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importance of designing a  
comprehensive testing strategy  
to ensure efficient shipping and  
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production. This book shows  
you how to utilize test-driven  
development (TDD), a widely  
adopted industry practice, for  
testing your Go apps at  
different levels. You'll also  
explore challenges faced in  
testing concurrent code, and  
learn how to leverage generics  
and write fuzz tests. The book  
begins by teaching you how to  
use TDD to tackle various  
problems, from simple  
mathematical functions to web  
apps. You'll then learn how to  
structure and run your unit  
tests using Go's standard  
testing library, and explore two  
popular testing frameworks,  
Testify and Ginkgo. You'll also  
implement test suites using

table-driven testing, a popular  
Go technique. As you advance,  
you'll write and run behavior-  
driven development (BDD)  
tests using Ginkgo and Godog.  
Finally, you'll explore the tricky  
aspects of implementing and  
testing TDD in production,  
such as refactoring your code  
and testing microservices  
architecture with contract  
testing implemented with Pact.  
All these techniques will be  
demonstrated using an  
example REST API, as well as  
smaller bespoke code  
examples. By the end of this  
book, you'll have learned how  
to design and implement a  
comprehensive testing strategy  
for your Go applications and  
microservices architecture.  
What you will learn Create  
practical Go unit tests using  
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suites for HTTP web  
applications Write BDD-style  
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for If you are an intermediate-  
level developer or software  
testing professional who knows  
Go fundamentals and is looking  
to deliver projects with Go,  
then this book is for you.  
Knowledge of Go syntax,

structs, functions, and interfaces will help you get the most out of this book. "Unit testing allows the automation of the testing process and helps you discover errors contained in more complex pieces of the application. It enhances test coverage because attention is given to each unit. Writing unit tests will help you improve your JavaScript code before you even start writing it. This course will teach you to use unit testing in your JavaScript applications and covers tools and techniques you'll need to write unit tests for your code. You will learn how to test applications using Jasmine, Mocha, Ava, Tape, and Intern. By the end of the course, you will be able to perform unit testing using JavaScript to deliver better code."--Resource description page. Unit test your Vue.js components with this fully-featured JavaScript testing framework Key Features Understand the various testing styles and their purpose Gain insight into how to test methods by avoiding dependencies Explore snapshot testing and its applications Book Description Unit testing in modern component-based JavaScript frameworks is not straightforward. You need a test suite that is reliable and runs quickly. Components are connected to one another, and the browser adds a layer of UI, which makes everything interdependent while we test components in isolation. Jest is a fully-featured JavaScript testing framework that will do all your work for you. This book shows you how to test Vue.js components easily and take

advantage of the fully-featured Jest testing framework with the aid of practical examples. You'll learn the different testing styles and their structures. You'll also explore how your Vue.js components respond to various tests. You'll see how to apply techniques such as snapshot testing, shallow rendering, module dependency mocking, and module aliasing to make your tests smooth and clean. By the end of this book, you'll know all about testing your components by utilizing the features of Jest. What you will learn Set up a Vue-test project to get started with Jest Unit test your components using techniques such as shallow rendering Gain insights into how to test the reactive parts in the logic of the Vue.js components Explore how to test deeply rendered Vue.js components Perform easy and quick tests with module dependency mocking, module aliasing, and more Know-how and when to use snapshot testing Who this book is for If you are a programmer looking to make your development process smooth and bug-free, this is an ideal book for you. Prior knowledge and experience of JavaScript will help you quickly and easily grasp the concepts explained in this book. Testing JavaScript Applications teaches you how to implement an automated testing plan for JavaScript-based web applications. Summary 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. You'll learn from Lucas de Costa, a core contributor to popular JS testing libraries, as he shares a quality mindset for making testing decisions that deliver a real contribution to your business. You'll benefit from informative explanations and diagrams, easily-transferable code samples, and useful tips on using the latest and most consolidated libraries and frameworks of the JavaScript ecosystem. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Automated testing is essential to delivering good JavaScript applications every time. A complete testing strategy needs to cover functions in isolation, integration between different parts of your code, and correctness from the end user's perspective. This book will teach you how to deliver reliable software quickly and confidently. About the book Testing JavaScript Applications teaches you how to implement an automated testing plan for JavaScript-based web applications. It describes practical testing strategies, covers useful tools and libraries, and explains how to foster a culture of quality. In this clearly-written, example-rich book, you'll explore approaches for both backend and frontend applications and learn how to validate your

software much more quickly and reliably. What's inside Unit, end-to-end, and integration testing Managing test cost and complexity Practicing test-driven development Dealing with external dependencies Tools like Jest and Cypress About the reader For junior JavaScript developers. About the author Lucas da Costa is a core maintainer of Chai and Sinon.JS, two of the most popular testing tools in the JavaScript ecosystem, and contributed to numerous other open-source projects, including Jest. Table of Contents PART 1 - TESTING JAVASCRIPT APPLICATIONS 1 An introduction to automated testing 2 What to test and when? Part 2 - WRITING TESTS 3 Testing techniques 4 Testing backend applications 5 Advanced backend testing techniques 6 Testing frontend applications 7 The React testing ecosystem 8 Testing React applications 9 Test-driven development 10 UI-based end-to-end testing 11 Writing UI-based end-to-end tests PART 3 - BUSINESS IMPACT 12 Continuous integration and continuous delivery 13 A culture of quality 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. You'll learn from Lucas de

