

Learning Javascript Design Patterns Ebook Addy Osmani

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Learning Patterns Lydia Hallie 2021-10-31 In this book, you will learn design patterns, performance and rendering patterns for building high-quality web applications using modern JavaScript and React. Patterns are time-tested templates for writing code. They can be really powerful, whether you're a seasoned developer or beginner, bringing a valuable level of resilience and flexibility to your codebase. Whether it's better user-experience, developer-experience or just smarter architecture, the patterns in "Learning Patterns" can be a valuable consideration for any modern web application.

JavaScript Enlightenment Cody Lindley 2013 "From library user to JavaScript developer"--Cover.

Learning React Kirupa Chinnathambi 2018-04-26 Learning React A hands-on guide to building web applications using React and Redux As far as new web frameworks and libraries go, React is quite the runaway success. It not only deals with the most common problems developers face when building complex apps, it throws in a few additional tricks that make building the visuals for such apps much, much easier. What React isn't, though, is beginner-friendly and approachable. Until now. In Learning React, author Kirupa Chinnathambi brings his fresh, clear, and very personable writing style to help web developers new to React understand its fundamentals and how to use it to build really performant (and awesome) apps. The only book on the market that helps you get your first React app up and running in just minutes, Learning React is chock-full of colorful illustrations to help you visualize difficult concepts and practical step-by-step examples to show you how to apply what you learn. Build your first React app Create components to define parts of your UI Combine components into other components to build more complex UIs Use JSX to specify visuals without writing full-fledged JavaScript Deal with maintaining state Work with React's way of styling content Make sense of the mysterious component lifecycle Build multi-page apps using routing and views Optimize your React workflow using tools such as Node, Babel, webpack, and others Use Redux to make managing your app data and state easy Contents at a Glance 1 Introducing React 2 Building Your First React App 3 Components in React 4 Styling in React 5 Creating Complex Components 6 Transferring Properties 7 Meet JSX... Again! 8 Dealing with State in React 9 Going from Data to UI in React 10 Events in React 11 The Component Lifecycle 12 Accessing DOM Elements in React 13 Setting Up Your React Dev Environment 14 Working with External Data in React 15 Building an Awesome Todo List App in React 16 Creating a Sliding Menu in React 17 Avoiding Unnecessary Renders in React 18 Creating a Single-Page App in React Using React Router 19 Introduction to Redux 20 Using Redux with React

Frontend Architecture for Design Systems Micah Godbolt 2016-01-28 Imagine what a large-scale web project would look like if frontend development were not treated as an add-on, but as an equal partner with backend development and content strategy. This practical book takes experienced web developers through the new discipline of frontend architecture, including the latest tools, standards, and best practices that have elevated frontend web development to an entirely new level. Using real-world examples, case studies, and practical tips and tricks throughout, author Micah Godbolt introduces you to the four pillars of frontend architecture. He also provides compelling arguments for developers who want to embrace the mantle of frontend architect and fight to make it a first-class citizen in their next project. The four pillars include: Code: how to approach the HTML, CSS, and JavaScript of a design system Process: tools and processes for creating an efficient and error-proof workflow Testing: creating a stable foundation on which to build your site Documentation: tools for writing documentation while the work is in progress

Mastering JavaScript Design Patterns Simon Timms 2016-06-29 Write reliable code to create powerful applications by mastering advanced JavaScript design patterns About This Book Learn how to use tried and true software design methodologies to enhance your JavaScript code Discover robust JavaScript implementations of classic and advanced design patterns Packed with easy-to-follow examples that can be used to create reusable code and extensible designs Who This Book Is For This book is ideal for JavaScript developers who want to gain expertise in object-oriented programming with JavaScript and the new capabilities of ES-2015 to improve their web development skills and build professional-quality web applications. What You Will Learn Harness the power of patterns for tasks ranging from application building to code testing Rethink and revitalize your code with the use of functional patterns Improve the way you organize your code Build large-scale apps seamlessly with the help of reactive patterns Identify the best use cases for microservices Get to grips with creational, behavioral, and structural design patterns Explore advanced design patterns including dependency injection In Detail With the recent release of ES-2015, there are several new object-oriented features and functions introduced in JavaScript. These new features enhance the capabilities of JavaScript to utilize design patterns and software design methodologies to write powerful code. Through this book, you will explore how design patterns can help you improve and organize your JavaScript code. You'll get to grips with creational, structural and behavioral patterns as you discover how to put them to work in different scenarios. Then, you'll get a deeper look at patterns used in functional programming, as well as model view patterns and patterns to build web applications. This updated edition will also delve into reactive design patterns and microservices as they are a growing phenomenon in the world of web development. You will also find patterns to improve the testability of your code using mock objects, mocking frameworks, and monkey patching. We'll also show you some advanced patterns including dependency injection and live post processing. By the end of the book, you'll be saved of a lot of trial and error and developmental headaches, and you will be on the road to becoming a JavaScript expert. Style and approach Packed with several real-world use cases, this book shows you through step-by-step instructions how to implement the advanced object-oriented programming features to build sophisticated web applications that promote scalability and reusability.

