

Modern JavaScript Bootcamp: From Zero to Job-Ready Developer

Learn JavaScript from scratch. Build 6 portfolio projects, 50+ challenges, ES6+, async/await, and modern dev tools.

Programming Instructor: David Clarke • 5 sections • 48 lessons • 22.75h total

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About this course

This course takes you from JavaScript beginner to a developer ready for real projects and job applications. You will learn syntax and concepts and understand how JavaScript works under the hood: the event loop, scoping, closures, and asynchronous programming that makes modern web applications possible.

You will build six real projects for your portfolio, work through 50+ coding challenges with solutions, and learn modern JavaScript features including ES6+, OOP, async/await, and APIs. The course covers modern development tools like NPM, Parcel, and ES6 modules, plus problem-solving frameworks and efficient workflows.

Course curriculum

JavaScript Fundamentals: Building Your Foundation

- **Setting Up Your Modern JavaScript Development Environment (18m)**
Install Node.js, VS Code, and configure your workspace with essential extensions and tools for productive JavaScript development.
- **Variables, Data Types, and Working with Numbers (25m)**
Master let, const, var differences, explore primitive types, and learn number operations with practical coding exercises.
- **String Manipulation and Template Literals (20m)**
Learn string methods, concatenation, and modern template literals for dynamic text generation in your applications.
- **Boolean Logic, Comparison Operators, and Conditional Statements (22m)**
Understand truthy/falsy values, if/else statements, switch cases, and logical operators for decision-making in your code.
- **Functions: Declaration, Expressions, and Parameters (28m)**
Create reusable code blocks with functions, understand parameters vs arguments, and explore different function declaration styles.
- **Arrays: Creation, Manipulation, and Common Methods (32m)**
Master array methods like push, pop, map, filter, and reduce while building practical data manipulation skills.
- **Objects: Properties, Methods, and Dot vs Bracket Notation (24m)**
Create and manipulate objects, access properties dynamically, and understand object-oriented thinking in JavaScript.
- **Loops: for, while, and Iteration Strategies (19m)**
Automate repetitive tasks with different loop types and learn when to use each approach for optimal code performance.

Modern JavaScript ES6+ and Advanced Features

- **Arrow Functions: Syntax, Benefits, and When to Use Them (16m)**
Master concise arrow function syntax and understand lexical this binding for cleaner, more readable code.
- **Destructuring Arrays and Objects for Clean Code (21m)**
Extract values from arrays and objects efficiently using modern destructuring syntax in practical scenarios.
- **Spread Operator and Rest Parameters (18m)**
Learn to copy arrays, merge objects, and handle variable function arguments with spread and rest operators.
- **Optional Chaining (ES2020) and Nullish Coalescing (14m)**
Safely access nested object properties and handle null/undefined values with modern JavaScript features.

- **How JavaScript Works: Execution Context and Hoisting (26m)**
Understand the JavaScript engine, variable hoisting, and execution context to debug and write better code.
- **Scope and Scope Chain: Global, Function, and Block Scope (23m)**
Master variable scope rules and understand how JavaScript finds and accesses variables in your programs.
- **The 'this' Keyword: Four Binding Rules Explained (29m)**
Demystify the 'this' keyword with practical examples of default, implicit, explicit, and new binding scenarios.
- **Closures: Understanding and Practical Applications (27m)**
Explore closure mechanics and create powerful patterns like data privacy, function factories, and module patterns.
- **Higher-Order Functions and Callback Patterns (24m)**
Pass functions as arguments, return functions from functions, and build flexible, reusable code patterns.
- **Built-in JavaScript Methods and Browser APIs (20m)**
Explore Math, Date, JSON methods, and learn to interact with browser APIs for real-world applications.

