

Async Javascript Ebook Trevor Burnham

More than ever, learning to program concurrency is critical to creating faster, responsive applications. Speedy and affordable multicore hardware is driving the demand for high-performing applications, and you can leverage the Java platform to bring these applications to life. Concurrency on the Java platform has evolved, from the synchronization model of JDK to software transactional memory (STM) and actor-based concurrency. This book is the first to show you all these concurrency styles so you can compare and choose what works best for your applications. You'll learn the benefits of each of these models, when and how to use them, and what their limitations are. Through hands-on exercises, you'll learn how to avoid shared mutable state and how to write good, elegant, explicit synchronization-free programs so you can create easy and safe concurrent applications. The techniques you learn in this book will take you from dreading concurrency to mastering and enjoying it. Best of all, you can work with Java or a JVM language of your choice - Clojure, JRuby, Groovy, or Scala - to reap the growing power of multicore hardware. If you are a Java programmer, you'd need JDK 1.5 or later and the Akka 1.0 library. In addition, if you program in Scala, Clojure, Groovy or JRuby you'd need the latest version of your preferred language. Groovy programmers will also need GPar. JavaScript is no longer to be feared or loathed - the world's most popular and ubiquitous language has evolved into a respectable language. Whether you're writing frontend applications or server side code, the phenomenal features from ES6 and beyond - like the rest operator, generators, destructuring, object literals, arrow functions, modern classes, promises, async, and metaprogramming capabilities - will get you excited and eager to program with JavaScript. You've found the right book to get started quickly and dive deep into the essence of modern JavaScript. Learn practical tips to apply the elegant parts of the language and the gotchas to avoid. JavaScript is a black swan that no one, including the author of the language, thought would become a popular and ubiquitous language. Not long ago, it was the most hated and feared language you could use to program the web. JavaScript ES6 and beyond has gone through a significant makeover. Troublesome features have been replaced with better, elegant, more reliable alternatives. This book includes many practical examples and exercises to help you learn in depth. It will not bore you with idiosyncrasies and arcane details intended for bad interview questions. Instead, it takes you into key features that you can readily use in your day-to-day projects. Whether you program the frontend or the server side, you can now write concise, elegant, and expressive JavaScript with newer features like default parameters, template literals, rest and spread operators, destructuring, arrow functions, and generators. Take it up a notch with features like infinite series, promises, async, and metaprogramming to create flexible, powerful, and extensible libraries. While the evolved features of the language will draw you in, the hundreds of examples in this book will pin the concepts down, for you to use on your projects. Take command of modern JavaScript and unlock your potential to create powerful applications. What You Need: To try out the examples in the book you will need a computer with Node.js, a text editor, and a browser like Chrome installed in it.

Systems programming provides the foundation for the world's computation. Writing performance-sensitive code requires a programming language that puts programmers in control of how memory, processor time, and other system resources are used. The Rust systems programming language combines that control with a modern type system that catches broad classes of common mistakes, from memory management errors to data races between threads. With this practical guide, experienced systems programmers will learn how to successfully bridge the gap between performance and safety using Rust. Jim Blandy, Jason Orendorff, and Leonora Tindall demonstrate how Rust's features put programmers in control over memory consumption and processor use by combining predictable performance with memory safety and trustworthy concurrency. You'll learn: Rust's fundamental data types and the core concepts of ownership and borrowing How to write flexible, efficient code with traits and generics How to write fast, multithreaded code without data races Rust's key power tools: closures, iterators, and asynchronous programming Collections, strings and text, input and output, macros, unsafe code, and foreign function interfaces This revised, updated edition covers the Rust 2021 Edition.

This ultimate guide on React Hooks helps you modernize managing state and effects in React apps using Hooks. You will learn various types of Hooks and how it integrates with Context and Suspense APIs. You will create custom Hooks and learn to use Hooks with Redux and MobX. Lastly, you will learn to migrate your existing React applications to Hooks.