JavaScript Patterns Stoyan Stefanov 2010-09-09 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

jQuery Design Patterns Thodoris Greasidis 2016-02-23 Learn the best practices on writing efficient jQuery applications to maximize performance in large-scale deployments About This Book- Learn about the observer pattern and the deferred observer pattern, two of the most popular design patterns that handle custom events- Advance your jQuery skills by learning about patterns such as divide and conquer, facade, and builder and factory to handle complex results- This step-by-step guide to applying micro-patterns and optimizing jQuery applications will help you get the best performance in a production environment Who This Book Is For This book is for existing jQuery Developers or new developers who want to get an understanding of the "correct way" to build jQuery applications, using best practices and industry standard patterns. What You Will Learn- Respond to user actions- Achieve greater flexibility and code decoupling- Have a central point for emitting and receiving application level events- Structure the application into small independent modules- Abstract complex APIs- Isolate the procedure of generating complex parts of the application- Efficiently orchestrate asynchronous procedures using jQuery Deferred and Promises- Utilize the most widely-used client-side templating libraries for more complex use cases In Detail jQuery is a feature-rich JavaScript library that makes HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a variety of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript. jQuery solves the problems of DOM manipulation, event detection, AJAX calls, element selection and document queries, element attribute and data management, as well as object management utilities. This book addresses these problems and shows you how to make the best of jQuery through the various design patterns available. The book starts off with a refresher to jQuery and will then take you through the different design patterns such as facade, observer, publisher/subscriber, and so on. We will

also go into client-side templating techniques and libraries, as well as some plugin development patterns. Finally, we will look into some best practices that you can use to make the best of jQuery.Style and approachThe example-oriented guide covers the best and most widely used patterns to help you improve your development with jQuery.

Data Structures and Algorithms with JavaScript Michael McMillan 2014-03-10 As an experienced JavaScript developer moving to server-side programming, you need to implement classic data structures and algorithms associated with conventional object-oriented languages like C# and Java. This practical guide shows you how to work hands-on with a variety of storage mechanisms—including linked lists, stacks, queues, and graphs—within the constraints of the JavaScript environment. Determine which data structures and algorithms are most appropriate for the problems you're trying to solve, and understand the tradeoffs when using them in a JavaScript program. An overview of the JavaScript features used throughout the book is also included. This book covers: Arrays and lists: the most common data structures Stacks and queues: more complex list-like data structures Linked lists: how they overcome the shortcomings of arrays Dictionaries: storing data as key-value pairs Hashing: good for quick insertion and retrieval Sets: useful for storing unique elements that appear only once Binary Trees: storing data in a hierarchical manner Graphs and graph algorithms: ideal for modeling networks Algorithms: including those that help you sort or search data Advanced algorithms: dynamic programming and greedy algorithms

Developing Backbone.js Applications Addy Osmani 2013-05-10 If you want to build your site's frontend with the single-page application (SPA) model, this hands-on book shows you how to get the job done with Backbone.js. You'll learn how to create structured JavaScript applications, using Backbone's own flavor of model-view-controller (MVC) architecture. Start with the basics of MVC, SPA, and Backbone, then get your hands dirty building sample applications—a simple Todo list app, a RESTful book library app, and a modular app with Backbone and RequireJS. Author Addy Osmani, an engineer for Google's Chrome team, also demonstrates advanced uses of the framework. Learn how Backbone.js brings MVC benefits to the client-side Write code that can be easily read, structured, and extended Work with the Backbone.Marionette and Thorax extension frameworks Solve common problems you'll encounter when using Backbone.js Organize your code into modules with AMD and RequireJS Paginate data for your Collections with the Backbone.Paginator plugin Bootstrap a new Backbone.js application with boilerplate code Use Backbone with jQuery Mobile and resolve routing problems between the two Unit-test your Backbone apps with Jasmine, QUnit, and SinonJS

