

Test Driving Javascript Applications Rapid Confident Maintainable Code

A quick problem-solving guide to automated testing web applications with Selenium WebDriver in JavaScript. It contains hundreds of solutions to real-world testing problems, with clear explanations and ready-to-run Selenium test scripts that you can use in your own projects.

Demonstrates how developers working with small- to mid-sized companies can take advantage of Amazon Web Services (AWS) such as the Simple Storage Service (S3), Elastic Compute Cloud (EC2), Simple Queue Service (SQS), Flexible Payments Service (FPS), and SimpleDB to build web-scale business applications.

What will you learn from this book? Head First Kotlin is a complete introduction to coding in Kotlin. This hands-on book helps you learn the Kotlin language with a unique method that goes beyond syntax and how-to manuals and teaches you how to think like a great Kotlin developer. You'll learn everything from language fundamentals to collections, generics, lambdas, and higher-order functions. Along the way, you'll get to play with both object-oriented and functional programming. If you want to really understand Kotlin, this is the book for you. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Kotlin uses a visually rich format to engage your mind rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multisensory learning experience is designed for the way your brain really works.

Everyone is creating Web pages for fun and profit -- now, no matter how little programming experience you have, you can get into the action as well with JavaScript For Dummies, 2nd Edition. This easy-to-use reference takes the mystery out of creating vibrant, attention-getting Web pages by using the latest version of JavaScript. Use the design tips and real-life sample JavaScript code you find in this book to wake up your Web pages and keep those Web surfers coming back for more! Inside, find helpful advice on how to Add JavaScript scripts to existing HTML code to create easy-to-use forms for users to fill out Take advantage of the latest JavaScript features available in Netscape Navigator 4.0 and Microsoft Internet Explorer 4.0 Integrate other programming languages, such as C++ and Java, with JavaScript to create powerful multimedia applications Test and debug your scripts with ease Explore options for creating full-blown client-server applications with JavaScript Test-drive the latest cool JavaScript tools Develop applications for the real world with a thorough software testing approach Key Features Develop a thorough understanding of TDD and how it can help you develop simpler applications with no defects using C# and JavaScript Adapt to the mindset of writing tests before code by incorporating business goals, code manageability, and other factors Make all your software units and modules pass tests by analyzing failed tests and refactoring code as and when required Book Description Test-Driven Development (TDD) is a methodology that helps you to write as little as code as possible to satisfy software requirements, and ensures that what you've written does what it's supposed to do. If you're looking for a practical resource on Test-Driven Development this is the book for you. You've found a practical end-to-end guide that will help you implement Test-Driven Techniques for your software development projects. You will learn from industry standard patterns and practices, and shift from a conventional approach to a modern and efficient software testing approach in C# and JavaScript. This book starts with the basics of TDD and the components of a simple unit test. Then we look at setting up the testing framework so that you can easily run your tests in your development environment. You will then see the importance of defining and testing boundaries, abstracting away third-party code (including the .NET Framework), and working with different types of test double such as spies, mocks, and fakes. Moving on, you will learn how to think like a TDD developer when it comes to application development. Next, you'll focus on writing tests for new/changing requirements and covering newly discovered bugs, along with how to test JavaScript applications and perform integration testing. You'll also learn how to identify code that is inherently un-testable, and identify some of the major problems with legacy applications that weren't written with testability in mind. By the end of the book, you'll have all the TDD skills you'll need and you'll be able to re-enter the world as a TDD expert! What you will learn The core concepts of TDD Testing in action with a real-world case study in C# and JavaScript using React Writing proper Unit Tests and testable code for your application Using different types of test double such as stubs, spies, and mocks Growing an application guided by tests Exploring new developments on a green-field application Mitigating the problems associated with writing tests for legacy applications Modifying a legacy application to make it testable Who this book is for This book is for software developers with a basic knowledge of Test Driven Development (TDD) who want a thorough understanding of how TDD can benefit them and the applications they produce. The examples in this book are in C#, and you will need a basic understanding of C# to work through these examples. What will you learn from this book? This brain-friendly guide teaches you everything from JavaScript language fundamentals to advanced topics, including objects, functions, and the browser's document object model. You won't just be reading—you'll be playing games, solving puzzles, pondering mysteries, and interacting with JavaScript in ways you never imagined. And you'll write real code, lots of it, so you can start building your own web applications. Prepare to open your mind as you learn (and nail) key topics including: The inner details of JavaScript How JavaScript works with the browser The secrets of JavaScript types Using arrays The power of functions How to work with objects Making use of prototypes Understanding closures Writing and testing applications What's so special about this book? We think your time is too valuable to waste struggling with new concepts. Using the latest research in cognitive science and learning theory to craft a multi-sensory learning experience, Head First JavaScript Programming uses a visually rich format designed for the way your brain works, not a text-heavy approach that puts you to sleep. This book replaces Head First JavaScript, which is now out of print.

