

# Programming Javascript Applications Robust Web Architecture With Node Html5 And Modern Js Libraries Eric Elliott

So you're ready to make the leap from writing HTML and CSS web pages to creating dynamic web applications. You want to take your web skills to the next level. And you're finally ready to add "programmer" to the resume. It sounds like you're ready to learn the Web's hottest programming language: JavaScript. Head First JavaScript is your ticket to going beyond copying and pasting the code from someone else's web site, and writing your own interactive web pages. With Head First JavaScript, you learn: The basics of programming, from variables to types to looping How the web browser runs your code, and how you can talk to the browser with your code Why you'll never have to worry about casting, overloading, or polymorphism when you're writing JavaScript code How to use the Document Object Model to change your web pages without making your users click buttons If you've ever read a Head First book, you know what to expect -- a visually rich format designed for the way your brain works. Head First JavaScript is no exception. It starts where HTML and CSS leave off, and takes you through your first program into more complex programming concepts -- like working directly with the web browser's object model and writing code that works on all modern browsers. Don't be intimidated if you've never written a line of code before! In typical Head First style, Head First JavaScript doesn't skip steps, and we're not interested in having you cut and paste code. You'll learn JavaScript, understand it, and have a blast along the way. So get ready... dynamic and exciting web pages are just pages away.

Take advantage of JavaScript's power to build robust web-scale or enterprise applications that are easy to extend and maintain. By applying the design patterns outlined in this practical book, experienced JavaScript developers will learn how to write flexible and resilient code that's easier—yes, easier—to work with as your code base grows. JavaScript may be the most essential web programming language, but in the real world, JavaScript applications often break when you make changes. With this book, author Eric Elliott shows you how to add client- and server-side features to a large JavaScript application without negatively affecting the rest of your code. Examine the anatomy of a large-scale JavaScript application Build modern web apps with the capabilities of desktop applications Learn best practices for code organization, modularity, and reuse Separate your application into different layers of responsibility Build efficient, self-describing hypermedia APIs with Node.js Test, integrate, and deploy software updates in rapid cycles Control resource access with user authentication and authorization Expand your application's reach through internationalization Strengthen your applications by adopting Test-Driven Development (TDD), the OpenAPI Specification, Continuous Integration (CI), and container orchestration.

Key Features Create production-grade JavaScript applications from scratch Build microservices and deploy them to a Docker container for scaling applications Test and deploy your code with confidence using Travis CI Book Description With the over-abundance of tools in the JavaScript ecosystem, it's easy to feel lost. Build tools, package managers, loaders, bundlers, linters, compilers, transpilers, typecheckers - how do you make sense of it all? In this book, we will build a simple API and React application from scratch. We begin by setting up our development environment using Git, yarn, Babel, and ESLint. Then, we will use Express, Elasticsearch and JSON Web Tokens (JWTs) to build a stateless API service. For the front-end, we will use React, Redux, and Webpack. A central theme in the book is maintaining code quality. As such, we will enforce a Test-Driven Development (TDD) process using Selenium, Cucumber, Mocha, Sinon, and Istanbul. As we progress through the book, the focus will shift towards automation and infrastructure. You will learn to work with Continuous Integration (CI) servers like Jenkins, deploying services inside Docker containers, and run them on Kubernetes. By following this book, you would gain the skills needed to build robust, production-ready applications. What you will learn Practice Test-Driven Development (TDD) throughout the entire book Use Cucumber, Mocha and Selenium to write E2E, integration, unit and UI tests Build stateless APIs using Express and Elasticsearch Document your API using OpenAPI and Swagger Build and bundle front-end applications using React, Redux and Webpack Containerize services using Docker Deploying scalable microservices using Kubernetes Who this book is for If you're a JavaScript developer looking to expand your skillset and become a senior JavaScript developer by building production-ready web applications, then this book is for you. Update your skill set for ES 6 and 7 with the ultimate JavaScript guide for pros Professional JavaScript for Web Developers is the essential guide to next-level JavaScript development. Written for intermediate-to-advanced programmers, this book jumps right into the technical details to help you clean up your code and become a more sophisticated JavaScript developer. From JavaScript-specific object-oriented programming and inheritance, to combining JavaScript with HTML and other markup languages, expert instruction walks you through the fundamentals and beyond. This new fourth edition has been updated to cover ECMAScript 6 and 7 (also known as ES2015 and ES2016) and the major re-imagining and departure from ES 5.1; new frameworks and libraries, new techniques, new testing tools, and more are explained in detail for the professional developer, with a practical focus that helps you put your new skills to work on real-world projects. The latest—and most dramatic—ES release is already being incorporated into JavaScript engines in major browsers; this, coupled with the rise in mobile web traffic increasing demand for responsive, dynamic web design, means that all web developers need to update their skills—and this book is your ideal resource for quick, relevant guidance. Get up to date with ECMAScript 6 and 7, new frameworks, and new libraries Delve into web

animation, emerging APIs, and build systems Test more effectively with mocks, unit tests, functional tests, and other tools Plan your builds for future ES releases Even if you think you know JavaScript, new ES releases bring big changes that will affect the way you work. For a professional-level update that doesn't waste time on coding fundamentals, Professional JavaScript for Web Developers is the ultimate resource to bring you up to speed.

