



Introduction to JQuery (3 days)

Introduction to jQuery covers jQuery and provides practical and hands-on experience with the preferred JavaScript library for building rich web applications. If you are building for the web, learning jQuery will change the way you write JavaScript, working across multiple browsers and platforms.

► Course Objectives: What You'll Learn

This course provides indoctrination in the practical use of the umbrella of technologies that are on the leading edge of web development.

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

- 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

Students will understand:

- 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?

This course is “skills-focused”, designed to train attendees in robust web development and design skills, coupling the most current, effective

techniques with the soundest development and design practices. Throughout the course, students will be led through a series of progressively advanced topics, where each topic consists of lecture, group discussion, comprehensive hands-on lab exercises, and lab review.

► Experiential Learning; Hands-On Labs

This course is about **50% hands-on lab and 50% lecture**, with multiple challenge labs for students to work through during the class, designed to reinforce fundamental skills and concepts learned in the lessons. Our courses include ample materials and labs to ensure all students are either appropriately challenged, or assisted, at all times – no matter their skill level. At the end of each lesson, developers will be tested with a set of review questions to ensure that he/she has fully understands that topic.

► Audience & Pre-requisites: Who Should Attend

This is an **introductory and beyond-level** web development course, designed for experienced JavaScript / web developers who need to extend their knowledge of web design and development.

This is a hands-on programming class. Attendees should have previous experience or working knowledge of developing software applications. Real world programming experience is a must.

► Workshop Topics Covered

Session: Exploring jQuery

Lesson: Introduction to jQuery

- What is jQuery?
- jQuery Usage
- Downloading jQuery
- Reading the Documentation
- The jQuery Function
- The jQuery Function “Overloads”
- Selecting Elements
- Example: Selecting Elements by Tag Name
- Example: Selecting Elements by ID
- Example: Selecting Elements by Class
- The jQuery Object
- Some jQuery “Instance” Methods

- Example: Appending Elements
- Example: Handling Events
- Example: Hiding Elements
- Some jQuery “Static” Methods

Lesson: Selecting Elements

- Selectors
- Basic Selectors
- Hierarchical Selectors (Combinators)
- Descendant vs. Child Combinators
- Adjacent vs. General Sibling Combinators
- Attribute Selectors
- More Attribute Selectors
- Even More Attribute Selectors
- Child Filters (from CSS)

- Basic Filters
- Basic vs. Child Filters
- More Basic Filters
- Content Filters
- Form Filters
- More Form Filters
- jQuery Objects
- Filtering Methods
- `.filter(selector)`
- `.filter(function)`
- `.not(selector)`
- `.not(function)`
- `.has(selector)`
- Traversing Methods
- Traversing Methods
- More Traversing Methods

- Restoring jQuery objects
- Example: `.andSelf()`
- Example: `.end()`
- Other jQuery Object Properties and Methods
- Using jQuery Objects Like an Array
- `.each(callback)`

Lesson: Manipulating the DOM

- `$(html, [ownerDocument])`
- `$(html, props)`
- `.attr(name, [value])`
- `.attr(object)`
- `.prop()`
- Attributes vs. Properties
- Removing Attributes and Properties
- The Class Attribute
- Working with CSS
- `.css(name, [value])`
- CSS Box Model Properties
- Element Content
- Checkboxes and Radio Buttons
- Select and Option Elements
- Manipulating the DOM
- Manipulating Children
- Removing Elements
- Inserting Content
- Replacing Content
- Wrapping and Unwrapping
- Effects (Animations)
- Built-in Effects
- Durations and Easing
- Animating Arbitrary Properties
- Relative Property Animations
- `.animate()` options
- Effects Queues
- jQuery UI Effects

Lesson: Event Handling

- `.bind(eventType, [eventData], handler)`
- Binding Multiple Events to Same Handler
- Multiple Events to Different Handlers
- Shortcut Methods
- Event Handlers
- Returning false
- The Event Object
- Event Targets
- Key Event Properties
- Mouse Event Properties
- Event Object Methods

- `mouseenter/mouseleave`
- Other Methods for Binding Events
- Triggering Events
- Custom Events
- Removing Event Handlers
- Namespaced Event Handlers
- Live Events
- Live Events Example
- `.live()` Limitations
- `.delegate()` as a Better `.live()`
- New Methods in jQuery

Lesson: Ajax

- `$.ajax()`
- `$.ajax()` Settings
- Posting Data
- Default Settings
- Global Ajax Handlers
- Ajax Handlers
- Shortcut Methods
- `.load()`
- JSONP
- JSONP Example
- Serialization
- Deferred Objects
- Deferred Consumer Methods
- Deferred Consumer Example
- Deferred Provider Methods
- Deferred Provider Example
- Promises
- Piping
- Chaining Tasks
- Waiting for Multiple Tasks

Lesson: jQuery Plugins

- jQuery Plugins
- jQuery Validation Plugin
- jQuery Validation Plugin (Example Form)
- jQuery Validation Plugin (Example Rules)
- jQuery Validation Plugin (CSS Classes)
- jQuery Validation Plugin (Messages)
- jQuery Form plugin
- jQuery Form Plugin (Methods)
- jQuery Form Plugin (Options)
- jQuery BBQ (Back Button & Query) Plugin
- jQuery Hotkeys Plugin
- jQuery Color Plugin
- The jQuery UI Project
- Grid Plugins

- Tree Plugins
- Commercial Packages
- Writing Custom Plugins
- Template for New Plugins

Lesson: jQuery UI

- jQuery UI
- jQuery UI Effects
- Visibility Transitions
- Color Transitions
- Class Transitions
- Advanced Easing
- Easing Curves
- Interactions
- Conventions Used by Interactions/Widgets
- Draggable Interaction
- Droppable Interaction
- Draggable/Droppable and CSS
- Constraining Dropping of Draggables
- Resizable Interaction
- Selectable Interaction
- Sortable Interaction
- Position Utility
- Position Utility Example
- Widgets
- jQuery UI CSS Framework
- Example Classes
- Icons
- All Icons

Lesson: Templates

- Micro Templates
- Micro Template Example
- Micro Template With Embedded JavaScript
- jQuery Template Plugin
- Template Plugin Example
- `${expression}` and `{{= expression}}`
- `{{html expression}}`
- `{{if expression}}`
- `{{else}}`
- `{{else expression}}`
- `{{each expression}}`
- `{{each(index, value) expression}}`
- `{{tmpl([data], [options]) template}}`
- `{{wrap([data], [options]) template}}`
- Compiling Templates
- Compiling Templates Example
- Template Items