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.

Intermediate level, for programmers fairly familiar with Java, but new to the functional style of programming and lambda expressions. Get ready to program in a whole new way. Functional Programming in Java will help you quickly get on top of the new, essential Java 8 language features and the functional style that will change and improve your code. This short, targeted book will help you make the paradigm shift from the old imperative way to a less error-prone, more elegant, and concise coding style that's also a breeze to parallelize. You'll explore the syntax and semantics of lambda expressions, method and constructor references, and functional interfaces. You'll design and write applications better using the new standards in Java 8 and the JDK. Lambda expressions are lightweight, highly concise anonymous methods backed by functional interfaces in Java 8. You can use them to leap forward into a whole new world of programming in Java. With functional programming capabilities, which have been around for decades in other languages, you can now write elegant, concise, less error-prone code using standard Java. This book will guide you through the paradigm change, offer the essential details about the new features, and show you how to transition from your old way of coding to an improved style. In this book you'll see popular design patterns, such as decorator, builder, and strategy, come to life to solve common design problems, but with little ceremony and effort. With these new capabilities in hand, Functional Programming in Java will help you pick up techniques to implement designs that were beyond easy reach in earlier versions of Java. You'll see how you can reap the benefits of tail call optimization, memoization, and effortless parallelization techniques. Java 8 will change the way you write applications. If you're eager to take advantage of the new features in the language, this is the book for you. What you need: Java 8 with support for lambda expressions and the JDK is required to make use of the concepts and the examples in this book.

By taking you through the development of a real web application from beginning to end, the second edition of this hands-on guide demonstrates the practical advantages of test-driven development (TDD) with Python. You'll learn how to write and run tests before building each part of your app, and then develop the minimum amount of code required to pass those tests. The result? Clean code that works. In the process, you'll learn the basics of Django, Selenium, Git, jQuery, and Mock, along with current web development techniques. If you're ready to take your Python skills to the next level, this book—updated for Python 3.6—clearly demonstrates how TDD encourages simple designs and inspires confidence. Dive into the TDD workflow, including the unit test/code cycle and refactoring Use unit tests for classes and functions, and functional tests for user interactions within the browser Learn when and how to use mock objects, and the pros and cons of isolated vs. integrated tests Test and automate your deployments with a staging server Apply tests to the third-party plugins you integrate into your site Run tests automatically by using a Continuous Integration environment Use TDD to build a REST API with a front-end Ajax interface

A fast-paced, practical guide to helping you leverage React Testing Library to test the DOM output of components Key Features Get to grips with React Testing Library and create tests that don't break with changes in implementation Learn how to put RTL into practice by implementing it in real-world scenarios Test apps to be more accessible and ensure your tests will work with actual DOM nodes Book Description React Testing Library (RTL) is a lightweight and easy-to-use tool for testing the document object model (DOM) output of components. This book will show you how to use this modern, user-friendly tool to test React components, reducing the risk that your application will not work as expected in production. The book demonstrates code snippets that will allow you to implement RTL easily, helping you to understand the guiding principles of the DOM Testing Library to write tests from the perspective of the user. You'll explore the advantages of testing components from the perspective of individuals who will actually use your components, and use test-driven development (TDD) to drive the process of writing tests. As you advance, you'll discover how to add RTL to React projects, test components using the Context API, and also learn how to write user interface (UI) end-to-end tests using the popular Cypress library. Throughout this book, you'll work with practical examples and useful explanations to be able to confidently create tests that don't break when changes are made. By the end of this React book, you will have learned all you need to be able to test React components confidently. What you will learn Explore React Testing Library and its use cases Get to grips with the RTL ecosystem Apply jest-dom to enhance your tests using RTL Gain the confidence you need to create tests that don't break with changes using RTL Integrate Cucumber and Cypress into your test suite Use TDD to drive the process of writing tests Apply your existing React knowledge for using RTL Who this book is for This book is for software engineers, quality engineers and React developers who want to learn about modern practices used for testing React components using the latest testing tool, RTL. Basic knowledge of React development is required to get the most out of this book.

This book makes JavaScript less challenging to learn for newcomers, by offering a modern view that is as consistent as possible. Highlights: Get started quickly, by initially focusing on modern features. Test-driven exercises and quizzes available for most chapters (sold separately). Covers all essential features of JavaScript, up to and including ES2019.

Optional advanced sections let you dig deeper. No prior knowledge of JavaScript is required, but you should know how to program.