Get the best out of Node.js by mastering its most powerful components and patterns to create modular and scalable applications with ease About This Book Create reusable patterns and modules by leveraging the new features of Node.js . Understand the asynchronous single thread design of node and grasp all its features and patterns to take advantage of various functions. This unique guide will help you get the most out of Node.js and its ecosystem. Who This Book Is For The book is meant for developers and software architects with a basic working knowledge of JavaScript who are interested in acquiring a deeper understanding of how to design and develop enterprise-level Node.js applications. Basic knowledge of Node.js is also helpful to get the most out of this book. What You Will Learn Design and implement a series of server-side JavaScript patterns so you understand why and when to apply them in different use case scenarios Become comfortable with writing asynchronous code by leveraging constructs such as callbacks, promises, generators and the async-await syntax Identify the most important concerns and apply unique tricks to achieve higher scalability and modularity in your Node.js application Untangle your modules by organizing and connecting them coherently Reuse well-known techniques to solve common design and coding issues Explore the latest trends in Universal JavaScript, learn how to write code that runs on both Node.js and the browser and leverage React and its ecosystem to implement universal applications In Detail Node.js is a massively popular software platform that lets you use JavaScript to easily create scalable server-side applications. It allows you to create efficient code, enabling a more sustainable way of writing software made of only one language across the full stack, along with extreme levels of reusability, pragmatism, simplicity, and collaboration. Node.js is revolutionizing the web and the way people and companies create their software. In this book, we will take you on a journey across various ideas and components, and the challenges you would commonly encounter while designing and developing software using the Node.js platform. You will also discover the "Node.js way" of dealing with design and coding decisions. The book kicks off by exploring the basics of Node.js describing it's asynchronous single-threaded architecture and the main design patterns. It then shows you how to master the asynchronous control flow patterns, and the stream component and it culminates into a detailed list of Node.js implementations of the most common design patterns as well as some specific design patterns that are exclusive to the Node.js world. Lastly, it dives into more advanced concepts such as Universal Javascript, and scalability' and it's meant to conclude the journey by giving the reader all the necessary

concepts to be able to build an enterprise grade application using Node.js. Style and approach This book takes its intended readers through a comprehensive explanation to create a scalable and efficient real-time server-side apps. What's the best approach for developing an application with JavaScript? This book helps you answer that question with numerous JavaScript coding patterns and best practices. If you're an experienced developer looking to solve problems related to objects, functions, inheritance, and other language-specific categories, the abstractions and code templates in this guide are ideal—whether you're using JavaScript to write a client-side, server-side, or desktop application. Written by JavaScript expert Stoyan Stefanov—Senior Yahoo! Technical and architect of YSlow 2.0, the web page performance optimization tool—JavaScript Patterns includes practical advice for implementing each pattern discussed, along with several hands-on examples. You'll also learn about anti-patterns: common programming approaches that cause more problems than they solve. Explore useful habits for writing high-quality JavaScript code, such as avoiding globals, using single var declarations, and more Learn why literal notation patterns are simpler alternatives to constructor functions Discover different ways to define a function in JavaScript Create objects that go beyond the basic patterns of using object literals and constructor functions Learn the options available for code reuse and inheritance in JavaScript Study sample JavaScript approaches to common design patterns such as Singleton, Factory, Decorator, and more Examine patterns that apply specifically to the client-side browser environment Completely revised and updated, this best-selling introduction to programming in JavaScript focuses on writing real applications. JavaScript lies at the heart of almost every modern web application, from social apps like Twitter to browser-based game frameworks like Phaser and Babylon. Though simple for beginners to pick up and play with, JavaScript is a flexible, complex language that you can use to build full-scale applications. This much anticipated and thoroughly revised third edition of Eloquent JavaScript dives deep into the JavaScript language to show you how to write beautiful, effective code. It has been updated to reflect the current state of JavaScript and web browsers and includes brand-new material on features like class notation, arrow functions, iterators, async functions, template strings, and block scope. A host of new exercises have also been added to test your skills and keep you on track. As with previous editions, Haverbeke continues to teach through extensive examples and immerses you in code from the start, while exercises and full-chapter projects give you hands-on experience with writing your own programs. You start by learning the basic structure of the JavaScript language as well as control structures, functions, and data structures to help you write basic programs. Then you'll learn about error handling and bug fixing, modularity, and asynchronous programming before moving on to web browsers and how JavaScript is used to program them. As you build projects such as an artificial life simulation, a simple programming language, and a paint program, you'll learn how to:

- Understand the essential



elements of programming, including syntax, control, and data - Organize and clarify your code with object-oriented and functional programming techniques - Script the browser and make basic web applications - Use the DOM effectively to interact with browsers - Harness Node.js to build servers and utilities Isn't it time you became fluent in the language of the Web? \* All source code is available online in an inter-active sandbox, where you can edit the code, run it, and see its output instantly.

