# JavaScript Developer

**Duration: 4 Days    Course Code: JSD    Delivery Method: Company Event**

## Overview:

### JavaScript Developer Course Overview

JavaScript is one of the most popular and commonly used programming languages today. Not only is it the language of the web and front-end frameworks like Angular and React,but it can now be used to build anything (front-end,back-end,or otherwise) thanks to runtimes like NodeJS. This course is designed to provide delegates with the knowledge and skills necessary to build modern JavaScript apps. It further serves to set the delegates on course to dive into one of the many JavaScript frameworks. Delegates will learn about everything from variables,functions,and program flow,to functional and asynchronous programming,and managed apps.
Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.
NB: This course assumes ES6 as the baseline specification for JavaScript. This is because ES6 is now widely supported.

Company Events

These events can be delivered exclusively for your company at our locations or yours, specifically for your delegates and your needs. The Company Events can be tailored or standard course deliveries.

## Target Audience:

### Who will the Course Benefit?

The JavaScript Developer course is aimed at those who are new or have had little exposure to JavaScript,and who will be responsible for building or maintaining  JavaScript apps and want to go beyond the fundamentals. It may also be of value to those who wish to refresh/renew their knowledge of JavaScript after some time away from it.

## Objectives:

- Course Objectives

- This course aims to provide delegates with the skills and knowledge necessary to write core JavaScript code,exploit an understanding of the DOM and event handling to make  web pages dynamic and interactive,and to build modern,managed JavaScript applications that exploit modern syntax. Delegates should be able to devise object-oriented and  functional solutions to problems,and deal with asynchronous tasks such as IO.

## Prerequisites:

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Delegates should have some previous programming experience or at least be familiar with programming concepts. Delegates should also be familiar with HTML and CSS.

## Follow-on-Courses:

Further Learning

- React
- Angular Development
- Developing Node.js Web Applications

## Content:

JavaScript Developer Training Course  Course
Contents - DAY 1

### Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

### Session 1: INTRODUCTION

- Setting up the development environment
- What is JavaScript?
- HTML and CSS - a brief refresher
- Embedding JavaScript in HTML
- Executing JavaScript with NodeJS
- Browser JS vs. NodeJS
- A simple example
- Syntax and comments
- ECMAScript and JavaScript
- Deployment

### Session 2: VALUES,VARIABLES AND TYPES

- Values
- Variables
- var,let,and const
- Naming conventions
- Numbers
- Strings
- Booleans
- Arrays
- Objects
- The typeof operator
- Dynamic typing
- Type conversion and coercion
- Arithmetic
- Handling text incl. template literals

### Session 3: FUNCTIONS

- Function declarations
- Parameters
- Return statements
- Function expressions
- Arrow functions
- Declaration,expression,or arrow function?
- Calling functions
- Pass by value or reference?
- An introduction to scope
- Default parameters
- Built-in functions

### Session 4: PROGRAM FLOW

- Relational and logical operators
- Equalty comparisons and sameness
- Truthy and falsey
- Conditional statements
- Iterative statements
- Error handling
- Debugging  JavaScript Developer Training

### Session 5: OBJECTS

- Objects (again)
- Properties
- Dot notation
- Square bracket notation
- Function properties (methods)
- The this keyword
- Iterating over object properties
- The Object type
- Array objects and methods
- String objects and methods

### Session 6: DOM REFERENCING AND MANIPULATION

- HTML elements and JavaScript objects
- The DOM
- DOM referencing
- DOM data types
- Element manipulation
- Creating,adding and removing elements

### Session 7: EVENT HANDLING

- Events
- Event propagation
- Event listeners
- Event listener registration
- The event object

### Session 8: WEB APIS

- What is an API?
- Browser APIs
- Accessing browser APIs
- Date
- Math
- RegExp
- JSON
- Client-side storage
- Geolocation
- Others  JavaScript Developer Training Course  Course Contents - DAY 3

### Session 9: MODERN SYNTAX,OPERATORS,AND DATA STRUCTURES

- Destructuring
- Spread
- Rest parameters
- Short circuiting
- Logical assignment operators
- Enhanced object literals
- Optional chaining
- Nullish coalescing
- Sets and Maps

### Session 10: SCOPE

- What is scope?
- Types of scope

### Session 11: OBJECT-ORIENTED PROGRAMMING

- What is object-oriented programming?
- Object templates
- Constructor functions
- The this keyword (review)
- Object prototypes (briefly)
- Classes
- Fields,constructors,and methods
- Static members
- Encapsulation
- Inheritance
- Composition
- Mutating arrays,e.g. push,splice etc.

### Session 12: FUNCTIONAL PROGRAMMING

- Functions (review)
- What is functional programming?
- Pure functions
- Immutability
- Spread (again)
- Functions as first-class objects
- Higher-order functions
- Callbacks
- Transforming arrays,e.g. filter,map etc. JavaScript Developer Training Course Course Contents - DAY 4

### Session 13: ASYNCHRONOUS PROGRAMMING

- What is asynchronous programming?
- The Event Loop
- Asynchronous callbacks
- setTimeout and setInterval
- Promises
- async and await
- Reactive programming and observables (briefly)
- Asynchronous programming and the fetching of data

### Session 14: MODULES,MANAGED APPS,AND TOOLING

- What is a module?
- Exporting and importing module features
- Embedding a module in the HTML
- Default and named exports
- Aliases
- Module objects
- Modules,packages,libraries,and frameworks
- Categories of tools
- Package management
- Module bundling
- Transpilation
- TypeScript
- Creating a managed app

### Session 15: TESTING

Course  Course Contents - DAY 2

- Lexical scope
- The scope chain
- Closures
- IIFEs

- The purpose of testing
- The types of testing
- Running tests
- Test tools
- Unit testing
- Integration testing
- E2E testing
- Testing async code
- Using mocks

## Further Information:

For More information, or to book your course, please call us on 0800/84.009

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www.globalknowledge.com/en-be/