Costa, a core contributor to popular JS testing libraries, as he shares a quality mindset for making testing decisions that deliver a real contribution to your business. You'll benefit from informative explanations and diagrams, easily-transferable code samples, and useful tips on using the latest and most consolidated libraries and frameworks of the JavaScript ecosystem. about the technology No developer wants to waste time making sure every application feature still works whenever they push new code to production. Thankfully, automated testing delivers quick and precise feedback on whether your application still functions correctly every time you update it. With automated testing, you can validate your application with a single command--and unlike humans, machines don't forget steps or make mistakes! about the book Testing JavaScript Applications is a guide to creating JavaScript tests that are targeted to your application's specific needs. Dripping with the insight author Lucas da Costa has developed as a core contributor to some of the most popular JS testing libraries, this book offers 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 so you can pick an approach that's right for you. 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. what's inside Writing practical tests that make a real business contribution Writing tests for both front-end and back-end applications Managing the costs and complexity of your tests Practicing test-driven development Dealing with external dependencies, like databases or third-party APIs Supporting tests by creating a "culture of quality" about the reader For junior JavaScript developers. No testing experience required. about the author Lucas da Costa is a core maintainer of Chai and Sinon.JS, two of the most popular testing tools in the JavaScript ecosystem. He has also contributed to Jest and other relevant open-source projects. Lucas is committed to a culture of sharing and has spoken at major software engineering conferences, including JSConf Colombia, FluentConf, HolyJS, CityJSConf London, and many others. Summary Testing Angular Applications is an example-rich, hands-on guide that gives you the real-world techniques you need to thoroughly test all parts of your Angular applications. By the end of this book, you'll be able to confidently write unit and end-to-end tests for Angular applications in TypeScript. Foreword by Brad Green, Google. Purchase of the print book includes a free eBook in

PDF, Kindle, and ePub formats from Manning Publications. About the Technology Don't leave the success of your mission-critical Angular apps to chance. Proper testing improves code quality, reduces maintenance costs, and rewards you with happy users. New tools and best practices can streamline and automate all aspects of testing web apps, both in development and in production. This book gets you started. About the Book Testing Angular Applications teaches you how to make testing an essential part of your development and production processes. You'll start by setting up a simple unit testing system as you learn the fundamental practices. Then, you'll fine-tune it as you discover the best tests for Angular components, directives, pipes, services, and routing. Finally, you'll explore end-to-end testing, mastering the Protractor framework, and inserting Angular apps into your continuous integration pipeline. What's inside Getting to know TypeScript Writing and debugging unit tests Writing and debugging end-to-end tests with Protractor Building continuous integration for your entire test suite About the Reader This book is for readers with intermediate JavaScript skills. About the Author Jesse Palmer is a senior engineering manager at Handshake. Corinna Cohn is a single-page web application specialist. Mike Giambalvo and Craig Nishina are engineers at Google. Table of Contents Introduction to testing Angular applications PART 1 - Unit

testing Creating your first tests Testing components Testing directives Testing pipes Testing services Testing the router PART 2 - End-to-end testing Getting started with Protractor Understanding timeouts Advanced Protractor topics PART 3 - Continuous integration Continuous integration Appendix A - Setting up the sample project Appendix B - Additional resources Teachers will save valuable time through the use of suggested activities, assessment notes, mark schemes and teaching ideas. Teachers will benefit from further advice on developing an enquiry-based approach, assisting pupils with Special Educational Needs and incorporating cross-curricular themes. Pupils will learn vital IT skills through the use of worksheets demonstrating how electronic media can be used to support their geographical studies. 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](http://tddjs.com), contains all of the book's code listings and additional resources. The Framework Edition Assessment Resource Banks provide End-of-Topic tests to help you with evidence for your assessment of Sc2-4, and help you arrive at a level for your teacher assessment. Design, build and deploy robust web applications using ASP.NET 6, Angular 13, and Entity Framework Core Key FeaturesThe most up-to-date book that covers cutting-edge features released in ASP.NET Core 6 and Angular 13Create a production-ready Single-Page Application (SPA) or Progressive Web Application