A valuable resource for Webmasters presents a number of ready-to-go JavaScript applications, along with thorough documentation, to help provide additional functionality to Web sites of all kinds. Original. (Beginning/Intermediate)

Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

Get the most out of JavaScript for building web applications through a series of patterns, techniques, and case studies for clean coding

**Key Features**

- Write maintainable JS code using internal abstraction, well-written tests, and well-documented code
- Understand the agents of clean coding like SOLID principles, OOP, and functional programming
- Explore solutions to tackle common JavaScript challenges in building UIs, managing APIs, and writing states

**Book Description**

Building robust apps starts with creating clean code. In this book, you'll explore techniques for doing this by learning everything from the basics of JavaScript through to the practices of clean code. You'll write functional, intuitive, and maintainable code while also understanding how your code affects the end user and the wider community. The book starts with popular clean-coding principles such as SOLID, and the Law of Demeter (LoD), along with highlighting the enemies of writing clean code such as cargo culting and over-management. You'll then delve into JavaScript, understanding the more complex aspects of the language. Next, you'll create meaningful abstractions using design patterns, such as the Class Pattern and the Revealing Module Pattern. You'll explore real-world challenges such as DOM reconciliation, state management, dependency management, and security, both within browser and server environments. Later, you'll cover tooling and testing methodologies and the importance of documenting code. Finally, the book will focus on advocacy and good communication for improving code cleanliness within teams or workplaces, along with covering a case study for clean coding. By the end of this book, you'll be well-versed with JavaScript and have learned how to create clean abstractions, test them, and communicate about them via documentation. What you will learn

- Understand the true purpose of code and the problems it solves for your end-users and colleagues
- Discover the tenets and enemies of clean code considering the effects of cultural and syntactic conventions
- Use modern JavaScript syntax and design patterns to craft intuitive abstractions
- Maintain code quality within your team via wise adoption of tooling and advocating best practices
- Learn the modern ecosystem of JavaScript and its challenges like DOM reconciliation and state management
- Express the behavior of your code both within tests and via

various forms of documentation Who this book is for This book is for anyone who writes JavaScript, professionally or otherwise. As this book does not relate specifically to any particular framework or environment, no prior experience of any JavaScript web framework is required. Some knowledge of programming is assumed to understand the concepts covered in the book more effectively. Reactive programming is revolutionary. It makes asynchronous programming clean, intuitive, and robust. Use RxJS 5 to write complex programs in a simple way, and master the Observable: a powerful data type that substitutes callbacks and promises. Think about your programs as streams of data that change and adapt to produce what you want. Manage real-world concurrency and write complex flows of events in your applications with ease. Take advantage of Schedulers to make asynchronous testing easier. The code in this new edition is completely updated for RxJS 5 and ES6. Create concurrent applications with ease using RxJS 5, a powerful event composition library. Real-world JavaScript applications require you to master asynchronous programming, and chances are that you'll spend more time coordinating asynchronous events than writing actual functionality. This book introduces concepts and tools that will greatly simplify the process of writing asynchronous programs. Find out about Observables, a unifying data type that simplifies concurrent code and eases the pain of callbacks. Learn how Schedulers change the concept of time itself, making asynchronous testing sane again. Find real-world examples for the browser and Node.js along the way: how about a real-time earthquake visualization in 20 lines of code, or a frantic shoot-'em-up space videogame? You'll also use Cycle.js - a modern, reactive, web framework - to make a new breed of web applications. By the end of the book, you'll know how to think in a reactive way, and to use RxJS 5 to build complex programs and create amazing reactive user interfaces. You'll also understand how to integrate it with your existing projects and use it with the frameworks you already know. All the code in this new edition has been thoroughly revised and updated for RxJS 5, ES6, and Cycle.js Unified. What You Need: NodeJS 6.x and a modern web browser

Provides information on how to write better JavaScript programs, covering such topics as functions, arrays, library and API design, and concurrency.

All software design is composition: the act of breaking complex problems down into smaller problems and composing those solutions. Most developers have a limited understanding of compositional techniques. It's time for that to change. In "Composing Software", Eric Elliott shares the fundamentals of composition, including both function composition and object composition, and explores them in the context of JavaScript. The book covers the foundations of both functional programming and object oriented programming to help the reader better understand how to build and structure complex applications using simple building blocks. You'll learn: Functional programming Object composition How to work with composite data structures Closures Higher order functions Functors (e.g., array.map) Monads (e.g., promises) Transducers Lenses All of this in the context of

JavaScript, the most used programming language in the world. But the learning doesn't stop at JavaScript. You'll be able to apply these lessons to any language. This book is about the timeless principles of software composition and its lessons will outlast the hot languages and frameworks of today. Unlike most programming books, this one may still be relevant 20 years from now. This book began life as a popular blog post series that attracted hundreds of thousands of readers and influenced the way software is built at many high growth tech startups and fortune 500 companies

Learn JavaScript from scratch! Packed with numerous examples, JavaScript: Novice to Ninja is a fun, step-by-step and comprehensive introduction to development in JavaScript. Discover how to use JavaScript to solve real-world problems, build smarter forms, track user events, and design eye-catching animations. Learn JavaScript's built-in functions, methods, and properties. Use JavaScript to validate form entries and interact with your users. Understand how to respond to user events and add interactivity to your applications. Create animations that bring your web site to life. Start programming using the DOM And much more!