Debunk the myth that JavaScript is not easily testable. Whether you use Node.js, Express, MongoDB, jQuery, AngularJS, or directly manipulate the DOM, you can test-drive JavaScript. Learn the craft of writing meaningful, deterministic automated tests with Karma, Mocha, and Chai. Test asynchronous JavaScript, decouple and properly mock out dependencies, measure code coverage, and create lightweight modular designs of both server-side and client-side code. Your investment in writing tests will pay high dividends as you create code that's predictable and cost-effective to change. Design and code JavaScript applications with automated tests. Writing meaningful tests is a skill that takes learning, some unlearning, and a lot of practice, and with this book, you'll hone that skill. Fire up the editor and get hands-on through practical exercises for effective automated testing and designing maintainable, modular code. Start by learning when and why to do manual testing vs. automated verification. Focus tests on the important things, like the pre-conditions, the invariants, complex logic, and gnarly edge cases. Then begin to design asynchronous functions using automated tests. Carefully decouple and mock out intricate dependencies such as the DOM, geolocation API, file and database access, and Ajax calls to remote servers. Step by step, test code that uses Node.js, Express, MongoDB, jQuery, and AngularJS. Know when and how to use tools such as Chai, Istanbul, Karma, Mocha, Protractor, and Sinon. Create tests with minimum effort and run them fast without having to spin up web servers or manually edit HTML pages to run in browsers. Then explore end-to-end testing to ensure all parts are wired and working well together. Don't just imagine creating testable code, write it. What You Need: A computer with a text editor and your favorite browser. The book provides instructions to install the necessary automated testing-related tools.

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

Do less work when testing your Python code, but be just as expressive, just as elegant, and just as readable. The pytest testing framework helps you write tests quickly and keep them readable and maintainable - with no boilerplate code. Using a robust yet simple fixture model, it's just as easy to write small tests with pytest as it is to scale up to complex functional testing for applications, packages, and libraries. This book shows you how. For Python-based projects, pytest is the undeniable choice to test your code if you're looking for a full-featured, API-independent, flexible, and extensible testing framework. With a full-bodied fixture model that is unmatched in any other tool, the pytest framework gives you powerful features such as assert rewriting and plug-in capability - with no boilerplate code. With simple step-by-step instructions and sample code, this book gets you up to speed quickly on this easy-to-learn and robust tool. Write short, maintainable tests that elegantly express what you're testing. Add powerful testing features and still speed up test times by distributing tests across multiple processors and running tests in parallel. Use the built-in assert statements to reduce false test failures by separating setup and test failures. Test error conditions and corner cases with expected exception testing, and use one test to run many test cases with parameterized testing. Extend pytest with plugins, connect it to continuous integration systems, and use it in tandem with tox, mock, coverage, unittest, and doctest. Write simple, maintainable tests that elegantly express what you're testing and why. What You Need: The examples in this book are written using Python 3.6 and pytest 3.0. However, pytest 3.0 supports Python 2.6, 2.7, and Python 3.3-3.6.

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.

This book is packed with the step by step tutorial and instructions in recipe format helping you setup test infrastructure and gradually advance your skills to plan, develop, and test your backbone applications. If you are a JavaScript developer looking for recipes to create and implement test support for your backbone application, then this book is ideal for you. Beginning Windows Store Application Development – HTML and JavaScript Edition introduces you to the Windows 8 modern app design paradigm and the new Windows 8 programming model developed around this paradigm. You'll learn to build rich, immersive applications designed to run on the many devices powered by Windows 8. The authors draw on their extensive practical experience to provide not only a comprehensive introduction to the model and its features, but guidance on best practices and a real-world sample application that you develop over the course of the book. Beginning Windows Store Application Development – HTML and JavaScript Edition also emphasizes how devices will be used and applications will be built in a world that has become far more connected. The book takes you beyond the syntax of any development language and examines factors such as application design, user experience, social integration, and maintaining data and settings across multiple devices. 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. Build Vue apps the right way using Vue CLI 3. Understand how the building blocks of Vue CLI 3 work including npm, webpack, babel, eslint, plugins, GUI, testing, and SCSS. Import third-party libraries and maintain your project. Key Features Learn to work with Vue CLI 3 both on the command line and with a GUI Manage VueJS apps, settings, Vue plugins, and third-party libraries Learn how to build Vue apps from scratch using webpack, babel, ES6, vue-router, Jest, Cypress, SCSS, and Git Book Description The sprawling landscape of various tools in JavaScript web development is becoming overwhelming. This book will show you how Vue CLI 3 can help you take back control of the tool chain. To that end, we'll begin by configuring webpack, utilizing HMR, and using single-file .vue components. We'll also use SCSS, ECMAScript, and TypeScript. We'll unit test with Jest and perform E2E testing with Cypress. This book will show you how to configure Vue CLI as your default way of building Vue projects. You'll discover the reasons behind using webpack, babel, eslint, and other modern JavaScript toolchain technologies. You'll learn about the inner workings of each through the lens of Vue CLI 3. We'll explore the extendibility of Vue CLI with the built-in settings, and various core and third-party plugins. Vue CLI helps you work with Vue components, routers, directives, and services in the Vue ecosystem. While learning these concepts, you'll examine the evolution of JavaScript. You'll learn about use of npm, IIFEs, modules in JavaScript, Common.js modules, task runners, npm scripts, module bundlers, and webpack. You'll get familiar with the reasons why Vue CLI 3 is set up the way it is. You'll also learn to perform linting with ESLint and Prettier. Towards the end, we'll introduce you to working with styles and SCSS. Finally, we'll show you how to deploy your very own Vue project on Github Pages. What you will learn Work with nvm, install Node.js and npm, use Vue CLI 3 with no configuration, via the command line and the graphical user interface Build a Vue project from scratch using npm and webpack, and learn about hot module replacement Work with Babel settings, configurations, and presets Work with Vue plugins, including testing plugins such as Jest and Cypress Write, run, and watch unit and E2E tests using TDD assertions in the red-green-refactor cycle Work with Vue router and use, nested, lazy-loading, and dynamic routes Add SCSS to your projects and work with third-party Vue plugins Deploy your Vue apps to Github Pages Who this book is for This book is for existing web developers and developers who are new to web development. You must be familiar with HTML, CSS, and JavaScript programming. Basic knowledge of the command line will be helpful but is not necessary.