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

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

Easily master JavaScript (JS) with this quick guide and develop mobile and desktop applications for SAP Fiori. This book equips ABAP/SAP developers with the essential topics

to get started with JS. The focus of JavaScript Essentials for SAP ABAP Developers is on the parts of the JS language that are useful from the perspective of an ABAP developer. The book starts with a brief intro to HTML, the basics of JS, and how to create and run a simple JS program. It then dives into the details of the language, showing how to make simple programs. It covers loops in detail, mathematical operations, and string and regular expressions in JS, as well as a taste of functions, followed by objects and object-oriented programming in JavaScript. The book provides: Sample code and screenshots to help you fully understand JS A chapter on JS best practices and recommendations Differences and comparisons of the elements and data structures of ABAP and JavaScript to help you quickly master the material What You'll Learn Create and run a simple JavaScript program Understand loops, operations, and expressions Master the Create and Use functions Use objects and object-oriented programming in JS Apply the best practices of JS programming Who This Book Is For SAP programmers and developers, ABAP users and developers, and university students learning ABAP and JavaScript

Asynchronous JavaScript is everywhere, whether you're using Ajax, AngularJS, Node.js, or WebRTC. This practical guide shows intermediate to advanced JavaScript developers how Promises can help you manage asynchronous code effectively—including the inevitable flood of callbacks as your codebase grows. You'll learn the inner workings of Promises and ways to avoid difficulties and missteps when using them. The ability to asynchronously fetch data and load scripts in the browser broadens the capabilities of JavaScript applications. But if you don't understand how the async part works, you'll wind up with unpredictable code that's difficult to maintain. This book is ideal whether you're new to Promises or want to expand your knowledge of this technology. Understand how async JavaScript works by delving into callbacks, the event loop, and threading Learn how Promises organize callbacks into discrete steps that are easier to read and maintain Examine scenarios you'll encounter and techniques you can use when writing real-world applications Use features in the Bluebird library and jQuery to work with Promises Learn how the Promise API handles asynchronous errors Explore ECMAScript 6 language features that simplify Promise-related code

Essays, discussions, and image portfolios map the evolution of art forms engaged with the Internet. Since the turn of the millennium, the Internet has evolved from what was merely a new medium to a true mass medium—with a deeper and wider cultural reach, greater opportunities for distribution and collaboration, and more complex corporate and political realities. Mapping a loosely chronological series of formative arguments, developments, and happenings, Mass Effect provides an essential guide to understanding the dynamic and ongoing relationship between art and new technologies. Mass Effect brings together nearly forty contributions, including newly commissioned essays and reprints, image portfolios, and transcribed discussion panels and lectures that offer insights and reflections from a wide range of artists, curators, art historians, and bloggers. Among the topics examined are the use of commercial platforms for art practice, what art means in an age of increasing surveillance, and questions surrounding such recent concepts as “postinternet.” Other contributions analyze and document particular works by the artists of And/Or Gallery, Cory Arcangel, DIS, Cao Fei, the Radical Software Group, and others. Mass Effect relaunches a publication series initiated by the MIT Press and the New Museum in 1984, which produced six defining volumes for the field of contemporary art. These new volumes will build on this historic partnership and reinvigorate the conversation around contemporary culture once again. Copublished with the New Museum of Contemporary Art, New York Important Notice: The digital edition of this book is missing some of the images found in the physical edition. Contributors Cory Arcangel, Karen Archey, Michael Bell-Smith, Claire Bishop, Dora Budor, Johanna Burton, Paul Chan, Ian Cheng, Michael Connor, Lauren Cornell, Petra Cortright, Jesse Darling, Anne de Vries, DIS, Aleksandra Domanovic, Harm van den Dorpel, Dragan Espenschied, Rózsa Zita Farkas, Azin Feizabadi, Alexander R. Galloway, Boris Groys, Ed Halter, Alice Ming Wai Jim, Jogging, Caitlin Jones, David Joselit, Dina Kafafi, John Kelsey, Alex Kitnick, Tina Kukielski, Oliver Laric, Mark Leckey, David Levine, Olia Lialina, Guthrie Lonergan, Jordan Lord, Jens Maier-Rothe, Shawn Maximo, Jennifer McCoy, Kevin McCoy, Gene McHugh, Tom Moody, Ceci Moss, Katja Novitskova, Marisa Olson, Trevor Paglen, Seth Price, Alexander Provan, Morgan Quaintance, Domenico Quaranta, Raqs Media Collective, Alix Rule, Timur Si-Qin, Josephine Berry Slater, Paul Slocum, Rebecca Solnit, Wolfgang Staehle, Hito Steyerl, Martine Syms, Ben Vickers, Michael Wang, Tim Whidden, Anicka Yi, and Damon Zucconi

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.

Provides information on testing procedures and tools for Rails 2 and Rails 3.