Master Functional Programming techniques with this comprehensive guide for writing cleaner, safer, high-performing JavaScript codes About This Book Become proficient and skilled with Functional Programming in JavaScript to solve real-world development problems Successfully apply Functional Programming concepts and techniques to everyday JavaScript programming Bring modularity, reusability, testability, and performance to your web apps Who This Book Is For If you are a JavaScript developer and want to apply functional programming techniques, then this book is for you. Only a basic knowledge of the concepts of functional programming is required for this book. What You Will Learn Create more reliable code with closures and immutable data Convert existing methods into pure functions, and loops into recursive methods Develop more powerful applications with currying and function composition Separate the logic of your system from implementation details Implement composition and chaining techniques to simplify coding Use functional programming techniques where it makes the most sense In Detail Functional programming is a programming paradigm for developing software using functions. Learning to use functional programming is a good way to write more concise code, with greater concurrency and performance. The JavaScript language is particularly suited to functional programming. This book provides comprehensive coverage of the major topics in functional programming with JavaScript to produce shorter, clearer, and testable programs. You'll delve into functional programming; including writing and testing pure functions, reducing side-effects, and other features to make your applications functional in nature. Specifically, we'll explore techniques to simplify coding, apply recursion for loopless coding, learn ways to achieve immutability, implement design patterns, and work with data types. By the end of this book, you'll have developed the JavaScript skills you need to program functional

applications with confidence. Style and approach This book takes an easy-to-follow, step-by-step tutorial approach. You will make the most of JavaScript programming with a focus on the progression of functional programming techniques, styles, and detailed information about JavaScript libraries.

JavaScript is the native language of the Internet. Originally created to make web pages more dynamic, it is now used for software projects of all kinds, including scientific visualization and data services. However, most data scientists have little or no experience with JavaScript, and most introductions to the language are written for people who want to build shopping carts rather than share maps of coral reefs. This book will introduce you to JavaScript's power and idiosyncrasies and guide you through the key features of the language and its tools and libraries. The book places equal focus on client- and server-side programming, and shows readers how to create interactive web content, build and test data services, and visualize data in the browser. Topics include: The core features of modern JavaScript Creating templated web pages Making those pages interactive using React Data visualization using Vega-Lite Using Data-Forge to wrangle tabular data Building a data service with Express Unit testing with Mocha All of the material is covered by the Creative Commons Attribution-

Noncommercial 4.0 International license (CC-BY-NC-4.0) and is included in the book's companion website at <http://js4ds.org> . Maya Gans is a freelance data scientist and front-end developer by way of quantitative biology. Toby Hodges is a bioinformatician turned community coordinator who works at the European Molecular Biology Laboratory. Greg Wilson co-founded Software Carpentry, and is now part of the education team at RStudio

Sams Teach Yourself HTML, CSS and JavaScript All in One The all-in-one HTML, CSS and JavaScript beginner's guide: covering the three most important languages for web development. Covers everything beginners need to know about the HTML and CSS standards and today's JavaScript and Ajax libraries - all in one book, for the first time Integrated, well-organized coverage expertly shows how to use all these key technologies together Short, simple lessons teach hands-on skills readers can apply immediately By best-selling author Julie Meloni Mastering HTML, CSS, and JavaScript is vital for any beginning web developer - and the importance of these technologies is growing as web development moves away from proprietary alternatives such as Flash. Sams Teach Yourself HTML, CSS, and JavaScript All in One brings together everything beginners need to build powerful web applications with the HTML and CSS standards and the latest JavaScript and Ajax libraries. With this book, beginners can get all the modern web development knowledge you need from one expert source. Bestselling author Julie Meloni (Sams Teach Yourself PHP, MySQL and Apache All in One) teaches simply and clearly, through brief, hands-on lessons focused on knowledge you can apply immediately. Meloni covers all the building blocks of practical web design and development, integrating new techniques and features into every chapter. Each lesson builds on what's come before, showing



you exactly how to use HTML, CSS, and JavaScript together to create great web sites.

Little known to many, R works just as well with JavaScript—this book delves into the various ways both languages can work together. The ultimate aim of this work is to put the reader at ease with inviting JavaScript in their data science workflow. In that respect the book is not teaching one JavaScript but rather we show how little JavaScript can greatly support and enhance R code. Therefore, the focus is on integrating external JavaScript libraries and no prior knowledge of JavaScript is required. Key Features: ? Easy to pick up. ? An entry way to learning JavaScript for R. ? Covers topics not covered anywhere else. ? Easy to follow along.

Master the Shiny web framework—and take your R skills to a whole new level. By letting you move beyond static reports, Shiny helps you create fully interactive web apps for data analyses. Users will be able to jump between datasets, explore different subsets or facets of the data, run models with parameter values of their choosing, customize visualizations, and much more. Hadley Wickham from RStudio shows data scientists, data analysts, statisticians, and scientific researchers with no knowledge of HTML, CSS, or JavaScript how to create rich web apps from R. This in-depth guide provides a learning path that you can follow with confidence, as you go from a Shiny beginner to an expert developer who can write large, complex apps that are maintainable and performant. Get started: Discover how the major pieces of a Shiny app fit together Put Shiny in action: Explore Shiny functionality with a focus on code samples, example apps, and useful techniques Master reactivity: Go deep into the theory and practice of reactive programming and examine reactive graph components Apply best practices: Examine useful techniques for making your Shiny apps work well in production

With Learning JavaScript Design Patterns, you'll learn how to write beautiful, structured, and maintainable JavaScript by applying classical and modern design patterns to the language. If you want to keep your code efficient, more manageable, and up-to-date with the latest best practices, this book is for you. Explore many popular design patterns, including Modules, Observers, Facades, and Mediators. Learn how modern architectural patterns—such as MVC, MVP, and MVVM—are useful from the perspective of a modern web application developer. This book also walks experienced JavaScript developers through modern module formats, how to namespace code effectively, and other essential topics. Learn the structure of design patterns and how they are written Understand different pattern categories, including creational, structural, and behavioral Walk through more than 20 classical and modern design patterns in JavaScript Use several options for writing modular code—including the Module pattern, Asynchronous Module Definition (AMD), and CommonJS Discover design patterns implemented in the jQuery library Learn popular design patterns for writing maintainable jQuery plug-ins "This book should be in every JavaScript

developer's hands. It's the go-to book on JavaScript patterns that will be read and referenced many times in the future."—Andrée Hansson, Lead Front-End Developer, presis!