Develop consistent web apps with Vuex by easily centralizing the state of your application Key Features Uncover the hidden features of Vuex to build applications that are powerful, consistent, and maintainable Enforce a Flux-like application architecture in your Vue application Test your Vuex elements and Vue components using Karma/Jasmine testing framework Book Description State management preserves the state of controls in a user interface. Vuex is a state management tool for Vue.js that makes the architecture easier to understand, maintain and evolve. This book is the easiest way to get started with Vuex to improve your Vue.js application architecture and overall user experience. Our book begins by explaining the problem that Vuex solves, and how it helps your applications. You will learn about the Vuex core concepts, including the Vuex store, changing application state, carrying out asynchronous operations and persisting state changes, all with an eye to scalability. You will learn how to test Vuex elements and Vue components with the Karma and Jasmine testing frameworks. You will see this in the context of a testing first approach, following the fundamentals of Test Driven Development. TDD will help you to identify which components need testing and how to test them. You will build a full Vuex application by creating the application components and services, and persist the

state. Vuex comes with a plugin system that allows programmers to extend Vuex features. You will learn about some of the most powerful plugins, and make use of the built-in logger plugin. You write a custom Google Analytics plugin to send actions to its analytics API, and an Undo/Redo plugin. What you will learn Moving from classical MVC to a Flux-like architecture Implementing predictable centralized state management in your applications using Vuex Using ECMAScript 6 features for developing a real application Using webpack in conjunction with Vue single file components Testing your Vue/Vuex applications using Karma/Jasmine and inject-loader Simple and effective Test Driven Development Extending your application with Vuex plugins Who this book is for If you are a JavaScript developer, working on Vue.js and want to extend your web development skills to develop and maintain bigger applications using state management, then this book is for you. No knowledge of Vuex is required. Presents information on using HTML5 to create dynamic, data-rich Web pages, covering such topics as geolocation, 2D drawing, Web storages, and Web workers.

A practical, example-driven guide to using, automating, and integrating JavaScript Unit tests for the busy and conscientious JavaScript developer striving for excellence and success. JavaScript Unit Testing is a must have guide for every web developer, designer, architect, and JavaScript coder seeking to ensure the highest quality of their web applications and JS code. Knowledge of JavaScript is assumed.

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

Our industry is moving toward functional programming, but your object-oriented experience is still valuable. Scala combines the power of OO and functional programming, and Pragmatic Scala shows you how to work effectively with both. Updated to Scala 2.11, with in-depth coverage of new features such as Akka actors, parallel collections, and tail call optimization, this book will show you how to create stellar applications. The first edition of this book was released as Programming Scala. Our industry is moving toward functional programming, but your object-oriented experience is still valuable. Scala combines the power of OO and functional programming, and Pragmatic Scala shows you how to work effectively with both. Updated to Scala 2.11, with in-depth coverage of new features such as Akka actors, parallel collections, and tail call optimization, this book will show you how to create stellar applications. This thorough introduction to Scala will get you coding in this powerful language right away. You'll start from the familiar ground of Java and, with easy-to-follow examples, you'll learn how to create highly concise and expressive applications with Scala. You'll find out when and how to mix both imperative and functional style, and how to use parallel collections and Akka actors to create high-performance concurrent applications that effectively use multicore processors. Scala has evolved since the first edition of this book, and Pragmatic Scala is a significant update. We've revised each chapter, and added three new chapters and six new sections to explore the new features in Scala. You'll learn how to: Safely manage concurrency with parallel collections and Akka actors Create expressive readable code with value classes and improved implicit conversions Create strings from data with no sweat using string interpolation Create domain-specific languages Optimize your recursions with tail call optimization Whether you're interested in creating concise, robust single-threaded applications or highly expressive, thread-safe concurrent programs, this book has you covered. What You Need: The Scala compiler (2.x) and the JDK are required to make use of the concepts and the examples in this book.