Written by their front-man, this is a witty and frankly honest account of the life of a rock outfit. Fischer's story is full of facts and anecdotes, some unflattering, many trashy, some embarrassing, many senselessly funny but all putting right the band's reported notoriety.

Presents information on getting the most out of a PC's hardware and software, covering such topics as upgrading the BIOS, configuring the hard drive, installing more RAM, improving CPU performance, and adding COM ports.

A powerful challenge to conventional Judeo-Christian theology, The First and Final Commandment combines the author's two books, MisGod'ed and God'ed, within one cover. The First and Final Commandment begins by defining the internal conflicts that fracture the metaphysical worlds of Judaism and Christianity from within, and indeed, which demand reappraisal of the Judeo-Christian scriptures themselves. Incorporating detailed analysis, this work continues on to document the scriptural evidences that suggest continuity in revelation from Judaism to Christianity and, in the end, to orthodox (Sunni) Islam. Provocative and thought-provoking, intelligent and inspiring, this book enters the melee of two thousand years of religious debate with clarity of vision, accuracy of detail, and common sense conclusions which boldly confront conventional Judeo-Christian conclusions.

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

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.

With the advent of HTML5, front-end MVC, and Node.js, JavaScript is ubiquitous--and still messy. This book will give you a solid foundation for managing async tasks without losing your sanity in a tangle of callbacks. It's a fast-paced guide to the most essential techniques for dealing with async behavior, including PubSub, evented models, and Promises. With these tricks up your sleeve, you'll be better prepared to manage the complexity of large web apps and deliver responsive code. With Async JavaScript, you'll develop a deeper understanding of the JavaScript language. You'll start with a ground-up primer on the JavaScript event model--key to avoiding many of the most common mistakes JavaScripters make. From there you'll see tools and design patterns for turning that conceptual understanding into practical code. The concepts in the book are illustrated with runnable examples drawn from both the browser and the Node.js server framework, incorporating complementary libraries including jQuery, Backbone.js, and Async.js. You'll learn how to create dynamic web pages and highly concurrent servers by mastering the art of distributing events to where they need to be handled, rather than nesting callbacks within callbacks within callbacks. Async JavaScript will get you up and running with real web development quickly. By the time you've finished the Promises chapter, you'll be parallelizing Ajax requests or running animations in sequence. By the end of the book, you'll even know how to leverage Web Workers and AMD for JavaScript applications with cutting-edge performance. Most importantly, you'll have the knowledge you need to write async code with confidence. What You Need: Basic knowledge of JavaScript is recommended. If you feel that you're not up to speed, see the "Resources for Learning JavaScript" section in the preface.

There's a change in the air. High-profile projects such as the Linux Kernel, Mozilla, Gnome, and Ruby on Rails are now using Distributed Version Control Systems (DVCS) instead of the old stand-bys of CVS or Subversion. Git is a modern, fast, DVCS. But understanding how it fits into your development can be a daunting task without an introduction to the new concepts. Whether you're just starting out as a professional programmer or are an old hand, this book will get you started using Git in this new distributed world.

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 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.

JavaScript is the first language to bring Functional Programming to the mainstream. At the same time, it offers a new way of doing Object Oriented Programming without classes and prototypes. Programming in a functional style means to use concepts such as first-class functions, closures, higher-order functions, partial application, currying, immutability or pure functions. Pure Functional Programming promises to make code easier to read, understand, test, debug or compose. Can it deliver its promise? If it can, can we build an application using only pure functions? Decorators are a tool for reusing common logic and creating variations of existing functions. Closure can encapsulate state. Multiple closures sharing the same private state can create flexible and encapsulated objects. "One of the best new Functional Programming books" - BookAuthority

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

Twelve Years a Slave (1853) is a memoir and slave narrative by Solomon Northup, as told to and edited by David Wilson. Northup, a black man who was born free in New York, details his kidnapping in Washington, D.C. and subsequent sale into slavery. After having been kept in bondage for 12 years in Louisiana by various masters, Northup was able to write to friends and family in New York, who were in turn able to secure his release. Northup's account provides extensive details on the slave markets in Washington, D.C. and New Orleans and describes at length cotton and sugar cultivation on major plantations in Louisiana.

