

JavaScript and HTML5: Develop Web Applications

Introduction

- Knowing the objectives of the course
- Setting up the Environment

Web Application Essentials

- Creating HTML5 Applications in NetBeans
- Running HTML pages and analyzing them by using the browser's development tools
- Separating CSS and JavaScript content from HTML pages
- Running HTML5 Applications in NetBeans
- Practice: Creating HTML5 Web Applications with NetBeans 8
- Practice: Separating JavaScript and CSS Resources

JavaScript Fundamentals

- Writing JavaScript code to declare variables, objects, functions and arrays
- Writing JavaScript Arrays to store data
- Defining JavaScript Objects as a key-value store
- Accessing the properties of an object
- Practice: Writing JavaScript code to pass tests in Jasmine

Combining HTML5 and JavaScript in Web Applications

- Creating HTML5 Documents
- Creating HTML5 Forms to request information and process it
- Validating HTML5 form input
- Writing JavaScript functions for HTML5 events
- Manipulating HTML5 elements through DOM
- Practice: Writing JavaScript code to modify document elements

The JavaScript API

- Validating user input with JavaScript and Regular Expressions
- Handling multiple values with JavaScript Collections
- Manipulating Dates with the JavaScript Date API
- Practice: Creating a meal-divider application
- Practice: Calculating the total based on the age

Web Application Data

- Converting Objects to JSON Strings
- Parsing JSON Strings into JavaScript Objects
- Storing Objects by using the JSON API, Cookies, and Local Storage
- Practice: Saving user input using JSON and Local Storage
- Practice: Restoring saved data when page loads

Style Applications using CSS3 and JavaScript

- Applying CSS styles to HTML documents
- Using CSS3 features to add dynamic styles to elements with events
- Using Media Queries and media data to adapt to different screens
- Using JavaScript to add and remove styles from elements
- Practice: Writing CSS rules to style elements in the document

Advanced JavaScript

- Defining Functions
- Creating Closures and explaining Variable Scope
- Writing JavaScript functions as modules
- Creating Prototypes
- Creating Drag-and-Drop interactions with JavaScript
- Creating JavaScript Timers and Delays to create animations in HTML
- Using the HTML5 Canvas Object to draw in pages
- Practices: Creating a Canvas, intervals, Drag and Drop, and implementing Mouse Gestures

AJAX and WebSocket

- Using AJAX with JavaScript to request data from an Application Server
- Using AJAX to consume RESTful Web Services
- Using AJAX calls to create "Server Push" interactions
- Identifying alternatives to AJAX used in legacy code
- Understanding AJAX Security
- Using WebSocket to create Real-time Client/Server interactions
- Identifying the required Back-End technologies for REST and WebSocket with Java EE7
- Practices: Creating a Single-Page Application using REST and a Tic-Tac-Toe Game Client with WebSocket

Developing Applications with jQuery

- Adding jQuery and jQuery UI libraries to your projects
- Using Selectors and DOM manipulators to handle documents
- Handling Events with jQuery
- Animating elements and Applying effects in the document
- Handling AJAX server responses