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

Rely on this robust and thorough guide to build and maintain successful test automation. As the software industry shifts from traditional waterfall paradigms into more agile ones, test automation becomes a highly important tool that allows your development teams to deliver software at an ever-increasing pace without compromising quality. Even though it may seem trivial to automate the repetitive tester's work, using test automation efficiently and properly is not trivial. Many test automation endeavors end up in the "graveyard" of software projects. There are many things that affect the value of test automation, and also its costs. This book aims to cover all of these aspects in great detail so you can make decisions to create the best test automation solution that will not only help your test automation project to succeed, but also allow the entire software project to thrive. One of the most important details that affects the success of the test automation is how easy it is to maintain the automated tests. Complete Guide to Test Automation provides a detailed hands-on guide for writing highly maintainable test code. What You'll Learn Know the real value to be expected from test automation Discover the key traits that will make your test automation project succeed Be aware of the different considerations to take into account when planning automated tests vs. manual tests Determine who should implement the tests and the implications of this decision Architect the test project and fit it to the architecture of the tested application Design and implement highly reliable automated tests Begin gaining value from test automation earlier Integrate test automation into the business processes of the development team Leverage test automation to improve your organization's performance and quality, even without formal authority Understand how different types of automated tests will fit into your testing strategy, including unit testing, load and performance testing, visual testing, and more Who This Book Is For Those involved with software development such as test automation

leads, QA managers, test automation developers, and development managers. Some parts of the book assume hands-on experience in writing code in an object-oriented language (mainly C# or Java), although most of the content is also relevant for nonprogrammers.

This compact syntax reference covers syntax and parameters central to JSON object definitions. You'll learn the syntax used in the JSON object definition language, logically organized by topical chapters, and getting more advanced as chapters progress, covering structures and file formats which are best for use with HTML5. Furthermore, the JSON Quick Syntax Reference includes the key factors regarding the data footprint optimization work process, the in-lining of CSS and JS files, and why a data footprint optimization work process is important. What You'll Learn • Use the object definition syntax supported in JSON • Define a JSON content production workflow • Gain an understanding of the concepts and principles behind JSON object definitions • Use JSON code snippets and apply them in your web applications • Utilize the NetBeans, Android Studio, and Eclipse IDEs for your JSON coding Who This Book Is For Web developers, Android application developers, and user interface designers.

An example-driven guide covering modern web app development techniques and emerging technologies such as WebAssembly, Service Workers, and Svelte.js to build faster, secure, and scalable apps Key Features Discover effective techniques for accessing DOM, minimizing painting, and using a V8 engine to optimize JavaScript Understand what makes the web tick and create apps that look and feel like native desktop applications Explore modern JavaScript frameworks like Svelte.js for building next-gen web apps Book Description High-performance web development is all about cutting through the complexities in different layers of a web app and building services and APIs that improve the speed and performance of your apps on the browser. With emerging web technologies, building scalable websites and sustainable web apps is smoother than ever. This book starts by taking you through the web frontend, popular web development practices, and the latest version of ES and JavaScript. You'll work with Node.js and learn how to build web apps without a framework. The book consists of three hands-on examples that help you understand JavaScript applications at both the server-side and the client-side using Node.js and Svelte.js. Each chapter covers modern techniques such as DOM manipulation and V8 engine optimization to strengthen your understanding of the web. Finally, you'll delve into advanced topics such as CI/CD and how you can harness their capabilities to speed up your web development dramatically. By the end of this web development book, you'll have understood how the JavaScript landscape has evolved, not just for the frontend but also for the backend, and be ready to use new tools and techniques to solve common web problems. What you will learn Explore Vanilla JavaScript for optimizing the DOM, classes, and modules, and querying with jQuery Understand immutable and mutable code and develop faster web apps Delve into Svelte.js and use it to build a complete real-time Todo app Build apps to work offline by caching calls using service workers Write C++ native code and call the WebAssembly module with JavaScript to run it on a browser Implement CircleCI for continuous integration in deploying your web apps Who this book is for This JavaScript book is for web developers, C/C++ programmers, and anyone who wants to build robust web applications using advanced web technologies. This book assumes a good grasp of Vanilla JavaScript and an understanding of web development tools, such as Chrome Developer tools or Mozilla's developer tools.