Why reinvent the wheel every time you run into a problem with JavaScript? This cookbook is chock-full of code recipes that address common programming tasks, as well as techniques for building web apps that work in any browser. Just copy and paste the code samples into your project—you'll get the job done faster and learn more about JavaScript in the process. You'll also learn how to take advantage of the latest features in ECMAScript 5 and HTML5, including the new cross-domain widget communication technique, HTML5's video and audio elements, and the drawing canvas. You'll find recipes for using these features with JavaScript to build high-quality application interfaces. Create interactive web and desktop applications Work with JavaScript objects, such as String, Array, Number, and Math Use JavaScript with Scalable Vector Graphics (SVG) and the canvas element Store data in various ways, from the simple to the complex Program the new HTML5 audio and video elements Implement concurrent programming with Web Workers Use and create jQuery plug-ins Use ARIA and JavaScript to create fully accessible rich internet applications

How can you overcome JavaScript language oddities and unsafe features? With this book, you'll learn how to create code that's beautiful, safe, and simple to understand and test by using JavaScript's functional programming support. Author Michael Fogus shows you how to apply functional-style concepts with Underscore.js, a JavaScript library that facilitates functional programming techniques. Sample code is available on GitHub at <https://github.com/funjs/book-source>. Fogus helps you think in a functional way to help you minimize complexity in the programs you build. If you're a JavaScript programmer hoping to learn functional programming techniques, or a functional programmer looking to learn JavaScript, this book is the ideal introduction. Use applicative programming techniques with first-class functions Understand how and why you might leverage variable scoping and closures Delve into higher-order functions—and learn how they take other functions as arguments for maximum advantage Explore ways to compose new functions from existing functions Get around JavaScript's limitations for using recursive functions Reduce, hide, or eliminate the footprint of state change in your programs Practice flow-based programming with chains and functional pipelines Discover how to code without using classes

Take advantage of JavaScript's power to build robust web-scale or enterprise applications that are easy to extend and maintain. By applying the design patterns outlined in this practical book, experienced JavaScript developers will learn how to write flexible and resilient code that's easier--yes, easier--to work with as your code base grows.

Explore the functional programming paradigm and the different techniques for developing better algorithms, writing more concise code, and performing

seamless testing Key Features Explore this second edition updated to cover features like async functions and transducers, as well as functional reactive programming Enhance your functional programming (FP) skills to build web and server apps using JavaScript Use FP to enhance the modularity, reusability, and performance of apps Book Description Functional programming is a paradigm for developing software with better performance. It helps you write concise and testable code. To help you take your programming skills to the next level, this comprehensive book will assist you in harnessing the capabilities of functional programming with JavaScript and writing highly maintainable and testable web and server apps using functional JavaScript. This second edition is updated and improved to cover features such as transducers, lenses, prisms and various other concepts to help you write efficient programs. By focusing on functional programming, you'll not only start to write but also to test pure functions, and reduce side effects. The book also specifically allows you to discover techniques for simplifying code and applying recursion for loopless coding. Gradually, you'll understand how to achieve immutability, implement design patterns, and work with data types for your application, before going on to learn functional reactive programming to handle complex events in your app. Finally, the book will take you through the design patterns that are relevant to functional programming. By the end of this book, you'll have developed your JavaScript skills and have gained knowledge of the essential functional programming techniques to program effectively. What you will learn Simplify JavaScript coding using function composition, pipelining, chaining, and transducing Use declarative coding as opposed to imperative coding to write clean JavaScript code Create more reliable code with closures and immutable data Apply practical solutions to complex programming problems using recursion Improve your functional code using data types, type checking, and immutability Understand advanced functional programming concepts such as lenses and prisms for data access Who this book is for This book is for JavaScript developers who want to enhance their programming skills and build efficient web applications. Frontend and backend developers who use various JavaScript frameworks and libraries like React, Angular, or Node.js will also find the book helpful. Working knowledge of ES2019 is required to grasp the concepts covered in the book easily.