Programming JavaScript Applications Eric Elliott 2014-06-26 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

How JavaScript Works Douglas Crockford 2018-10-18 Douglas Crockford starts by looking at the fundamentals: names, numbers, booleans, characters, and bottom values. JavaScript's number type is shown to be faulty and limiting, but then Crockford shows how to repair those problems. He then moves on to data structures and functions, exploring the underlying mechanisms and then uses higher order functions to achieve class-free object oriented programming. The book also looks at eventual programming, testing, and purity, all the while looking at the requirements of The Next Language. Most of our languages are deeply rooted in the paradigm that produced FORTRAN. Crockford attacks those roots, liberating us to consider the next paradigm. He also presents a strawman language and develops a complete transpiler to implement it. The book is deep, dense, full of code, and has moments when it is intentionally funny.

Functional JavaScript Michael Fogus 2013-06-01 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

Design Patterns For Dummies Steve Holzner 2006-07-28 There's a pattern here, and here's how to use it! Find out how the 23 leading design patterns can save you time and trouble Ever feel as if you've solved this programming problem before? You -- or someone -- probably did, and that's why there's a design pattern to help this time around. This book shows you how (and when) to use the famous patterns developed by the "Gang of Four," plus some new ones, all designed to make your programming life easier. Discover how to: * Simplify the programming process with design patterns * Make the most of the Decorator, Factory, and Adapter patterns * Identify which pattern applies * Reduce the amount of code needed for a task * Create your own patterns

The Smashing Book 2011 These eBooks are the long-awaited digital version of our bestselling printed book about best practices in modern Web design. They share valuable practical insight into design, usability and coding, provide professional advice for designing mobile applications and building successful e-commerce websites, and explain common coding mistakes and how to avoid them. You'll explore the principles of professional design thinking and graphic design and learn how to apply psychology and game theory to create engaging user experiences.

Progressive Web Apps Dean Hume 2017-12-03 Summary Progressive Web Apps teaches you PWA design and the skills you need to build fast, reliable websites by taking you step-by-step through real world examples in this practical tutorial. Foreword by Addy Osmani, Google. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Offline websites that work. Near-instant load times. Smooth transitions between high/low/no bandwidth. Fantasy, right? Not with progressive web applications. PWAs use modern browser features like push notifications, smart caching, and Service Workers to manage data, minimize server usage, and allow for unstable connections, giving you better control and happier customers. Better still, all you need to build PWAs are JavaScript, HTML, and the easy-to-master techniques you'll find in this book. About the Book Progressive Web Apps teaches you PWA design and the skills you need to build fast, reliable websites. There are lots of ways you can use PWA techniques, and this practical tutorial presents interesting, standalone examples so you can jump to the parts that interest you most. You'll discover how Web Service Workers vastly improve site loading, how to effectively use push notifications, and how to create sites with a no-compromise offline mode. What's Inside Improved caching with Service Workers Using manifest files and HTML markup Push notifications Offline-first web designs Techniques for data synchronization About the Reader Written for readers with experience developing websites using HTML, CSS, and JavaScript. About the Author Dean Alan Hume is a coder, author, and Google Developer Expert. He's passionate about web performance and user experience. Table of Contents PART 1 - DEFINING PROGRESSIVE WEB APPS Understanding Progressive Web Apps First steps to building a Progressive Web App PART 2 - FASTER WEB APPS Caching Intercepting network requests PART 3 - ENGAGING WEB APPS Look and feel Push notifications PART 4 - RESILIENT WEB APPLICATIONS Offline browsing Building more resilient applications Keeping your data synchronized PART 5 - THE FUTURE OF PROGRESSIVE WEB APPS Streaming data Progressive Web App troubleshooting The future is looking good

Maintainable JavaScript Nicholas Zakas 2012-05-24 An introduction to writing code with JavaScript covers such topics as style guidelines, programming practices, and automation.

