Considerations