Summary Functional Programming in JavaScript teaches JavaScript developers functional techniques that will improve extensibility, modularity, reusability, testability, and performance. Through concrete examples and jargon-free explanations, this book teaches you how to apply functional programming to real-life development tasks Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology In complex web applications, the low-level details of your JavaScript code can obscure the workings of the system as a whole. As a coding style, functional programming (FP) promotes loosely coupled relationships among the components of your application, making the big picture easier to design, communicate, and maintain. About the Book Functional Programming in JavaScript teaches you techniques to improve your web applications - their extensibility, modularity, reusability, and testability, as well as their

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performance. This easy-to-read book uses concrete examples and clear explanations to show you how to use functional programming in real life. If you're new to functional programming, you'll appreciate this guide's many insightful comparisons to imperative or object-oriented programming that help you understand functional design. By the end, you'll think about application design in a fresh new way, and you may even grow to appreciate monads! What's Inside High-value FP techniques for real-world uses Using FP where it makes the most sense Separating the logic of your system from implementation details FP-style error handling, testing, and debugging All code samples use JavaScript ES6 (ES 2015) About the Reader Written for developers with a solid grasp of JavaScript fundamentals and web application design. About the Author Luis Atencio is a software engineer and architect building enterprise applications in Java, PHP, and JavaScript. Table of Contents PART 1 THINK FUNCTIONALLY Becoming functional Higher-order JavaScript PART 2 GET FUNCTIONAL Few data structures, many operations Toward modular, reusable code Design patterns against complexity PART 3 ENHANCING YOUR FUNCTIONAL SKILLS Bulletproofing your code Functional optimizations Managing asynchronous events and data

Most programming languages contain good and bad parts, but JavaScript has more than its share of the bad, having been developed and released in a hurry before it could be refined. This authoritative book scrapes away these bad features to reveal a subset of JavaScript that's more reliable, readable, and maintainable than the language as a whole—a subset you can use to create truly extensible and efficient code. Considered the JavaScript expert by many people in the development community, author Douglas Crockford identifies the abundance of good ideas that make JavaScript an outstanding object-oriented programming language—ideas such as functions, loose typing, dynamic objects, and an expressive object literal notation. Unfortunately, these good ideas are mixed in with bad and downright awful ideas, like a programming model based on global variables. When Java applets failed, JavaScript became the language of the Web by default, making its popularity almost completely independent of its qualities as a programming language. In *JavaScript: The Good Parts*, Crockford finally digs through the steaming pile of good intentions and blunders to give you a detailed look at all the genuinely elegant parts of JavaScript, including: Syntax Objects Functions Inheritance Arrays Regular expressions Methods Style Beautiful features The real beauty? As you move ahead with the subset of JavaScript that this book presents, you'll also sidestep the need to unlearn all the bad parts. Of course, if you want to find out more about the bad parts and how to use them badly, simply consult any other JavaScript book. With *JavaScript: The Good Parts*, you'll discover a beautiful, elegant, lightweight and highly expressive language that lets you create effective code, whether you're managing object libraries or just trying to get Ajax to run fast. If you develop sites or applications for the Web, this book is an absolute must.

*Programming JavaScript Applications: Robust Web Architecture with Node, HTML5, and Modern JS Libraries* O'Reilly & Associates Incorporated

Learn how to build dynamic web applications with Express, a key component of the Node/JavaScript development stack. In this hands-on guide, author Ethan Brown teaches you the fundamentals through the development of a fictional application that exposes a public website and a RESTful API. You'll also learn web architecture best practices to help you build single-page, multi-page, and hybrid web apps with Express. Express strikes a balance between a robust framework and no framework at all, allowing you a free hand in your architecture choices. With this book, frontend and backend engineers familiar with JavaScript will discover new ways of looking at web development. Create webpage templating system for rendering dynamic data Dive into request and response objects, middleware, and URL routing Simulate a production environment for testing and development Focus on persistence with document databases, particularly MongoDB Make your resources available to other programs with RESTful APIs Build secure apps with authentication, authorization, and HTTPS Integrate



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with social media, geolocation, and other third-party services Implement a plan for launching and maintaining your app Learn critical debugging skills This book covers Express 4.0. Build better software with concurrent JavaScript programming, and unlock a more efficient and forward thinking approach to web development About This Book Apply the core principles of concurrency to both browser and server side development Explore the latest tools and techniques at the forefront of concurrent programming, including JavaScript promises, web workers, and generators Learn how concurrent and parallel programming can help you tackle the challenges of fast, data heavy web development Who This Book Is For JavaScript Concurrency is written for any JavaScript developer who wants to learn how to write more efficient, powerful, and maintainable applications that utilize the latest developments in the JavaScript language. All aspects of concurrent, asynchronous, and parallel programming are covered from first principles and by the end of the book you'll be able to create a fully-worked application that leverages all the topics covered in the book. What You Will Learn Understand exactly how JavaScript works in a web browser environment, and how these mechanisms power our event-driven JavaScript code Use promises to turn complex synchronization scenarios into readable and maintainable values Compute values lazily and avoid unnecessary memory allocations using generators. Write concurrent code that doesn't feel like concurrent code by abstracting away boilerplate chores Leverage true hardware parallelism with web workers to get a better performance Get to grips with the NodeJS model of concurrency and learn why it's good for I/O-intensive web applications In Detail Concurrent programming may sound abstract and complex, but it helps to deliver a better user experience. With single threaded JavaScript, applications lack dynamism. This means that when JavaScript code is running, nothing else can happen. The DOM can't update, which means the UI freezes. In a world where users expect speed and responsiveness – in all senses of the word – this is something no developer can afford. Fortunately, JavaScript has evolved to adopt concurrent capabilities – one of the reasons why it is still at the forefront of modern web development. This book helps you dive into concurrent JavaScript, and demonstrates how to apply its core principles and key techniques and tools to a range of complex development challenges. Built around the three core principles of concurrency – parallelism, synchronization, and conservation – you'll learn everything you need to unlock a more efficient and dynamic JavaScript, to lay the foundations of even better user experiences. Throughout the book you'll learn how to put these principles into action by using a range of development approaches. Covering everything from JavaScript promises, web workers, generators and functional programming techniques, everything you learn will have a real impact on the performance of your applications. You'll also learn how to move between client and server, for a more frictionless and fully realized approach to development. With further guidance on concurrent programming with Node.js, JavaScript Concurrency is committed to making you a better web developer. The best developers know that great design is about more than the UI – with concurrency, you can be confident every your project will be expertly designed to guarantee its dynamism and power. Style and approach Beginning with the fundamentals of concurrency and how they apply to JavaScript development, the book then takes you through the relevant constructs that will help you implement concurrent code. You'll learn how even the most abstract and theoretical aspects of concurrent programming help you solve real world challenges, with clear and practical demonstrations that show you how concurrent JavaScript will make you a better developer.