Effective JavaScript David Herman 2012-11-26 "It's uncommon to have a programming language wonk who can speak in such comfortable and friendly language as David does. His walk through the syntax and semantics of JavaScript is both charming and hugely insightful; reminders of gotchas complement realistic use cases, paced at a comfortable curve. You'll find when you finish the book that you've gained a strong and comprehensive sense of mastery." —Paul Irish, developer advocate, Google Chrome "This is not a book for those looking for shortcuts; rather it is hard-won experience distilled into a guided tour. It's one of the few books on JS that I'll recommend without hesitation." —Alex Russell, TC39 member, software engineer, Google In order to truly master JavaScript, you need to learn how to work effectively with the language's flexible, expressive features and how to avoid its pitfalls. No matter how long you've been writing JavaScript code, Effective JavaScript will help deepen your understanding of this powerful language, so you can build more predictable, reliable, and maintainable programs. Author David Herman, with his years of experience on Ecma's JavaScript standardization committee, illuminates the language's inner workings as never before—helping you take full advantage of JavaScript's expressiveness. Reflecting the latest versions of the JavaScript standard, the book offers well-proven techniques and best practices you'll rely on for years to come. Effective JavaScript is organized around 68 proven approaches for writing better JavaScript, backed by concrete examples. You'll learn how to choose the right programming style for each project, manage unanticipated problems, and work more successfully with every facet of JavaScript programming from data structures to concurrency. Key features include Better ways to use prototype-based object-oriented programming Subtleties and solutions for working with arrays and dictionary objects Precise and practical explanations of JavaScript's functions and variable scoping semantics Useful JavaScript programming patterns and idioms, such as options objects and method

chaining In-depth guidance on using JavaScript's unique "run-to-completion" approach to concurrency

JSON at Work Tom Marrs 2017-06-19 JSON is becoming the backbone for meaningful data interchange over the internet. This format is now supported by an entire ecosystem of standards, tools, and technologies for building truly elegant, useful, and efficient applications. With this hands-on guide, author and architect Tom Marrs shows you how to build enterprise-class applications and services by leveraging JSON tooling and message/document design. JSON at Work provides application architects and developers with guidelines, best practices, and use cases, along with lots of real-world examples and code samples. You'll start with a comprehensive JSON overview, explore the JSON ecosystem, and then dive into JSON's use in the enterprise. Get acquainted with JSON basics and learn how to model JSON data Learn how to use JSON with Node.js, Ruby on Rails, and Java Structure JSON documents with JSON Schema to design and test APIs Search the contents of JSON documents with JSON Search tools Convert JSON documents to other data formats with JSON Transform tools Compare JSON-based hypermedia formats, including HAL and jsonapi Leverage MongoDB to store and access JSON documents Use Apache Kafka to exchange JSON-based messages between services

You Don't Know JS: this & Object Prototypes Kyle Simpson 2014-07-11 No matter how much experience you have with JavaScript, odds are you don't fully understand the language. This concise, in-depth guide takes you inside JavaScript's this structure and object prototypes. You'll learn how they work and why they're integral to behavior delegation—a design pattern in which objects are linked, rather than cloned. Like other books in the "You Don't Know JS" series, this and Object Prototypes dives into trickier parts of the language that many JavaScript programmers simply avoid. Armed with this knowledge, you can become a true JavaScript master. With this book you will: Explore how the this binding points to objects based on how the function is called Look into the nature of JS objects and why you'd need to point to them Learn how developers use the mixin pattern to fake classes in JS Examine how JS's prototype mechanism forms links between objects Learn how to move from class/inheritance design to behavior delegation Understand how the OLOO (objects-linked-to-other-objects) coding style naturally implements behavior delegation

Clean Code in JavaScript James Padolsey 2020-01-20 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.

Design Patterns Erich Gamma 1995 Software -- Software Engineering.

Speaking JavaScript Axel Rauschmayer 2014-02-25 Like it or not, JavaScript is everywhere these days—from browser to server to mobile—and now you, too, need to learn the language or dive deeper than you have. This concise book guides you into and through JavaScript, written by a veteran programmer who once found himself in the same position. Speaking JavaScript helps you approach the language with four standalone sections. First, a quick-start guide teaches you just enough of the language to help you be productive right away. More experienced JavaScript programmers will find a complete and easy-to-read reference that covers each language feature in depth. Complete contents include: JavaScript quick start: Familiar with object-oriented programming? This part helps you learn JavaScript quickly and properly. JavaScript in depth: Learn details of ECMAScript 5, from syntax, variables, functions, and object-oriented programming to regular expressions and JSON with lots of examples. Pick a topic and jump in. Background: Understand JavaScript's history and its relationship with other programming languages. Tips, tools, and libraries: Survey existing style guides, best practices, advanced techniques, module systems, package managers, build tools, and learning resources.