(PWA) Adopt a full-stack approach to handle data management, API documentation, Web APIs, end-to-end testing, security, and deployment. Book Description Every full-stack ninja needs the tools to operate on front-end and back-end application development. This web app development book takes a hands-on, project-based approach to provide you with all the tools and techniques that web developers need to create, debug, and deploy efficient web applications using ASP.NET Core and Angular. The fifth edition has been updated to cover advanced topics such as Minimal APIs, Web APIs with GraphQL, real-time updates with SignalR, and new features in .NET 6 and Angular 13. You begin by building a data model with Entity Framework Core, alongside utilizing the Entity Core Fluent API and EntityTypeConfiguration class. You'll learn how to fetch and display data and handle user input with Angular reactive forms and front-end and back-end validators for maximum effect. Later, you will perform advanced debugging and explore the unit testing features provided by xUnit.net (.NET 6) and Jasmine, as well as Karma for Angular. After adding authentication and authorization to your apps, you will explore progressive web applications, learning about their technical requirements, testing processes, and how to convert a standard web application to a PWA. By the end of this web development book, you will understand how

to tie together the front-end and back-end to build and deploy secure and robust web applications. What you will learn Use the new Visual Studio Standalone TypeScript Angular template Implement and consume a Web API interface with ASP.NET Core Set up an SQL database server using a local instance or a cloud datastore Perform C# and TypeScript debugging using Visual Studio 2022 Create TDD and BDD unit tests using xUnit, Jasmine, and Karma Perform DBMS structured logging using providers such as SeriLog Deploy web apps to Azure App Service using IIS, Kestrel, and NGINX Learn to develop fast and flexible Web APIs using GraphQL Add real-time capabilities to Angular apps with ASP.NET Core SignalR Who this book is for This book is for experienced ASP.NET developers who already possess some familiarity with ASP.NET Core and Angular and are looking to learn how to use them effectively together. The fully documented code samples (also available on GitHub) and the step-by-step implementation tutorials make this book easy to follow. Ready to learn Rails? Get up to speed using the framework's latest release. In this Live Edition, Learning Rails has been updated to cover Rails 2.3.5, making it an ideal guide for Rails beginners. Unlike most Rails books, Learning Rails is for web developers, and not for programmers. Rather than begin with the inner layers of a Rails web application -- the models and controllers -- this

book approaches Rails development from the outer layer: the view side of an application. You'll start from the foundations of the Web you already know, and learn how to create something visible with Rails before reaching the more difficult database models and controller code. Each chapter includes exercises and review questions so you can test your understanding as you go. Present content by building an application with a basic view and a simple controller, while learning Ruby along the way Build forms and process their results, progressing from simple to more complex Connect forms to models by setting up a database, and use Rails' Active Record to create code that maps to database structures Use Rails scaffolding to build applications from a view-centric perspective Add common web application elements such as sessions, cookies, and authentication Build applications that combine data from multiple tables Create simple but dynamic interfaces with Rails and Ajax O'Reilly Live Edition books give you access to updates to topics in between editions of a book. A Live Edition is an electronic and print-on-demand version of the book that is updated when there is a significant change to the software or technology the book covers, keeping you on top of .X releases or major fixes. A comprehensive, hands-on guide on unit testing framework for Java programming language About This Book In-depth coverage of Jupiter, the new programming and extension model provided



by JUnit 5 Integration of JUnit 5 with other frameworks such as Mockito, Spring, Selenium, Cucumber, and Docker Best practices for writing meaningful Jupiter test cases Who This Book Is For This book is for Java software engineers and testers. If you are a Java developer who is keen on improving the quality of your code and building world class applications then this book is for you. Prior experience of the concepts of automated testing will be helpful. What You Will Learn The importance of software testing and its impact on software quality The options available for testing Java applications The architecture, features and extension model of JUnit 5 Writing test cases using the Jupiter programming model How to use the latest and advanced features of JUnit 5 Integrating JUnit 5 with existing third-party frameworks Best practices for writing meaningful JUnit 5 test cases Managing software testing activities in a living software project In Detail When building an application it is of utmost importance to have clean code, a productive environment and efficient systems in place. Having automated unit testing in place helps developers to achieve these goals. The JUnit testing framework is a popular choice among Java developers and has recently released a major version update with JUnit 5. This book shows you how to make use of the power of JUnit 5 to write better software. The book begins with an introduction to software quality and software testing. After that, you will see an in-

depth analysis of all the features of Jupiter, the new programming and extension model provided by JUnit 5. You will learn how to integrate JUnit 5 with other frameworks such as Mockito, Spring, Selenium, Cucumber, and Docker. After the technical features of JUnit 5, the final part of this book will train you for the daily work of a software tester. You will learn best practices for writing meaningful tests. Finally, you will learn how software testing fits into the overall software development process, and sits alongside continuous integration, defect tracking, and test reporting. Style and approach The book offers definitive and comprehensive coverage of all the Unit testing concepts with JUnit and its features using several real world examples so that readers can put their learning to practice almost immediately. This book is structured in three parts: Software testing foundations (software quality and Java testing) JUnit 5 in depth (programming and extension model of JUnit 5) Software testing in practice (how to write and manage JUnit 5 tests) About software development through constant testing. 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 untestable, 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. Summary The Art of Unit Testing, Second Edition guides you step by step from writing your first simple tests to developing robust test sets that are maintainable, readable, and trustworthy. You'll master the foundational ideas and quickly move to high-value subjects like mocks, stubs, and isolation, including frameworks such as Moq,