Get a practical introduction to React Native, the JavaScript framework for writing and deploying fully featured mobile apps that render natively. The second edition of this hands-on guide shows you how to build applications that target iOS, Android, and other mobile platforms instead of browsers—apps that can access platform features such as the camera, user location, and local storage. Through code examples and step-by-step instructions, web developers and

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frontend engineers familiar with React will learn how to build and style interfaces, use mobile components, and debug and deploy apps. You'll learn how to extend React Native using third-party libraries or your own Java and Objective-C libraries. Understand how React Native works under the hood with native UI components Examine how React Native's mobile-based components compare to basic HTML elements Create and style your own React Native components and applications Take advantage of platform-specific APIs, as well as modules from the framework's community Incorporate platform-specific components into cross-platform apps Learn common pitfalls of React Native development, and tools for dealing with them Combine a large application's many screens into a cohesive UX Handle state management in a large app with the Redux library

Summary JavaScript Application Design: A Build First Approach introduces JavaScript developers to techniques that will improve the quality of their software as well as their web development workflow. You'll begin by learning how to establish build processes that are appropriate for JavaScript-driven development. Then, you'll walk through best practices for productive day-to-day development, like running tasks when your code changes, deploying applications with a single command, and monitoring the state of your application once it's in production. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book The fate of most applications is often sealed before a single line of code has been written. How is that possible? Simply, bad design assures bad results. Good design and effective processes are the foundation on which maintainable applications are built, scaled, and improved. For JavaScript developers, this means discovering the tooling, modern libraries, and architectural patterns that enable those improvements. JavaScript Application Design: A Build First Approach introduces techniques to improve software quality and development workflow. You'll begin by learning how to establish processes designed to optimize the quality of your work. You'll execute tasks whenever your code changes, run tests on every commit, and deploy in an automated fashion. Then you'll focus on designing modular components and composing them together to build robust applications. This book assumes readers understand the basics of JavaScript. What's Inside Automated development, testing, and deployment processes JavaScript fundamentals and modularity best practices Modular, maintainable, and well-tested applications Master asynchronous flows, embrace MVC, and design a REST API About the Author Nicolas Bevacqua is a freelance developer with a focus on modular JavaScript, build processes, and sharp design. He maintains a blog at ponyfoo.com. Table of Contents PART 1 BUILD PROCESSES Introduction to Build First Composing build tasks and flows Mastering environments and the development workflow Release, deployment, and monitoring PART 2 MANAGING COMPLEXITY Embracing modularity and dependency management Understanding asynchronous flow control methods in JavaScript Leveraging the Model-View-Controller Testing JavaScript components REST API design and layered service architectures You will first be introduced to object-oriented programming, then to the basics of objects in JavaScript. This book takes a do-it-yourself approach when it comes to writing code, because the best way to really learn a programming language is by writing code. You are encouraged to type code into Firebug's console, see how it works and then tweak it and play around with it. There are practice questions at the end of each chapter to help you review what you have learned. For new to intermediate JavaScript developer who wants to prepare themselves for web development problems solved by smart JavaSc.

Dispels the myth that JavaScript is a "baby" language and demonstrates why it is the scripting language of choice used in the design of millions of Web pages and server-side applications Quickly covers JavaScript basics and then moves on to more advanced topics such as object-oriented programming, XML, Web services, and remote scripting Addresses the many issues that Web application developers face, including

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internationalization, security, privacy, optimization, intellectual property issues, and obfuscation Builds on the reader's basic understanding of HTML, CSS, and the Web in general This book is also available as part of the 4-book JavaScript and Ajax Wrox Box (ISBN: 0470227818). This 4-book set includes: Professional JavaScript for Web Developers (ISBN: 0764579088) Professional Ajax 2nd edition (ISBN: 0470109491) Professional Web 2.0 Programming (ISBN: 0470087889) Professional Rich Internet Applications: Ajax and Beyond (ISBN: 0470082801)