Learning JavaScript Design Patterns Addy Osmani 2012-07-08 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!

Pro JavaScript Design Patterns Dustin Diaz 2008-03-11 With Pro JavaScript Design Patterns, you'll start with the basics of object-oriented programming in JavaScript applicable to design patterns, including making JavaScript more expressive, inheritance, encapsulation, information hiding, and more. The book then details how to implement and take advantage of several design patterns in JavaScript. Each chapter is packed with real-world examples of how the design patterns are best used and expert advice on writing better code, as well as what to watch out for. Along the way you'll discover how to create your own libraries and APIs for even more efficient coding.

Node.js Design Patterns Mario Casciaro 2016-07-18 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 its 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.

JavaScript by Example Ellie Quigley 2010-10-05 The World's Easiest JavaScript Tutorial—Fully Updated! JavaScript by Example, Second Edition, is the easiest, most hands-on way to learn JavaScript. Legendary programming instructor Ellie Quigley has thoroughly updated her classic book to deliver the skills and information today's JavaScript users need most—including up-to-the-minute coverage of JavaScript programming constructs, CSS, Ajax, JSON, and the latest JavaScript libraries and best practices. Quigley illuminates every technique with focused, classroom-tested code examples, detailed line-by-line explanations, and real program output. This exceptionally clear, easy-to-understand book takes you from your first script to advanced techniques. It's the only JavaScript book you'll ever need! New in This Edition End-of-chapter study tools, including classroom-

tested labs Programming the DOM More Cascading Style Sheets Introduction to Ajax and JSON Explanation of how to develop interactive Web applications with dynamic, desktop-style interfaces Programmers' preparation for HTML 5's breakthrough capabilities This edition has been completely updated and includes many new and completely rewritten code examples; contains fully revised and updated coverage of Cascading Style Sheets (CSS) and the Document Object Model (DOM); and fully covers modern JavaScript concepts, principles, and programming techniques. Thousands of Web developers, administrators, and power users have relied on JavaScript by Example to become expert JavaScript programmers. With this new edition, you can, too—even if you're completely new to JavaScript. After you've become an expert, you'll turn to this book constantly as the best source for trustworthy answers, solutions, and code.

Getting Started with Mike Dewar 2012 Learn how to create beautiful, interactive, browser-based data visualizations with the D3 JavaScript library. This hands-on book shows you how to use a combination of JavaScript and SVG to build everything from simple bar charts to complex infographics. You'll learn how to use basic D3 tools by building visualizations based on real data from the New York Metropolitan Transit Authority. Using historical tables, geographical information, and other data, you'll graph bus breakdowns and accidents and the percentage of subway trains running on time, among other examples. By the end of the book, you'll be prepared to build your own web-based data visualizations with D3. Join a dataset with elements of a webpage, and modify the elements based on the data Map data values onto pixels and colors with D3's scale objects Apply axis and line generators to simplify aspects of building visualizations Create a simple UI that allows users to investigate and compare data Use D3 transitions in your UI to animate important aspects of the data Get an introduction to D3 layout tools for building more sophisticated visualizations If you can code and manipulate data, and know how to work with JavaScript and SVG, this book is for you.

JavaScript Application Design Nicolas Bevacqua 2015-01-29 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

JavaScript Cookbook Shelley Powers 2010-07-07 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