FakeItEasy, and Typemock Isolator. You'll explore test patterns and organization, working with legacy code, and even "untestable" code. Along the way, you'll learn about integration testing and techniques and tools for testing databases and other technologies. About this Book You know you should be unit testing, so why aren't you doing it? If you're new to unit testing, if you find unit testing tedious, or if you're just not getting enough payoff for the effort you put into it, keep reading. The Art of Unit Testing, Second Edition guides you step by step from writing your first simple unit tests to building complete test sets that are maintainable, readable, and trustworthy. You'll move quickly to more complicated subjects like mocks and stubs, while learning to use isolation (mocking) frameworks like Moq, FakeItEasy, and Typemock Isolator. You'll explore test patterns and organization, refactor code applications, and learn how to test "untestable" code. Along the way, you'll learn about integration testing and techniques for testing with databases. The examples in the book use C#, but will benefit anyone using a statically typed language such as Java or C++. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside Create readable, maintainable, trustworthy tests Fakes, stubs, mock objects, and isolation (mocking) frameworks Simple dependency injection techniques Refactoring legacy

code About the Author Roy Osherove has been coding for over 15 years, and he consults and trains teams worldwide on the gentle art of unit testing and test-driven development. His blog is at [ArtOfUnitTesting.com](http://ArtOfUnitTesting.com). Table of Contents PART 1 GETTING STARTED The basics of unit testing A first unit test PART 2 CORE TECHNIQUES Using stubs to break dependencies Interaction testing using mock objects Isolation (mocking) frameworks Digging deeper into isolation frameworks PART 3 THE TEST CODE Test hierarchies and organization The pillars of good unit tests PART 4 DESIGN AND PROCESS Integrating unit testing into the organization Working with legacy code Design and testability One skill that's essential for any professional JavaScript developer is the ability to write testable code. This book shows you what writing and maintaining testable JavaScript for the client- or server-side actually entails, whether you're creating a new application or rewriting legacy code. From methods to reduce code complexity to unit testing, code coverage, debugging, and automation, you'll learn a holistic approach for writing JavaScript code that you and your colleagues can easily fix and maintain going forward. Testing JavaScript code is complicated. This book helps experienced JavaScript developers simply the process considerably. Get an overview of Agile, test-driven development, and behavior-driven development Use

patterns from static languages and standards-based JavaScript to reduce code complexity

Learn the advantages of event-based architectures, including modularity, loose coupling, and reusability

Explore tools for writing and running unit tests at the functional and application level

Generate code coverage to measure the scope and effectiveness of your tests

Conduct integration, performance, and load testing, using Selenium or CasperJS

Use tools for in-browser, Node.js, mobile, and production debugging

Understand what, when, and how to automate your development processes \*

Treats LISP as a language for commercial applications, not a language for academic AI concerns. This could be considered to be a secondary text for the Lisp course that most schools teach . This would appeal to students who sat through a LISP course in college without quite getting it - so a "nostalgia" approach, as in "wow-lisp can be practical..."

\* Discusses the Lisp programming model and environment. Contains an introduction to the language and gives a thorough overview of all of Common Lisp's main features. \* Designed for experienced programmers no matter what languages they may be coming from and written for a modern audience—programmers who are familiar with languages like Java, Python, and Perl. \* Includes several examples of working code that actually does something useful like Web programming and database

access. Software testing is indispensable and is one of the most discussed topics in software development today. Many companies address this issue by assigning a dedicated software testing phase towards the end of their development cycle. However, quality cannot be tested into a buggy application. Early and continuous unit testing has been shown to be crucial for high quality software and low defect rates. Yet current books on testing ignore the developer's point of view and give little guidance on how to bring the overwhelming amount of testing theory into practice. Unit Testing in Java represents a practical introduction to unit testing for software developers. It introduces the basic test-first approach and then discusses a large number of special issues and problem cases. The book instructs developers through each step and motivates them to explore further. Shows how the discovery and avoidance of software errors is a demanding and creative activity in its own right and can build confidence early in a project. Demonstrates how automated tests can detect the unwanted effects of small changes in code within the entire system. Discusses how testing works with persistency, concurrency, distribution, and web applications. Includes a discussion of testing with C++ and Smalltalk. This Framework Edition Teacher Support Pack offers support and guidance. Bring your science lessons to life with Scientifica. Providing just the right proportion of

'reading' versus 'doing', these engaging resources are differentiated to support and challenge pupils of varying abilities. Master Spring basics and core topics, and share the authors' insights and real-world experiences with remoting, Hibernate, and EJB. Beyond the basics, you'll learn how to leverage the Spring Framework to build the various tiers and parts of an enterprise Java application: transactions, web and presentation tiers, deployment, and much more. A full sample application allows you to apply many of the technologies and techniques covered in Pro Spring 5 and see how they work together. This book updates the perennial bestseller with the latest that the new Spring Framework 5 has to offer. Now in its fifth edition, this popular title is by far the most comprehensive and definitive treatment of Spring available. It covers the new functional web framework and interoperability with Java 9. After reading this definitive book, you'll be armed with the power of Spring to build complex Spring applications, top to bottom. The agile, lightweight, open-source Spring Framework continues to be the de facto leading enterprise Java application development framework for today's Java programmers and developers. It works with other leading open-source, agile, and lightweight Java technologies such as Hibernate, Groovy, MyBatis, and more. Spring now works with Java EE and JPA 2 as well. What You'll Learn Discover what's new in Spring