Over the last five years, CoffeeScript has taken the web development world by storm. With the humble motto "It's just JavaScript," CoffeeScript provides all the power of the JavaScript language in a friendly and elegant package. This extensively revised and updated new edition includes an all-new project to demonstrate CoffeeScript in action, both in the browser and on a Node.js server. There's no faster way to learn to write a modern web application. This new edition has been extensively revised and updated to reflect the current state and features of CoffeeScript. Every chapter has been revised and refactored, and new sections and a new chapter on testing have been added. If you already know JavaScript, this book will make your transition to CoffeeScript easy. If you're new to JavaScript, it's a great place to start. New in this edition: Automating setup with the Grunt task runner Using CoffeeScript classes with the Backbone framework Using CoffeeScript's simple callback syntax to interact with the Express framework A new chapter on client-side and server-side testing with Intern * A new project that gives you hands-on experience with browser-side and server-side CoffeeScript CoffeeScript is every bit as portable and effective as JavaScript. It aids development by adding a bevy of features, such as classes, splats, list comprehensions, and destructuring. These features make it easier to write clear, readable code, and by learning how these features work, you'll deepen your understand of JavaScript as well. This book is your complete guide to writing better JavaScript code, faster.

This book is for everyone who needs to test the web. As a tester, you'll automate your tests. As a developer, you'll build more robust solutions. And as a team, you'll gain a vocabulary and a means to coordinate how to write and organize automated tests for the web. Follow the testing pyramid and level up your skills in user interface testing, integration testing, and unit testing. Your new skills will free you up to do other, more important things while letting the computer do the one thing it's really good at: quickly running thousands of repetitive tasks. This book shows you how to do three things: How to write really good automated tests for the web. How to pick and choose the right ones. * How to explain, coordinate, and share your efforts with others. If you're a traditional software tester who has never written an automated test before, this is the perfect book for getting started. Together, we'll go through everything you'll need to start writing your own tests. If you're a developer, but haven't thought much about testing, this book will show you how to move fast without breaking stuff. You'll test RESTful web services and legacy systems, and see how to organize your tests. And if you're a team lead, this is the Rosetta Stone you've been looking for. This book will help you bridge that testing gap between your developers and your testers by giving your team a model to discuss automated testing, and most importantly, to coordinate their efforts. The Way of the Web Tester is packed with cartoons, graphics, best practices, war stories, plenty of humor, and hands-on tutorial exercises that will get you doing the right things, the right way.

Learn to use accelerated test-driven development (TDD) to build a React application from scratch. This book explains how your React components will be integrated, and how to refactor code to make it more concise and flexible. With TDD you can develop a robust test suite to catch bugs, and develop modular, flexible code. Applying your understanding of how HTML, CSS, and JavaScript work in the browser you'll build a web application called Bookish using TDD and mainstream React stack technologies such as React, React-router, and Redux. Using higher code quality you'll be able to write executable documentation using Cucumber. This is just one of many essentials in maintaining a practical TDD workflow in your daily workload. Test-Driven Development with React highlights best practices and design patterns that will enable you to write more maintainable and reusable React components. What You'll Learn Manage your application's state using Redux Employ professional techniques for backend services Use Cypress as an end-to-end testing framework Utilize React-testing-library for unit and integration tests Who This Book Is For Ideal for web application developers who wants to learn how to write high quality code using Test-Driven Development.

If you're looking for an alternative to the "P" languages (Perl, PHP, and Python), or want to explore a new paradigm of server-side application development, this Node book is for you. You should have at least a rudimentary understanding of JavaScript and web application development.

Provides readers with time saving and productivity enhancing tips intended to improve their user experience with the Mac operating system.

Provides information on creating Web-based applications using Ruby.

Data is getting bigger and more complex by the day, and so are your choices in handling it. Explore some of the most cutting-edge databases available - from a traditional relational database to newer NoSQL approaches - and make informed decisions about challenging data storage problems. This is the only comprehensive guide to the world of NoSQL databases, with in-depth practical and conceptual introductions to seven different technologies: Redis, Neo4J, CouchDB, MongoDB, HBase, Postgres, and DynamoDB. This second edition includes a new chapter on DynamoDB and updated content for each chapter. While relational databases such as MySQL remain as relevant as ever, the alternative, NoSQL paradigm has opened up new horizons in performance and scalability and changed the way we approach data-centric problems. This book presents the essential concepts behind each database alongside hands-on examples that make each technology come alive. With each database, tackle a real-world problem that highlights the concepts and features that make it shine. Along the way, explore five database models - relational, key/value, columnar, document, and graph - from the perspective of challenges faced by real applications. Learn how MongoDB and CouchDB are strikingly different, make your applications faster with Redis and more connected with Neo4J, build

a cluster of HBase servers using cloud services such as Amazon's Elastic MapReduce, and more. This new edition brings a brand new chapter on DynamoDB, updated code samples and exercises, and a more up-to-date account of each database's feature set. Whether you're a programmer building the next big thing, a data scientist seeking solutions to thorny problems, or a technology enthusiast venturing into new territory, you will find something to inspire you in this book. What You Need: You'll need a *nix shell (Mac OS or Linux preferred, Windows users will need Cygwin), Java 6 (or greater), and Ruby 1.8.7 (or greater). Each chapter will list the downloads required for that database. 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.

