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## HTML5, CSS3, and JavaScript Development (5 days)

### Course overview

HTML5 and CSS3 are essential ingredients in modern-day web applications. Gone are the days of vendor-specific plugins and browser wars, and in their place we have the promise of truly open and powerful industry standards.

This course takes a detailed look at the new features in HTML5 and CSS3. The course also shows how to write effective JavaScript code to make the most of these standard technologies.

### What you'll learn

- Using HTML5 GUI elements
- Implementing client-side behaviour using HTML5 APIs
- Using CSS3 style features
- Writing JavaScript code effectively

### Prerequisites

- Familiarity with HTML and CSS
- Experience with JavaScript or other similar language

### Course details

- **HTML and CSS Core Principles:** HTML core concepts and syntax; CSS core concepts and syntax
- **Creating HTML5 and CSS3 Web Pages:** HTML5 semantic tags; Additional HTML5 layout features; CSS3 enhancements
- **JavaScript Core Principles:** JavaScript essential syntax; Accessing and updating HTML content by using DOM; Getting started with jQuery; Event handling
- **Using Forms:** Defining a form to gather user input; Using the new HTML5 input elements; Validating input; Implementing JavaScript validation
- **Implementing Ajax-Enabled Web Pages:** Overview of Ajax; Using Ajax manually; Using Ajax with jQuery; Using Ajax2 and Cross-Origin Requests (CORS)
- **Going Further with CSS3:** Textual styling; Using CSS3 selectors; Additional CSS3 techniques
- **Object-Oriented Programming in JavaScript:** Creating objects; Defining properties and methods; Defining constructors; Understanding prototypes; Implementing inheritance
- **Platform Integration:** Using the File API; Implementing drag-and-drop; Incorporating audio and video; Using the Geolocation API
- **Offline Working:** Using local storage; Offline working; Using the application cache

- **Creating Adaptive User Interfaces:** Media queries; Creating applications that look good in different form factors; Creating printer-friendly applications
- **Graphics:** Using the canvas API; Using SVG; Techniques and recommendations
- **CSS3 Animations and Effects:** Transitions; 2D and 3D transformations; Key-frame animations
- **Web Sockets:** The need for Web Sockets; Implementing a Web Sockets client; Implementing a Web Sockets server
- **Web Workers:** Overview of Web Workers; Implementing a Web Worker; Asynchronous programming techniques