Learning JavaScript Data Structures and Algorithms Loiane Groner 2016-06-23 Hone your skills by learning classic data structures and algorithms in JavaScript About This Book Understand common data structures and the associated algorithms, as well as the context in which they are used. Master existing JavaScript data structures such as array, set and map and learn how to implement new ones such as stacks, linked lists, trees and graphs. All concepts are explained in an easy way, followed by examples. Who This Book Is For If you are a student of Computer Science or are at the start of your technology career and want to explore JavaScript's optimum ability, this book is for you. You need a basic knowledge of JavaScript and programming logic to start having fun with algorithms. What You Will Learn Declare, initialize, add, and remove items from arrays, stacks, and queues Get the knack of using algorithms such as DFS (Depth-first Search) and BFS (Breadth-First Search) for the most complex data structures Harness the power of creating linked lists, doubly linked lists, and circular linked lists Store unique elements with hash tables, dictionaries, and sets Use binary trees and binary search trees Sort data structures using a range of algorithms such as bubble sort, insertion sort, and quick sort In Detail This book begins by covering basics of the JavaScript language and introducing ECMAScript 7, before gradually moving on to the current implementations of ECMAScript 6. You will gain an in-depth knowledge of how hash tables and set data structure functions, as well as how trees and hash maps can be used to search files in a HD or represent a database. This book is an accessible route deeper into JavaScript. Graphs being one of the most complex data structures you'll encounter, we'll also give you a better understanding of why and how graphs are largely used in GPS navigation systems in social networks. Toward the end of the book, you'll discover how all the theories presented by this book can be applied in real-world solutions while working on your own computer networks and Facebook searches. Style and approach This book gets straight to the point, providing you with examples of how a data structure or algorithm can be used and giving you real-world applications of the algorithm in JavaScript. With real-world use cases associated with each data structure, the book explains which data structure should be used to achieve the desired results in the real world.

You Don't Know JS: Async & Performance Kyle Simpson 2015-02-23 No matter how much experience you have with JavaScript, odds are you don't fully understand the language. As part of the "You Don't Know JS" series, this concise yet in-depth guide focuses on new asynchronous features and performance techniques—including Promises, generators, and Web Workers—that let you create sophisticated single-page web applications and escape callback hell in the process. Like other books in this series, You Don't Know JS: Async & Performance dives into trickier parts of the language that many JavaScript programmers simply avoid. Armed with this knowledge, you can become a true JavaScript master. With this book you will: Explore old and new JavaScript methods for handling asynchronous programming Understand how callbacks let third parties control your program's execution Address the "inversion of control" issue with JavaScript Promises Use generators to express async flow in a sequential, synchronous-looking fashion Tackle program-level performance with Web Workers, SIMD, and asm.js Learn valuable resources and techniques for benchmarking and tuning your expressions and statements

Autodesk Maya 2014 Essentials Paul Naas 2013-07-01 Offers step-by-step tutorials and exercises covering such Maya topics as modeling, texturing, rigging, rendering, and setting a scene.

Eloquent JavaScript Marijn Haverbeke 2011-01-15 JavaScript is at the heart of almost every modern Web application, whether it's Google Apps, Twitter, or the newest browser-based game. Though it's simple for beginners to pick up and play with, JavaScript is not a toy—it's a flexible and complex language that can be used to build full-scale applications. Eloquent JavaScript dives into this flourishing language and teaches you to write code that's beautiful and effective. By immersing you in example code and encouraging experimentation right from the start, the author quickly gives you the tools you need to build your own programs. As you follow along with examples like an artificial life simulation and a version of the classic game Sokoban, you'll learn to: -Understand the essential elements of programming: syntax, control, and data -Use object-oriented and functional programming techniques to organize and clarify your programs -Script the browser and make basic Web applications -Work with tools like regular expressions and XMLHttpRequest objects And since programming is an art that's best learned by doing, all example code is available online in an interactive sandbox for you to experiment with. With Eloquent JavaScript as your guide, you can tweak, expand, and modify the author's code, or throw it away and build your own creations from scratch. Before you know it, you'll be fluent in the language of the Web.

The Road to React Robin Wieruch 2017-11-15 LAST UPDATE: 09. June 2021 If you are looking for a comprehensive and pragmatic yet concise and up-to-date React.js feat. Hooks book, the Road to React is for you. What you will learn. In "The Road to React" you will learn about all the fundamentals of React.js with Hooks while building a full-blown React application step by step. While you create the React application, every chapter will introduce you to a new React key feature. However, there is more than only the fundamentals: The book dives into related topics (e.g. React with TypeScript, Testing, Performance Optimizations) and advanced feature implementations like client- and server-side searching. At the end of the book, you will have a fully working deployed React application. Is it up to date? Programming books are usually outdated soon after their release, but since this book is self-published, I can update it as needed whenever a new version of something related to this book gets released. I am a beginner. Is this book for me? Yes. The book starts from zero and takes you through the learning experience step by step. Every chapter builds up on the learnings from the previous chapter. In addition, at the end of every chapter, exercises fortify your lessons learned. If you got stuck in a chapter, you will always find a reference URL to the status quo of the actual code. Core Concepts Pragmatic: Master React while building a complete