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. Why is GraphQL the most innovative technology for fetching data since Ajax? By providing a query language for your APIs and a runtime for fulfilling queries with your data, GraphQL presents a clear alternative to REST and ad hoc web service architectures. With this practical guide, Alex Banks and Eve Porcello deliver a clear learning path for frontend web developers, backend engineers, and project and product managers looking to get started with GraphQL. You'll explore graph theory, the graph data structure, and GraphQL types before learning hands-on how to build a schema for a photo-sharing application. This book also introduces you to Apollo Client, a popular framework you can use to connect GraphQL to your user interface. Explore graph theory and review popular graph examples in use today Learn how GraphQL applies database querying methods to the internet Create a schema for a PhotoShare application that serves as a roadmap and a contract between the frontend and backend teams Use JavaScript to build a fully functioning GraphQL service and Apollo to implement a client Learn how to prepare GraphQL APIs and clients for production

You work in a loop: write code, get feedback, iterate. The faster you get feedback, the faster you can learn and become a more effective developer. Test-Driven React helps you refine your React workflow to give you the feedback you need as quickly as possible. Write strong tests and run them continuously as you work, split complex code up into manageable pieces, and stay focused on what's important by automating away mundane, trivial tasks. Adopt these techniques and you'll be able to avoid productivity traps and start building React components at a stunning pace!

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.

An introduction to writing code with JavaScript covers such topics as style guidelines, programming practices, and automation.

Successful use of information and communication technologies depends on usable designs that do not require expensive training, accommodate the needs of diverse users and are low cost. There is a growing demand and increasing pressure for adopting innovative approaches to the design and delivery of education, hence, the use of online learning (also called E-learning) as a mode of study. This is partly due to the increasing number of learners and the limited resources available to meet a wide range of various needs, backgrounds, expectations, skills, levels, ages, abilities and disabilities. The advances of new technology and communications (WWW, Human Computer Interaction and Multimedia) have made it possible to reach out to a bigger audience around the globe. By focusing on the issues that have impact on the usability of online learning programs and their implementation, *Usability Evaluation of Online Learning Programs* specifically fills-in a gap in this area, which is particularly invaluable to practitioners.

Does your Rails code suffer from bloat, brittleness, or inaccuracy? Cure these problems with the regular application of test-driven development. You'll use Rails 5.1, Minitest 5, and RSpec 3.6, as well as popular testing libraries such as *factory_girl* and *Cucumber*. Updates include Rails 5.1 system tests and Webpack integration. Do what the doctor ordered to make your applications feel all better. Side effects may include better code, fewer bugs, and happier developers. Your Ruby on Rails application is sick. Deadlines are looming, but every time you make the slightest change to the code, something else breaks. Nobody remembers what that tricky piece of code was supposed to do, and nobody can tell what it actually does. Plus, it has bugs. You need test-driven development: a process for improving the design, maintainability, and long-term viability of software. With both practical code examples and discussion of why testing works, this book starts with the most basic features delivered as part of core Ruby on Rails. Once you've integrated those features into your coding practice, work with popular third-party testing tools such as RSpec, Jasmine, Cucumber, and *factory_girl*. Test the component parts of a Rails application, including the back-end model logic and the front-end display logic. With Rails examples, use testing to enable your code to respond better to future change. Plus, see how to handle real-world testing situations. This new edition has been updated to Rails 5.1 and RSpec 3.6 and contains full coverage of new Rails features, including system tests and the Webpack-based JavaScript setup. *What You Need: Ruby 2.4, Rails 5.1*

This book is comprehensive walk through of Test-Driven Development (TDD) for React. It takes a first-principles approach to teach the TDD process using vanilla Jest. Readers build their own test library as they refactor out repeated code in tandem with building a real-world application. It also covers acceptance testing using Cucumber and ...

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