Framework 5 Use the Spring Framework with Java 9 Master data access and transactions Work with the new functional web framework Create microservices and other web services Who This Book Is For Experienced Java and enterprise Java developers and programmers. Some experience with Spring highly recommended. Provides activity sheets that are written at different levels to suit a wider range of abilities. Contains chapter tests complete with details of assessment. Provides a variety of decision making activities, IT tasks and enquiry-based exercises. Close links to exercises in the book. Leverage the power of Typescript 2.0 using real-world examples About This Book Begin with the fundamentals of TypeScript and learn how to write better JavaScript code Build three amazing applications throughout the book Leverage the power of tools such as Angular 2 and NativeScript to build for the web as well as for mobile Who This Book Is For Web developers who would like to learn how to use TypeScript to build amazing applications will benefit from this book. What You Will Learn Design your first project in Visual Studio Learn about the different data types in TypeScript Create web applications in an object-oriented fashion using TypeScript Build a Trello application using TypeScript's complex features. Explore the tools available in a web application ecosystem to write unit test cases Deploy web

applications to cloud and assign resources to the application In Detail The TypeScript language, compiler, and open source development toolset brings JavaScript development up to the enterprise level. It allows you to use ES5, ES6, and ES7 JavaScript language features today, including classes, interfaces, generics, modules, and more. Its simple typing syntax enables building large, robust applications using object-oriented techniques and industry-standard design principles. This book aims at teaching you how to get up and running with TypeScript development in the most practical way possible. Taking you through two exciting projects built from scratch, you will learn the basics of TypeScript, before progressing to functions, generics, promises, and callbacks. Then, you'll get to implement object-oriented programming as well as optimize your applications with effective memory management. You'll also learn to test and secure your applications, before deploying them. Starting with a basic SPA built using Angular, you will progress on to building, maybe, a Chat application or a cool application. You'll also learn how to use NativeScript to build a cool mobile application. Each of these applications will be explained in detail, allowing you to grasp the concepts fast. By the end of this book, you will have not only built two amazing projects but you will also have the skills necessary to take your development to the next level. Style and

approach Example-based approach to get you quickly started with Typescript Summary Testing Vue.js Applications is a comprehensive guide to testing Vue components, methods, events, and output. Author Edd Yerburch, creator of the Vue testing utility, explains the best testing practices in Vue along with an evergreen methodology that applies to any web dev process. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Web developers who use the Vue framework love its reliability, speed, small footprint, and versatility. Vue's component-based approach and use of DOM methods require you to adapt your app-testing practices. Learning Vue-specific testing tools and strategies will ensure your apps run like they should. About the Book With Testing Vue.js Applications, you'll discover effective testing methods for Vue applications. You'll enjoy author Edd Yerburch's engaging style and fun real-world examples as you learn to use the Jest framework to run tests for a Hacker News application built with Vue, Vuex, and Vue Router. This comprehensive guide teaches the best testing practices in Vue along with an evergreen methodology that applies to any web dev process. What's inside Unit tests, snapshot tests, and end-to-end tests Writing unit tests for Vue components Writing tests for Vue mixins, Vuex, and Vue Router Advanced testing

techniques, like mocking About the Reader Written for Vue developers at any level. About the Author Edd Yerburgh is a JavaScript developer and Vue core team member. He's the main author of the Vue Test Utils library and is passionate about open source tooling for testing component-based applications. Table of Contents Introduction to testing Vue applications Creating your first test Testing rendered component output Testing component methods Testing events Understanding Vuex Testing Vuex Organizing tests with factory functions Understanding Vue Router Testing Vue Router Testing mixins and filters Writing snapshot tests Testing server-side rendering Writing end-to-end tests APPENDIXES A - Setting up your environment B - Running the production build C - Exercise answers Write fail-safe automation tests, device emulation, and browser automation using Puppeteer's Google-powered API Key Features Get up and running with Puppeteer and discover best practices for automation testing Automate your modern web applications using Jest and Mocha with Puppeteer Generate screenshots using Puppeteer and find out how they can be used for UI regression tests Book Description Puppeteer is an open source web automation library created by Google to perform tasks such as end-to-end testing, performance monitoring, and task automation with ease. Using real-world use cases, this book will take you on a pragmatic journey, helping you