application step by step. **Problems Solving:** You need to experience a problem first before solving it. **The Why:** Readers like how the book answers the Why, not only the How. **Table of Contents** Fundamentals of React Hello React Requirements Setting up a React Project Meet the React Component React JSX Lists in React Meet another React Component React Component Instantiation ReactDOM React Component Definition (Advanced) Handler Function in JSX React Props React State Callback Handlers in JSX Lifting State in React React Controlled Components Props Handling (Advanced) React Side-Effects React Custom Hooks (Advanced) React Fragments Reusable React Component React Component Composition Imperative React Inline Handler in JSX React Asynchronous Data React Conditional Rendering React Advanced State React Impossible States Data Fetching with React Data Re-Fetching in React Memoized Handler in React (Advanced) Explicit Data Fetching with React Third-Party Libraries in React Async/Await in React (Advanced) Forms in React React's Legacy React Class Components React Class Components: State Imperative React Styling in React CSS in React CSS Modules in React Styled Components in React SVGs in React React Maintenance Performance in React (Advanced) TypeScript in React Unit Testing to Integration Testing React Project Structure Real World React (Advanced) Sorting Reverse Sort Remember Last Searches Paginated Fetch Deploying a React Application Build Process Deploy to Firebase

High Performance JavaScript Nicholas C. Zakas 2010-03-11 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 deliver them to the browser

Lightweight Django Julia Elman 2014-11-03 How can you take advantage of the Django framework to integrate complex client-side interactions and real-time features into your web applications? Through a series of rapid application development projects, this hands-on book shows experienced Django developers how to include REST APIs, WebSockets, and client-side MVC frameworks such as Backbone.js into new or existing projects. Learn how to make the most of Django's decoupled design by choosing the components you need to build the lightweight applications you want. Once you finish this book, you'll know how to build single-page applications that respond to interactions in real time. If you're familiar with Python and JavaScript, you're good to go. Learn a lightweight approach for starting a new Django project Break reusable applications into smaller services that communicate with one another Create a static, rapid prototyping site as a scaffold for websites and applications Build a REST API with django-rest-framework Learn how to use Django with the Backbone.js MVC framework Create a single-page web application on top of your REST API Integrate real-time features with WebSockets and the Tornado networking library Use the book's code-driven examples in your own projects

TypeScript Design Patterns Vilic Vane 2016-08-29 Boost your development efficiency by learning about design patterns in TypeScript About This Book This step-by-step guide will demonstrate all the important design patterns in practice This book is the only documentation on the market focusing on design patterns in TypeScript This book is packed with rich examples that will improve your efficiency and encourage code reuse Who This Book Is For If you are a TypeScript developer, this book is for you. No knowledge of design patterns is required to read this book. What You Will Learn Understand the challenges and implications of developing an enterprise application Install and configure the necessary tools in order to start developing an application Identify the challenges when developing an application Apply GoF patterns in an application with a testing approach Use and utilize design patterns while developing a TypeScript application or during JavaScript application development Reference to SOLID principles and what their benefits do to your projects Apply various principles in a TypeScript application Improve code quality and development speed In Detail In programming, there are several problems that occur frequently. To solve these problems, there are various repeatable solutions that are known as design patterns. Design patterns are a great way to improve the efficiency of your programs and improve your productivity. This book is a collection of the most important patterns you need to improve your applications' performance and your productivity. The journey starts by explaining the current challenges when designing and developing an application and how you can solve these challenges by applying the correct design pattern and best practices. Each pattern is accompanied with rich examples that demonstrate the power of patterns for a range of tasks, from building an application to code testing. We'll introduce low-level programming concepts to help you write TypeScript code, as well as work with software architecture, best practices, and design aspects. Style and approach In this book, design patterns are explained in a step-by-step manner. All the major patterns covered will improve your understanding of TypeScript and the patterns associated with TypeScript.

