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# Microsoft Visual Studio 2012: Programming in HTML5 with JavaScript and CSS3

Estimated Duration (20 Hrs)



## Microsoft Visual Studio 2012: Introduction to HTML5 and CSS3

**Duration: 2.5 Hour**

- Recognize basic HTML5 syntax
- Determine the most appropriate HTML5 element to use in a given scenario
- Describe how to create a basic HTML5 document structure
- Create an HTML5 document
- Recognize the options for implementing style sheets
- Describe how page elements can be positioned using CSS
- Describe how page elements can be styled using CSS
- Style an HTML5 document using CSS

## Microsoft Visual Studio 2012: HTML5 and JavaScript

**Duration: 2.5 Hour**

- Describe the role of JavaScript in web page development and recognize how different browsers support JavaScript differently
- Describe the basic syntax of JavaScript
- Describe JavaScript operators and the DOM
- Use JavaScript with HTML5
- Recognize how to use JavaScript looping and JavaScript conditional statements
- Describe JavaScript methods and recognize how to implement JavaScript
- Recognize how to use the HTML5 canvas and SVG graphics
- Use JavaScript with HTML5

## Microsoft Visual Studio 2012: Advanced HTML5 and JavaScript

**Duration: 1.5 Hour**

- Explore object-oriented principles as they apply to JavaScript
- Create custom objects and methods, and explore implementing inheritance and encapsulation in JavaScript
- Create custom objects and implement object inheritance and data encapsulation in JavaScript using constructors, prototypes, and custom functions
- Use HTML5 form attributes and JavaScript to validate user input
- Validate user input using JavaScript
- Create and validate HTML5 forms



## Microsoft Visual Studio 2012: HTML5 APIs and Local Storage

### Duration: 1.5 Hour

- Recognize the role of APIs in HTML5 and how to use selectors
- Recognize how to implement the drag-and-drop API
- Describe the characteristics of geolocation and the geolocation API
- Use selectors and implement the drag-and-drop API and the geolocation API
- Recognize how to use audio, video, and media controls with HTML5
- Recognize the purpose of the File API and the web storage API
- Describe the Application Cache API and recognize how to implement offline applications
- Implement file and storage APIs

## Microsoft Visual Studio 2012: HTML5, CSS3, and Adaptive UIs

### Duration: 2.5 Hour

- Recognize techniques in styling HTML5 text with CSS3
- To recognize techniques in styling HTML block properties with CSS3
- Demonstrate the use of new features in CSS3 for styling text, using custom web fonts, and for styling HTML5 block elements
- Recognize how to use CSS3 selectors and rules
- Explore new CSS3 selectors with jQuery
- Describe new CSS3 flexible box layouts and the use of media queries to implement adaptive user interfaces
- Demonstrate how to use CSS3 flexible grid techniques and media listeners to re-shape and re-order the presentation of block elements on a sample page for a mobile viewport

## Microsoft Visual Studio 2012: HTML5 Graphics and Animation

### Duration: 2 Hour

- Recognize the benefits and drawbacks of using HTML5 Canvas and its components
- Recognize what elements are needed to be able to use HTML5 SVG and the characteristics of using it
- Demonstrate how to use HTML5 canvas and SVG graphics
- Create an animated and adaptive user interface; raise and handle an event
- Recognize how to use transition shorthand commands and describe 3-D transformations functions
- Demonstrate how to use CSS transitions, animations, 2-D and 3-D transformations



## Microsoft Visual Studio 2012: Consuming and Transmitting Data with HTML5

### Duration: 2.0 Hour

- Recognize the characteristics of AJAX and how to use its components
- Recognize considerations and formats for consuming data
- Demonstrate methods for consuming data with HTML5
- Recognize how serialize and deserialize functions work and describe the benefits of using the `JSON.parse()` over the `eval()` method
- Describe the characteristics of sending data
- Recognize methods of handling data and jQuery statements
- Demonstrate how to use JSON Data serialization and deserialization functions and how to work with and send data

## Microsoft Visual Studio 2012: Utilizing the HTML5 WebSocket API and Web Workers

### Duration: 1.5 Hour

- Describe the elements of a WebSocket upgrade handshake
- Recognize how to use WebSocket events
- Demonstrate how to use a WebSocket to connect to an echo server and send and receive messages to/from the server
- Distinguish between different types of web workers
- Recognize Web Worker functionality
- Demonstrate how to create and use multiple web workers to blur an image shown on the page as an HTML5 Canvas element