to learn Puppeteer and implement best practices to take your automation code to the next level! Starting with an introduction to headless browsers, this book will take you through the foundations of browser automation, showing you how far you can get using Puppeteer to automate Google Chrome and Mozilla Firefox. You'll then learn the basics of end-to-end testing and understand how to create reliable tests. You'll also get to grips with finding elements using CSS selectors and XPath expressions. As you progress through the chapters, the focus shifts to more advanced browser automation topics such as executing JavaScript code inside the browser. You'll learn various use cases of Puppeteer, such as mobile devices or network speed testing, gauging your site's performance, and using Puppeteer as a web scraping tool. By the end of this UI testing book, you'll have learned how to make the most of Puppeteer's API and be able to apply it in your real-world projects. What you will learn Understand browser automation fundamentals Explore end-to-end testing with Puppeteer and its best practices Apply CSS Selectors and XPath expressions to web automation Discover how you can leverage the power of web automation as a developer Emulate different use cases of Puppeteer such as network speed tests and geolocation Get to grips with techniques and best practices for web scraping and web

content generation Who this book is for The book is for QA engineers, testing professionals, and frontend web developers alike who want to perform end-to-end testing using Google's developer tools. Web developers who want to learn how to use Puppeteer for generating content, scraping websites, and evaluating website performance will also find this book useful. Although knowledge of Node.js isn't necessary, basic JavaScript knowledge will assist with understanding the concepts covered. Have you ever felt frustrated working with someone else's code? Difficult-to-maintain source code is a big problem in software development today, leading to costly delays and defects. Be part of the solution. With this practical book, you'll learn 10 easy-to-follow guidelines for delivering Java software that's easy to maintain and adapt. These guidelines have been derived from analyzing hundreds of real-world systems. Written by consultants from the Software Improvement Group (SIG), this book provides clear and concise explanations, with advice for turning the guidelines into practice. Examples for this edition are written in Java, while our companion C# book provides workable examples in that language. Write short units of code: limit the length of methods and constructors Write simple units of code: limit the number of branch points per method Write code once, rather than risk copying buggy code Keep unit

interfaces small by extracting parameters into objects  
Separate concerns to avoid building large classes Couple architecture components loosely Balance the number and size of top-level components in your code Keep your codebase as small as possible Automate tests for your codebase Write clean code, avoiding "code smells" that indicate deeper problems Master high quality software development driven by unit tests About This Book Design and implement robust system components by means of the de facto unit testing standard in Java Reduce defect rate and maintenance effort, plus simultaneously increase code quality and development pace Follow a step-by-step tutorial imparting the essential techniques based on real-world scenarios and code walkthroughs Who This Book Is For No matter what your specific background as a Java developer, whether you're simply interested in building up a safety net to reduce regressions of your desktop application or in improving your server-side reliability based on robust and reusable components, unit testing is the way to go. This book provides you with a comprehensive but concise entrance advancing your knowledge step-wise to a professional level. What You Will Learn Organize your test infrastructure and resources reasonably Understand and write well structured tests Decompose your requirements into small and independently testable units Increase your testing efficiency with on-the-

fly generated stand-in components and deal with the particularities of exceptional flow Employ runners to adjust to specific test demands Use rules to increase testing safety and reduce boilerplate Use third party supplements to improve the expressiveness of your verification statements In Detail JUnit has matured to become the most important tool when it comes to automated developer tests in Java. Supported by all IDEs and build systems, it empowers programmers to deliver software features reliably and efficiently. However, writing good unit tests is a skill that needs to be learned; otherwise it's all too easy to end up in gridlocked development due to messed up production and testing code. Acquiring the best practices for unit testing will help you to prevent such problems and lead your projects to success with respect to quality and costs. This book explains JUnit concepts and best practices applied to the test first approach, a foundation for high quality Java components delivered in time and budget. From the beginning you'll be guided continuously through a practically relevant example and pick up background knowledge and development techniques step by step. Starting with the basics of tests organization you'll soon comprehend the necessity of well structured tests and delve into the relationship of requirement decomposition and the many-faceted world of test double usage. In conjunction with third-party

tools you'll be trained in writing your tests efficiently, adapt your test case environment to particular demands and increase the expressiveness of your verification statements. Finally, you'll experience continuous integration as the perfect complement to support short feedback cycles and quality related reports for your whole team. The tutorial gives a profound entry point in the essentials of unit testing with JUnit and prepares you for test-related daily work challenges. Style and approach This is an intelligible tutorial based on an ongoing and non-trivial development example. Profound introductions of concepts and techniques are provided stepwise as the programming challenges evolve. This allows you to reproduce and practice the individual skills thoroughly. This Framework Edition Teacher Support Pack offers support and guidance. Providing a course for Key Stage 3 and GCSE Geography, this flexible series is designed for pupils of differing abilities and working at different levels. It incorporates a broad range of teaching and learning methods, and each of the pupils' books is accompanied by a teacher's resource guide. How do successful agile teams deliver bug-free, maintainable software—iteration after iteration? The answer is: By seamlessly combining development and testing. On such teams, the developers write testable code that enables them to verify it using various types of automated