Node.js Design Patterns Mario Casciaro 2020-07-29 Learn proven patterns, techniques, and tricks to take full advantage of the Node.js platform. Master well-known design principles to create applications that are readable, extensible, and that can grow big. **Key Features** Learn how to create solid server-side applications by leveraging the full power of Node.js 14 Understand how Node.js works and learn how to take full advantage of its core components as well as the solutions offered by its ecosystem Avoid common mistakes and use proven patterns to create production grade Node.js applications **Book Description** In this book, we will show you how to implement a series of best practices and design patterns to help you create efficient and robust Node.js applications with ease. We kick off by exploring the basics of Node.js, analyzing its asynchronous event driven architecture and its fundamental design patterns. We then show you how to build asynchronous control flow patterns with callbacks, promises and async/await. Next, we dive into Node.js streams, unveiling their power and showing you how to use them at their full capacity. Following streams is an analysis of different creational, structural, and behavioral design patterns that take full advantage of JavaScript and Node.js. Lastly, the book dives into more advanced concepts such as Universal JavaScript, scalability and messaging patterns to help you build enterprise-grade distributed applications. Throughout the book, you'll see Node.js in action with the help of several real-life examples leveraging technologies such as LevelDB, Redis, RabbitMQ, ZeroMQ, and many others. They will be used to demonstrate a pattern or technique, but they will also give you a great introduction to the Node.js ecosystem and its set of solutions. What you will learn Become comfortable with writing asynchronous code by leveraging callbacks, promises, and the async/await syntax Leverage Node.js streams to create data-driven asynchronous processing pipelines Implement well-known software design patterns to create production grade applications Share code between Node.js and the browser and take advantage of full-stack JavaScript Build and scale microservices and distributed systems powered by Node.js Use Node.js in conjunction with other powerful technologies such as Redis, RabbitMQ, ZeroMQ, and LevelDB Who this book is for This book is for developers and software architects who have some prior basic knowledge of JavaScript and Node.js and now want to get the most out of these technologies in terms of productivity, design quality, and scalability. Software professionals with intermediate experience in Node.js and JavaScript will also find valuable the more advanced patterns and techniques presented in this book. This book assumes that you have an intermediate understanding of web application development, databases, and software design principles.

Learning JavaScript Shelley Powers 2008-12-16 If you're new to JavaScript, or an experienced web developer looking to improve your skills, Learning JavaScript provides you with complete, no-nonsense coverage of this quirky yet essential language for web development. You'll learn everything from primitive data types to complex features, including JavaScript elements involved with Ajax and dynamic page effects. By the end of the book, you'll be able to work with even the most sophisticated libraries and web applications. Complete with best practices and examples of JavaScript use, this new edition shows you how to integrate the language with the browser environment, and how to practice proper coding techniques for standards-compliant websites. This book will help you: Learn the JavaScript application structure, including basic statements and control structures Identify JavaScript objects—String, Number, Boolean, Function, and more Use browser debugging tools and troubleshooting techniques Understand event handling, form events, and JavaScript applications with forms Develop with the Browser Object Model, the Document Object Model, and custom objects you create Learn about browser cookies and more modern client-side storage techniques Get details for using XML or JSON with Ajax applications Learning JavaScript follows proven learning principles to help you absorb the concepts at an easy pace, so you'll learn how to create powerful and responsive applications in any browser.

Gray Hat Python Justin Seitz 2009-04-15 Python is fast becoming the programming language of choice for hackers, reverse engineers, and software testers because it's easy to write quickly, and it has the low-level support and libraries that make hackers happy. But until now, there has been no real manual on how to use Python for a variety of hacking tasks. You had to dig through forum posts and man pages, endlessly tweaking your own code to get everything working. Not anymore. Gray Hat Python explains the concepts behind hacking tools and techniques like debuggers, trojans, fuzzers, and emulators. But author Justin Seitz goes beyond theory, showing you how to harness existing Python-based security tools—and how to build your own when the pre-built ones won't cut it. You'll learn how to: -Automate tedious reversing and security tasks -Design and program your own debugger -Learn how to fuzz Windows drivers and create powerful fuzzers from scratch -Have fun with code and library injection, soft and hard hooking techniques, and other software trickery -Sniff secure traffic out of an encrypted web browser session -Use PyDBG, Immunity Debugger, Sulley, IDAPython, PyEMU, and more The world's best hackers are using Python to do their handiwork. Shouldn't you?