WordPress is much more than a blogging platform. As this practical guide clearly demonstrates, you can use WordPress to build web apps of any type—not mere content sites, but full-blown apps for specific tasks. If you have PHP experience with a smattering of HTML, CSS, and JavaScript, you'll learn how to use WordPress plugins and themes to develop fast, scalable, and secure web apps, native mobile apps, web services, and even a network of multiple WordPress sites. The authors use examples from their recently released SchoolPress app to explain concepts and techniques throughout the book. All code examples are available on GitHub. Compare WordPress with traditional app development frameworks Use themes for views, and plugins for backend functionality Get suggestions for choosing WordPress plugins—or build your own Manage user accounts and roles, and access user data Build asynchronous behaviors in your app with jQuery Develop native apps for iOS and Android, using wrappers Incorporate PHP libraries, external APIs, and web service plugins Collect payments through ecommerce and membership plugins Use techniques to speed up and scale your WordPress app

Completely revised and updated, this best-selling introduction to programming in JavaScript focuses on writing real applications. JavaScript lies at the heart of almost every modern web application, from social apps like Twitter to browser-based game frameworks like Phaser and Babylon. Though simple for beginners to pick up and play with, JavaScript is a flexible, complex language that you can use to build full-scale applications. This much anticipated and thoroughly revised third edition of Eloquent JavaScript dives deep into the JavaScript language to show you how to write beautiful, effective code. It has been updated to reflect the current state of JavaScript and web browsers and includes brand-new material on features like class notation, arrow functions, iterators, async functions, template strings, and block scope. A host of new exercises have also been added to test your skills and keep you on track. As with previous editions, Haverbeke continues to teach through extensive examples and immerses you in code from the start, while exercises and full-chapter projects give you hands-on experience with writing your own programs. You start by learning the basic structure of the JavaScript language as well as control structures, functions, and data structures to help you write basic programs. Then you'll learn about error handling and bug fixing, modularity, and asynchronous programming before moving on to web browsers and how JavaScript is used to program them. As you build projects such as an artificial life simulation, a simple programming language, and a paint program, you'll learn how to: - Understand the essential elements of programming, including syntax, control, and data - Organize and clarify your code with object-oriented and functional programming techniques - Script the browser and make basic web applications - Use the DOM effectively to interact with browsers - Harness Node.js to build servers and utilities Isn't it time you became fluent in the language of the Web? * All source code is available online in an interactive sandbox, where you can edit the code, run it, and see its output instantly.

Rapid Application Development with Mozilla, part of the Bruce Perens Open Source Series, is a concise guide for any programmer who wants to learn the versatility and compatibility of Mozilla, an open source toolset with over a thousand objects and components. An additional feature of Rapid Application Development with Mozilla is the NoteTaker Web browser add-on—a sample Mozilla application that is developed throughout the book. Written by Web and XML expert Nigel McFarlane, this book is the perfect addition to the library of any user-interface software engineer, cross-platform developer, or any programmer looking to discover the benefits of rapid application development.

Developers looking to keep their JavaScript code bug-free will want to unit test using Jasmine, one of the most popular unit testing frameworks around. Any project of meaningful size should be automatically tested to help catch bugs as early as possible. Jasmine, a testing framework for JavaScript, makes it easy to test JavaScript projects, from browser-based applications to Node.js. While a quick understanding of Jasmine can be gleaned from the project's homepage, the framework has a lot of details and exciting plugins. This book explores Jasmine in a depth that can't be found elsewhere. This book provides: Exposure to some Jasmine plugins, to extend Jasmine and allow for more functionality and more thorough testing An Understanding of Jasmine's main features, to allow code to be automatically tested and reduce bugs An Explanation of how to get Jasmine working in different environments (in the browser, in Node.js, through Rails, et cetera), to make Jasmine easier to work with

For JavaScript developers working on increasingly large and complex projects, effective automated testing is crucial to success. Test-Driven JavaScript Development is a complete, best-practice guide to agile JavaScript testing and quality assurance with the test-driven development (TDD) methodology. Leading agile JavaScript developer Christian Johansen covers all aspects of applying state-of-the-art automated testing in JavaScript environments, walking readers through the

entire development lifecycle, from project launch to application deployment, and beyond. Using real-life examples driven by unit tests, Johansen shows how to use TDD to gain greater confidence in your code base, so you can fearlessly refactor and build more robust, maintainable, and reliable JavaScript code at lower cost. Throughout, he addresses crucial issues ranging from code design to performance optimization, offering realistic solutions for developers, QA specialists, and testers. Coverage includes • Understanding automated testing and TDD • Building effective automated testing workflows • Testing code for both browsers and servers (using Node.js) • Using TDD to build cleaner APIs, better modularized code, and more robust software • Writing testable code • Using test stubs and mocks to test units in isolation • Continuously improving code through refactoring • Walking through the construction and automated testing of fully functional software The accompanying Web site, tddjs.com, contains all of the book's code listings and additional resources.