tests. This approach keeps regressions at bay and prevents “testing crunches”—which otherwise may occur near the end of an iteration—from ever happening. Writing testable code, however, is often difficult, because it requires knowledge and skills that cut across multiple disciplines. In *Developer Testing*, leading test expert and mentor Alexander Tarlinder presents concise, focused guidance for making new and legacy code far more testable. Tarlinder helps you answer questions like: When have I tested this enough? How many tests do I need to write? What should my tests verify? You’ll learn how to design for testability and utilize techniques like refactoring, dependency breaking, unit testing, data-driven testing, and test-driven development to achieve the highest possible confidence in your software. Through practical examples in Java, C#, Groovy, and Ruby, you’ll discover what works—and what doesn’t. You can quickly begin using Tarlinder’s technology-agnostic insights with most languages and toolsets while not getting buried in specialist details. The author helps you adapt your current programming style for testability, make a testing mindset “second nature,” improve your code, and enrich your day-to-day experience as a software professional. With this guide, you will Understand the discipline and vocabulary of testing from the developer’s standpoint Base developer tests on well-established testing techniques and best practices

Recognize code constructs that impact testability Effectively name, organize, and execute unit tests Master the essentials of classic and “mockist-style” TDD Leverage test doubles with or without mocking frameworks Capture the benefits of programming by contract, even without runtime support for contracts Take control of dependencies between classes, components, layers, and tiers Handle combinatorial explosions of test cases, or scenarios requiring many similar tests Manage code duplication when it can’t be eliminated Actively maintain and improve your test suites Perform more advanced tests at the integration, system, and end-to-end levels Develop an understanding for how the organizational context influences quality assurance Establish well-balanced and effective testing strategies suitable for agile teams Get more out of your legacy systems: more performance, functionality, reliability, and manageability Is your code easy to change? Can you get nearly instantaneous feedback when you do change it? Do you understand it? If the answer to any of these questions is no, you have legacy code, and it is draining time and money away from your development efforts. In this book, Michael Feathers offers start-to-finish strategies for working more effectively with large, untested legacy code bases. This book draws on material Michael created for his renowned Object Mentor seminars: techniques Michael has used in mentoring to help hundreds of developers,

technical managers, and testers bring their legacy systems under control. The topics covered include Understanding the mechanics of software change: adding features, fixing bugs, improving design, optimizing performance Getting legacy code into a test harness Writing tests that protect you against introducing new problems Techniques that can be used with any language or platform—with examples in Java, C++, C, and C# Accurately identifying where code changes need to be made Coping with legacy systems that aren’t object-oriented Handling applications that don’t seem to have any structure This book also includes a catalog of twenty-four dependency-breaking techniques that help you work with program elements in isolation and make safer changes. Most people who write software have at least some experience with unit testing—even if they don’t call it that. If you have ever written a few lines of throwaway code just to try something out, you’ve built a unit test. On the other end of the software spectrum, many large-scale applications have huge batteries of test cases that are repeatedly run and added to throughout the development process. What are unit test frameworks and how are they used? Simply stated, they are software tools to support writing and running unit tests, including a foundation on which to build tests and the functionality to execute the tests and report their results. They are not solely tools for



testing; they can also be used as development tools on a par with preprocessors and debuggers. Unit test frameworks can contribute to almost every stage of software development and are key tools for doing Agile Development and building big-free code. Unit Test Frameworks covers the usage, philosophy, and architecture of unit test frameworks. Tutorials and example code are platform-independent and compatible with Windows, Mac OS X, Unix, and Linux. The companion CD includes complete versions of JUnit, CppUnit, NUnit, and XMLUnit, as well as the complete set of code examples. Unit test your Vue.js components with this fully-featured JavaScript testing framework Key Features Understand the various testing styles and their purpose Gain insight into how to test methods by avoiding dependencies Explore snapshot testing and its applications Book Description Unit testing in modern component-based JavaScript frameworks is not straightforward. You need a test suite that is reliable and runs quickly. Components are connected to one another, and the browser adds a layer of UI, which makes everything interdependent while we test components in isolation. Jest is a fully-featured JavaScript testing framework that will do all your work for you. This book shows you how to test Vue.js components easily and take advantage of the fully-featured Jest testing framework with the aid of practical examples. You'll learn the different testing

styles and their structures. You'll also explore how your Vue.js components respond to various tests. You'll see how to apply techniques such as snapshot testing, shallow rendering, module dependency mocking, and module aliasing to make your tests smooth and clean. By the end of this book, you'll know all about testing your components by utilizing the features of Jest. What you will learn Set up a Vue-test project to get started with Jest Unit test your components using techniques such as shallow rendering Gain insights into how to test the reactive parts in the logic of the Vue.js components Explore how to test deeply rendered Vue.js components Perform easy and quick tests with module dependency mocking, module aliasing, and more Know-how and when to use snapshot testing Who this book is for If you are a programmer looking to make your development process smooth and bug-free, this is an ideal book for you. Prior knowledge and experience of JavaScript will help you quickly and easily grasp the concepts explained in this book. Pro Spring updates the perennial bestseller with the latest that the Spring Framework 4 has to offer. Now in its fourth edition, this popular book is by far the most comprehensive and definitive treatment of Spring available. With Pro Spring, you'll learn Spring basics and core topics, and share the authors' insights and real-world experiences with remoting, Hibernate, and EJB. Beyond the basics, you'll learn how to leverage the