Node.js is the platform of choice for creating modern web services. This fast-paced book gets you up to speed on server-side programming with Node.js 8, as you develop real programs that are small, fast, low-profile, and useful. Take JavaScript beyond the browser, explore dynamic language features, and embrace evented programming. Harness the power of the event loop and non-blocking I/O to create highly parallel microservices and applications. This expanded and updated second edition showcases the latest ECMAScript features, current best practices, and modern development techniques. JavaScript is the backbone of the modern web, powering nearly every web app's user interface. Node.js is JavaScript for the server. This greatly expanded second edition introduces new language features while dramatically increasing coverage of core topics. Each hands-on chapter offers progressively more challenging topics and techniques, broadening your skill set and enabling you to think in Node.js. Write asynchronous, non-blocking code using Node.js's style and patterns. Cluster and load balance services with Node.js core features and third-party tools. Harness the power of databases such as Elasticsearch and Redis. Work with many protocols, create RESTful web services, TCP socket clients and servers, and more. Test your code's functionality with Mocha, and manage its life cycle with npm. Discover how Node.js pairs a server-side event loop with a JavaScript runtime to produce screaming fast, non-blocking concurrency. Through a series of practical programming domains, use the latest available ECMAScript features and harness key Node.js classes and popular modules. Create rich command-line tools and a web-based UI using modern web development techniques. Join the smart and diverse community that's rapidly advancing the state of the art in JavaScript development. What You Need: Node.js 8.x Operating system with bash-like shell OMQ (pronounced "Zero-M-Q") library, version 3.2 or higher Elasticsearch version 5.0 or higher jq version 1.5 or higher Redis version 3.2 or higher

Any programmer working with a dynamically typed language will tell you how hard it is to scale to more lines of code and more engineers. That's why Facebook, Google, and Microsoft invented gradual static type layers for their dynamically typed JavaScript and Python code. This practical book shows you how one such type layer, TypeScript, is unique among them: it makes programming fun with its powerful static type system. If you're a programmer with intermediate JavaScript experience, author Boris Cherny will teach you how to master the TypeScript language. You'll understand how TypeScript can help you eliminate bugs in your code and enable you to scale your code across more engineers than you could before. In this book, you'll: Start with the basics: Learn about TypeScript's different types and type operators, including what they're for and how they're used Explore advanced topics: Understand TypeScript's sophisticated type system, including how to safely handle errors and build asynchronous programs Dive in hands-on: Use TypeScript with your favorite frontend and backend frameworks,



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migrate your existing JavaScript project to TypeScript, and run your TypeScript application in production

HTML has been on a wild ride. Sure, HTML started as a mere markup language, but more recently HTML's put on some major muscle. Now we've got a language tuned for building web applications with Web storage, 2D drawing, offline support, sockets and threads, and more. And to speak this language you've got to go beyond HTML5 markup and into the world of the DOM, events, and JavaScript APIs. Now you probably already know all about HTML markup (otherwise known as structure) and you know all about CSS style (presentation), but what you've been missing is JavaScript (behavior). If all you know about are structure and presentation, you can create some great looking pages, but they're still just pages. When you add behavior with JavaScript, you can create an interactive experience; even better, you can create full blown web applications. Head First HTML5 Programming is your ultimate tour guide to creating web applications with HTML5 and JavaScript, and we give you everything you need to know to build them, including: how to add interactivity to your pages, how to communicate with the world of Web services, and how to use the great new APIs being developed for HTML5. Here are just some of the things you'll learn in Head First HTML5 Programming: Learn how to make your pages truly interactive by using the power of the DOM. Finally understand how JavaScript works and take yourself from novice to well-informed in just a few chapters. Learn how JavaScript APIs fit into the HTML5 ecosystem, and how to use any API in your web pages. Use the Geolocation API to know where your users are. Bring out your inner artist with Canvas, HTML5's new 2D drawing surface. Go beyond just plugging a video into your pages, and create custom video experiences. Learn the secret to grabbing five megabytes of storage in every user's browser. Improve your page's responsiveness and performance with Web workers. And much more.

A revised and updated edition offers comprehensive coverage of ECMAScript 5 (the new JavaScript language standard) and also the new APIs introduced in HTML5, with chapters on functions and classes completely rewritten and updated to match current best practices and a new chapter on language extensions and subsets. Original. If you're like most developers, you rely heavily on JavaScript to build interactive and quick-responding web applications. The problem is that all of those lines of JavaScript code can slow down your apps. This book reveals techniques and strategies to help you eliminate performance bottlenecks during development. You'll learn how to improve execution time, downloading, interaction with the DOM, page life cycle, and more. Yahoo! frontend engineer Nicholas C. Zakas and five other JavaScript experts—Ross Harmes, Julien Lecomte, Steven Levithan, Stoyan Stefanov, and Matt Sweeney—demonstrate optimal ways to load code onto a page, and offer programming tips to help your JavaScript run as efficiently and quickly as possible. You'll learn the best practices to build and deploy your files to a production environment, and tools that can help you find problems once your site goes live. Identify problem code and use faster alternatives to accomplish the same task Improve scripts by learning how JavaScript stores and accesses data Implement JavaScript code so that it doesn't slow down interaction with the DOM Use optimization techniques to improve runtime performance Learn ways to ensure the UI is responsive at all times Achieve faster client-server communication Use a build system to minify files, and HTTP compression to



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deliver them to the browser

Make your Web pages stand out above the noise with JavaScript and the expert instruction in this much-anticipated update to the bestselling JavaScript Bible. With renowned JavaScript expert Danny Goodman at your side, you'll get a thorough grounding in JavaScript basics, see how it fits with current Web browsers, and find all the soup-to-nuts detail you'll need. Whether you're a veteran programmer or just starting out, this is the JavaScript book Web developers turn to again and again. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

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