Rapid Prototyping with JS: Agile JavaScript Development is a hands-on book which introduces you to agile JavaScript web and mobile software development using the latest cutting-edge front-end and back-end technologies including: Node.js, Backbone.js, MongoDB and others. More information at <http://rpjs.co>. This book was borne out of frustration. I have been in software engineering for many years, and when I started learning Node.js and Backbone.js, I learned the hard way that their official documentation and the Internet lack in quick start guides and examples. Needless to say, it was virtually impossible to find all of the tutorials for JS-related modern technologies in one place. The best way to learn is to do, right? Therefore, I've used the approach of small simple examples, i.e., quick start guides, to expose myself to the new cool tech. After I was done with the basic apps, I needed some references and organization. I started to write this manual mostly for myself, so I can understand the concepts better and refer to the samples later. Then StartupMonthly and I taught a few 2-day intensive classes on the same subject -- helping experienced developers to jump-start their careers with agile JavaScript development. The manual we used was updated and iterated many times based on the feedback received. The end result is this book. What to Expect A typical reader of RPJS should expect a collection of quick start guides, tutorials and suggestions (e.g., Git workflow). There is a lot of coding and not much theory. All the theory we cover is directly related to some of the practical aspects, and essential for better understanding of technologies and specific approaches in dealing with them, e.g., JSONP and cross-domain calls. In addition to coding examples, the book covers virtually all setup and deployment step-by-step. You'll learn on the examples of Chat web/mobile applications starting with front-end components. There are a few versions of these applications, but by the end we'll put front-end and back-end together and deploy to the production environment. The Chat application contains all of the necessary components typical for a basic web app, and will give you enough confidence to continue developing on your own, apply for a job/promotion or build a startup! Who This Book is For The book is designed for advanced-beginner and intermediate-level web and mobile developers: somebody who has been (or still is) an expert in other languages like Ruby on Rails, PHP, Perl, Python or/and Java. The type of a developer who wants to learn more about JavaScript and Node.js related techniques for building web and mobile application prototypes fast. Our target user doesn't have time to dig through voluminous (or tiny, at the other extreme) official documentation. The goal of Rapid Prototyping with JS is not to make an expert out of a reader, but to help him/her to start building apps as soon as possible. Rapid Prototyping with JS: Agile JavaScript Development, as you can tell from the name, is about taking your idea to a functional prototype in the form of a web or a mobile application as fast as possible. This thinking adheres to the Lean Startup30 methodology; therefore, this book would be more valuable to startup founders, but big companies' employees might also find it useful, especially if they plan to add new skills to their resumes. What This Book is Not Rapid Prototyping with JS is neither a comprehensive book on several frameworks, libraries or technologies (or just a particular one), nor a reference for all the tips and tricks of web development. Examples similar to ones in this book might be publicly available online. Even more so, if you're not familiar with fundamental programming concepts like loops, if/else statements, arrays, hashes, object and functions, you won't find them in Rapid Prototyping with JS.

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

"Our tests are broken again!" "Why does the suite take so long to run?" "What value are we getting from these tests anyway?" Solve your testing problems by building and maintaining quality software with RSpec - the popular BDD-flavored Ruby testing framework. This definitive guide from RSpec's lead developer shows you how to use RSpec to drive more maintainable designs, specify and document expected behavior, and prevent regressions during refactoring. Build a project using RSpec to design, describe, and test the behavior of your code. Whether you're new to automated tests or have been using them for years, this book will help you write more effective tests. RSpec has been downloaded more than 100 million times and has inspired countless test frameworks in other languages. Use this influential Ruby testing framework to iteratively develop a project with the confidence that comes from well-tested code. This book guides

you through creating a Ruby project with RSpec, and explores the individual components in detail. Start by learning the basics of installing and using RSpec. Then build a real-world JSON API, using RSpec throughout the process to drive a BDD-style outside-in workflow. Apply an effective test strategy to write fast, robust tests that support evolutionary design through refactoring. The rest of the book provides the definitive guide to RSpec's components. Use rspec-core's metadata to slice and dice your spec suite. Dig into rspec-expectations' matchers: compose them in flexible ways, specify expected outcomes with precision, and diagnose problems quickly with the help of good failure messages. Write fast, isolated tests with rspec-mocks' test doubles while pushing your code toward simpler interfaces. The authors, with a combined 20 years of automated testing experience, share testing wisdom that will lead to a fun, productive testing experience. What You Need: To follow along with the book, you'll need Ruby 2.2+. The book will guide you through installing RSpec 3 and setting up a new project to use it.

