Faysal Aziz

Javascript

FA-0273 · 3 days

Software Development

Introduction

This is a generic JavaScript course with focus on making web pages interactive. This course starts from the absolute basics. This course may be used as a stepping stone for moving to more advanced forms of JavaScript based Frameworks such as Vue, Node etc. This course shall not be dealing with any frameworks, but pure JavaScript.

Learning Outcome

By the end of the course, the learner may be expected to:

- Understand the core basics of JavaScript
- Understand the transition to modern JavaScript

  Have a good working understanding on:

  - Variables
  - Functions
  - Arrays
  - Objects
- Object-oriented programming
- Prototypes
- JavaScript engines
- Document Object Model with JavaScript
- Event handling, asynchronous coding and Http requests
- Testing, security and deployment

Duration

- 3 days

- Medium Intensity
- Will assessments

Prerequisites

- Basic skills to develop web pages using HTML
- Basic understanding of CSS
- Filing system

Training outline

1. Introduction

1. Overview
2. Setup
3. SOP

2. Basics: Variables, Data Types, Operators & Functions

1. Introducing Variables & Constants
2. Data Types
3. Functions
4. Code Styles, Conventions & Syntax
5. Returning Values
6. Scope
7. Functions & Scope
8. Converting Data Types
9. Mixing Numbers & Strings
10. Splitting Code into Functions
11. Connecting all Buttons to Functions
12. Using Arrays
13. Creating Objects
14. Accessing Object Data
15. Arrays & Objects
16. undefined, null & NaN
17. Importing Scripts Correctly with "defer" & "async"

3. Control Structures (if Statements, Loops, Error Handling)

1. Introducing "if" Statements & Boolean (Comparison) Operators
2. The Logical AND and OR Operators
3. Understanding Operator Precedence
4. if & Boolean Operators
5. Coercion vs Conversion
6. Validating User Input
7. Utilizing Global Constants as Identifiers in Conditional Code
8. Ternary Operator
9. Working with the "switch-case" Statement
10. Loops
11. Controlling Iterations
12. Error Handling

4. Functions (Advanced)

1. Parameters vs Arguments
2. Functions vs Methods
3. Functions as Objects
4. Function Expressions
5. Anonymous Functions
6. Functions Inside of Functions
7. Callback Functions
8. Working with advanced methods

5. Working with the DOM (Browser HTML Code) in JavaScript

1. Document and Window Object
2. Understanding the DOM and how it's created
3. Nodes & Elements - Querying the DOM Overview
4. Selecting Elements in the DOM
5. Exploring and Changing DOM Properties
6. Attributes vs Properties
7. Selecting Multiple Elements & Summary
8. Traversing the DOM Traversing Child Nodes

9. Using parentNode & parentElement
10. Selecting Sibling Elements
11. DOM Traversal vs Query Methods
12. Styling DOM Elements
13. Creating Elements with JS - Overview
14. Adding Elements via HTML in Code
15. Adding Elements via createElement()
16. Inserting DOM Elements
17. Cloning DOM Nodes
18. Live Node Lists vs Static Node Lists
19. Removing Elements
20. Insertion & Removal Method Summary

6. Arrays & Iterables

1. Creating Arrays
2. Array methods
3. The splice() Method
4. Selecting Ranges & Creating Copies with slice()
5. Adding Arrays to Arrays with concat()
6. Retrieving Indexes with indexOf() /& lastIndexOf()
7. Finding Stuff: find() and findIndex()
8. Alternative to for Loops: The forEach() Method
9. Transforming Data with map()
10. sort()ing and reverse()ing
11. Filtering Arrays with filter()
12. The Important reduce() Method
13. Chaining Methods in JavaScript
14. Arrays & Strings
15. The Spread Operator (...)
16. Understanding Array Destructuring
17. Maps & Sets - Overview
18. Working with Sets
19. Working with Maps
20. Maps vs Objects
21. Understanding WeakSet

22. Understanding WeakMap

7. Objects

1. Objects & Primitive Values
2. Adding, Modifying & Deleting Properties
3. Special Key Names & Square Bracket Property Access
4. Property Types & Property Order
5. Dynamic Property Access & Setting Properties Dynamically
6. Getters & Setters

8. Classes & Object-oriented Programming (OOP)

1. Getting Started with OOP Code
2. Working with Constructor Methods
3. Fields vs Properties
4. Using & "Connecting" Multiple Classes
5. Binding Class Methods & Working with "this"
6. Static Methods & Properties
7. Getters & Setters
8. Inheritance
9. Overriding Methods and the super() Constructor
10. super() Constructor Execution, Order & "this"
11. Different Ways of Adding Methods
12. Private Properties
13. "Pseudo-Private" Properties

9. Project

10. Assessment

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