Asynchronous JavaScript and Modern Development

- **The Event Loop, Call Stack, and Web APIs (30m)**
Understand JavaScript's single-threaded nature, the event loop mechanism, and how asynchronous operations work.
- **Callbacks and Handling Asynchronous Operations (22m)**
Learn callback patterns for async tasks and discover common pitfalls like callback hell in real applications.
- **Promises: Creating, Chaining, and Error Handling (31m)**
Master promise syntax, chaining, and error handling to write cleaner asynchronous code.
- **Async/Await: Modern Asynchronous JavaScript (25m)**
Use async/await syntax for readable asynchronous code and handle errors with try/catch blocks.
- **Making API Calls with Fetch and Axios (28m)**
Connect to external APIs, handle HTTP requests, and process JSON data in real-world applications.
- **NPM Package Manager and Third-Party Libraries (19m)**
Install, manage, and use npm packages to extend your JavaScript applications with powerful libraries.
- **Modern Build Tools: Parcel, Babel, and ES6 Modules (26m)**
Set up modern development workflow with bundling, transpilation, and module organization.
- **Error Handling Strategies and Debugging Techniques (21m)**
Implement robust error handling and use browser developer tools effectively for debugging.

Object-Oriented Programming and Code Architecture

- **Constructor Functions and the 'new' Operator (24m)**
Create object blueprints using constructor functions and understand the new keyword mechanics.
- **Prototypes and Prototypal Inheritance (28m)**
Master JavaScript's prototype system and understand how inheritance works behind the scenes.

- **ES6 Classes: Syntax and Best Practices (20m)**
Use modern class syntax for cleaner object-oriented code and understand class inheritance patterns.
- **Encapsulation, Abstraction, and Data Privacy (22m)**
Implement encapsulation patterns to protect data and create maintainable, reliable applications.
- **Static Methods, Getters, and Setters (18m)**
Use advanced class features to create utility methods and control property access in your objects.
- **Inheritance Patterns: extends and super Keywords (23m)**
Build hierarchical class structures and understand method overriding with modern inheritance syntax.
- **Code Architecture and Design Patterns (27m)**
Apply common design patterns like Factory, Singleton, and Module patterns for scalable code organization.
- **Flowchart Planning and Code Structure Strategies (16m)**
Plan complex applications using flowcharts and architectural patterns before writing code.

Real-World Projects and Portfolio Development

- **Project 1: Build a Dynamic Quiz Application (45m)**
Create an interactive quiz app with score tracking, timer functionality, and dynamic question rendering.
- **Project 2: Weather App with API Integration (52m)**
Build a weather application using OpenWeather API, handle user location, and display real-time weather data.
- **Project 3: Task Manager with Local Storage (48m)**
Develop a task management app with CRUD operations, data persistence, and filtering capabilities.
- **Project 4: Recipe Finder with Search and Filtering (55m)**
Create a recipe search application with API integration, ingredient filtering, and favorites functionality.
- **Project 5: Budget Tracker with Charts and Analytics (58m)**
Build a financial tracking app with Chart.js integration, expense categorization, and budget analysis.
- **Project 6: Portfolio Website with Interactive Elements (62m)**
Develop a professional portfolio website with smooth animations, project showcase, and responsive design.
- **Coding Challenges: Problem-Solving Practice (Part 1) (38m)**
Solve 15+ algorithmic challenges covering array manipulation, string processing, and logic problems.
- **Coding Challenges: Problem-Solving Practice (Part 2) (42m)**
Tackle 20+ intermediate challenges including recursion, data structures, and real-world scenarios.
- **Debugging Real-World Code and Performance Optimization (35m)**
Practice debugging techniques on complex codebases and learn performance optimization strategies.
- **Git and GitHub: Version Control for JavaScript Developers (28m)**
Master Git workflows, branching strategies, and GitHub collaboration for professional development.
- **Code Review Best Practices and Quality Assurance (24m)**
Learn to write clean, maintainable code and conduct effective code reviews for team projects.
- **Building Your Developer Portfolio and Resume (32m)**
Showcase your projects effectively, write compelling descriptions, and prepare for job applications.

- **JavaScript Interview Preparation and Common Questions (40m)**

Prepare for technical interviews with common JavaScript questions, coding challenges, and best practices.

- **Next Steps: Advanced JavaScript Topics and Frameworks (22m)**

Explore React, Node.js, TypeScript, and other advanced topics to continue your JavaScript journey.

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