Get to grips with the AWS Amplify framework and use it to build scalable cloud-native progressive web apps with React and cross-platform mobile apps with React Native in TypeScript Key Features Explore the capabilities of AWS Amplify with popular app frameworks for both web and mobile app platforms Build your first cloud-native web and mobile applications using AWS Amplify Leverage AWS Amplify to design GraphQL APIs for your web and mobile applications Book Description AWS Amplify is a modern toolkit that includes a command line interface (CLI); libraries for JS, iOS, and Android programming; UI component libraries for frameworks like React, Angular, and Vue.js for web development, and React Native and Flutter for mobile development. You'll begin by learning how to build AWS Amplify solutions with React and React Native with TypeScript from scratch, along with integrating it with existing solutions. This book will show you the fastest way to build a production-ready minimum viable product (MVP) within days instead of years. You'll also discover how to increase development speed without compromising on quality by adopting behavior-driven development (BDD) and Cypress for end-to-end test automation, as well as the Amplify build pipeline (DevOps or CI/CD pipeline) to ensure optimal quality throughout continuous test automation and continuous delivery. As you advance, you'll work with React to determine how to build progressive web apps (PWAs) with Amplify and React Native for cross-platform mobile apps. In addition to this, you'll find out how to set up a custom domain name for your new website and set up the AWS Amplify Admin UI for managing the content of your app effectively. By the end of this AWS book, you'll be able to build a full-stack AWS Amplify solution all by yourself. What you will learn Build React and React Native apps with Amplify and TypeScript Explore pre-built Amplify UI components for rapid prototyping Add user management with Amplify authentication to your app Use Amplify GraphQL to create a blog post Discover how to upload photos to Amplify Storage Enable DevOps with the Amplify pipeline for your app Get to grips with BDD and test automation with Cypress and Cucumber Set up a custom domain name for your website and manage app content with the Amplify Admin UI Who this book is for This book is for developers and tech companies looking to develop cloud-native products rapidly with the AWS ecosystem. Web and mobile developers with little-to-no experience in TypeScript programming will also find this book helpful. Although no prior experience with AWS or TypeScript is required, basic familiarity with modern frameworks such as React and React Native is useful.

Summary Ext JS in Action, Second Edition teaches Ext JS from the ground up. You'll start with a quick overview of the framework and then explore the core components by diving into complete examples, engaging illustrations, and crisp, straightforward explanations. You'll feel like you have an expert guide right at your elbow teaching you important Ext techniques and offering insight into its inner workings. Along the way, you'll learn the best practices for building and scaling full-featured web applications, including how to customize and build Ext widgets. Fully revised for Ext JS 4.0. About this Book Ext JS is a mature JavaScript web application framework that provides modern UI widgets and an advanced MVC architecture. It helps you manage tedious boilerplate and minimize hand-coded HTML and browser incompatibilities. Ext JS in Action, Second Edition starts with a quick overview of the framework and then explores the core components by diving into complete examples, engaging illustrations, and clear explanations. You'll feel like you have an expert guide at your elbow as you learn the best practices for building and scaling full-featured web applications. A working knowledge of JavaScript is assumed. No prior experience with Ext JS is required. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside Building professional web apps with Ext JS Stamping out DOM fragments with templates Customizing and building Ext widgets Masterful UI design Fully revised for Ext JS version 4.0 About the Authors Jay Garcia is a well-known member of the Ext JS community and a contributor to the framework. He wrote Sencha Touch in Action. Grgur Grisogono founded SourceDevCon in London, UK and Split, Croatia. Jacob Andresen is a consultant specializing in large scale internet applications. Table of Contents PART 1 INTRODUCTION TO EXT JS 4.0 A framework apart DOM manipulation Components and containers PART 2 EXT JS COMPONENTS Core UI components Exploring layouts Forms in Ext JS The data store The grid panel Taking root with trees Drawing and charting Remote method invocation with Ext Direct Drag-and-drop PART 3 BUILDING AN APPLICATION Class system foundations Building an application Automated testing will help you write high-quality software in less time, with more confidence, fewer bugs, and without constant manual oversight. Testing JavaScript Applications is a guide to building a comprehensive and reliable JS application testing suite, covering both how to write tests and how JS testing tools work under the hood. Automated testing will help you write high-quality software in less time, with more confidence, fewer bugs, and without constant manual oversight. Testing JavaScript Applications is a guide to building a comprehensive and reliable JS application testing suite, covering both how to write tests and how JS testing tools work under the hood. Testing JavaScript Applications teaches you how to create JavaScript tests that are targeted to your application's specific needs. Through dozens of detailed code samples that you can apply to your own projects, you'll learn how to write tests for both backend and frontend applications, covering the full spectrum of testing types. Taking on the role of a developer for a bakery's

web store, you'll learn to validate different aspects including databases, third-party services, and how to spin-up a real browser instance to interact with the entire application. All examples are delivered using the popular testing tool Jest and modern packages of the JavaScript ecosystem. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

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

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