Spring Framework to build the various tiers or parts of an enterprise Java application: transactions, web and presentation tiers, deployment, and much more. A full sample application allows you to apply many of the technologies and techniques covered in this book and see how they work together. The agile, lightweight, open-source Spring Framework continues to be the de facto leading enterprise Java application development framework for today's Java programmers and developers. It works with other leading open-source, agile, and lightweight Java technologies such as Hibernate, Groovy, MyBatis, and more. Spring now works with Java EE and JPA 2 as well. After reading this definitive book, you'll be armed with the power of Spring to build complex Spring applications, top to bottom. Bring your science lessons to life with Scientifica. Providing just the right proportion of 'reading' versus 'doing', these engaging resources are differentiated to support and challenge pupils of varying abilities. Radically improve your testing practice and software quality with new testing styles, good patterns, and reliable automation. Key Features A practical and results-driven approach to unit testing Refine your existing unit tests by implementing modern best practices Learn the four pillars of a good unit test Safely automate your testing process to save time and money Spot which tests need refactoring, and which need to be deleted entirely



Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Great testing practices maximize your project quality and delivery speed by identifying bad code early in the development process. Wrong tests will break your code, multiply bugs, and increase time and costs. You owe it to yourself—and your projects—to learn how to do excellent unit testing. Unit Testing Principles, Patterns and Practices teaches you to design and write tests that target key areas of your code including the domain model. In this clearly written guide, you learn to develop professional-quality tests and test suites and integrate testing throughout the application life cycle. As you adopt a testing mindset, you'll be amazed at how better tests cause you to write better code. What You Will Learn Universal guidelines to assess any unit test Testing to identify and avoid anti-patterns Refactoring tests along with the production code Using integration tests to verify the whole system This Book Is Written For For readers who know the basics of unit testing. Examples are written in C# and can easily be applied to any language. About the Author Vladimir Khorikov is an author, blogger, and Microsoft MVP. He has mentored numerous teams on the ins and outs of unit testing. Table of Contents: PART 1 THE BIGGER PICTURE 1 | The goal of unit testing 2 | What is a unit test? 3 | The anatomy of a unit test PART 2 MAKING YOUR TESTS WORK

FOR YOU 4 | The four pillars of a good unit test 5 | Mocks and test fragility 6 | Styles of unit testing 7 | Refactoring toward valuable unit tests PART 3 INTEGRATION TESTING 8 | Why integration testing? 9 | Mocking best practices 10 | Testing the database PART 4 UNIT TESTING ANTI-PATTERNS 11 | Unit testing anti-patterns Perform fast, easy and reliable cross-browser testing with practical demonstrations KEY FEATURES ● Access to Visual testing, Cypress Studio, GitHub Actions, and the Cypress Dashboard. ● Simple and practical illustrations on using Docker images, CI/CD pipelines and headless Cypress test runner. ● Examples and solutions on using Cucumber for cross-browser and cross-platform testing. DESCRIPTION "Web Testing with Cypress" teaches you to test web apps on any browser or platform with zero environment setup in a developer-friendly, end-to-end web testing environment. When you read this book, you'll be able to create, run and debug test automation scripts in Javascript without wasting any time. You will execute tests in real-time while you create your applications and begin troubleshooting. You will work on Cucumber + TDD/BDD integration, CI testing, Cypress Dashboard, GitHub Actions, and Cypress Docker Images. Advanced topics such as running sequential and parallel tests, load balancing, cross-platform testing and Cypress-Driven Development are also trained in this book. While you

master in writing automated tests, you'll also learn about Cypress' time travel, real-time reloads, pictures and videos, network traffic control, and live debugging features. As you progress through the book, you'll learn about cutting-edge testing methodologies, such as test-driven development (TDD), sanity testing (SST), and left shift testing (LTST). It also includes case studies and easy demos for non-technical users to help them write scripts in simple language to undertake application testing. WHAT YOU WILL LEARN ● Explore Cypress capabilities, including forms, elements, action fields, and Cypress Studio. ● Learn to write and run automated cross-browser and cross-platform tests. ● Execute Sequential and Parallel testing, Shift Left testing, and Sanity testing. ● Make use of GitHub Actions, Cypress Dashboard, Cucumber, and NodeJS. ● Write test code, run CI testing and record test results. WHO THIS BOOK IS FOR This book is for Test Automation Engineers, QA professionals, Web Developers, and anyone who wants to test their web apps from start to finish with automation. This book assumes no prior knowledge of Cypress or testing concepts. TABLE OF CONTENTS 1. Introduction to Cypress 2. Cypress vs. Selenium WebDriver 3. Write Your First Tests 4. Advanced Testing Techniques 5. Introducing CI/CD 6. Introduction to Cypress Dashboard 7. Integration of CI/CD into existing projects 8. Working with Tests as a Team 9. Cypress Driven Development

(CDD) Approach 10. Tests for product managers using Cucumber 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