

Cucumber Documentation

Find out how to craft effective, business-oriented Java EE 8 applications that target customer's demands in the age of Cloud platforms and container technology. About This Book Understand the principles of modern Java EE and how to realize effective architectures Gain knowledge of how to design enterprise software in the age of automation, Continuous Delivery and Cloud platforms Learn about the reasoning and motivations behind state-of-the-art enterprise Java technology, that focuses on business Who This Book Is For This book is for experienced Java EE developers who are aspiring to become the architects of enterprise-grade applications, or software architects who would like to leverage Java EE to create effective blueprints of applications. What You Will Learn What enterprise software engineers should focus on Implement applications, packages, and components in a modern way Design and structure application architectures Discover how to realize technical and cross-cutting aspects Get to grips with containers and container orchestration technology Realize zero-dependency, 12-factor, and Cloud-native applications Implement automated, fast, reliable, and maintainable software tests Discover distributed system architectures and their requirements In Detail Java EE 8 brings with it a load of features, mainly targeting newer architectures such as microservices, modernized security APIs, and cloud deployments. This book will teach you to design and develop modern, business-oriented applications using Java EE 8. It shows how to structure systems and applications, and how design patterns and Domain Driven Design aspects are realized in the age of Java EE 8. You will learn about the concepts and principles behind Java EE applications, and how to effect communication, persistence, technical and cross-cutting concerns, and asynchronous behavior. This book covers Continuous Delivery, DevOps, infrastructure-as-code, containers, container orchestration technologies, such as Docker and Kubernetes, and why and especially how Java EE fits into this world. It also covers the requirements behind containerized, zero-dependency applications and how modern Java EE application servers support these approaches. You will also learn about automated, fast, and reliable software tests, in different test levels, scopes, and test technologies. This book covers the prerequisites and challenges of distributed systems that lead to microservice, shared-nothing architectures. The challenges and solutions of consistency versus scalability will further lead us to event sourcing, event-driven architectures, and the CQRS principle. This book also includes the nuts and bolts of application performance as well as how to realize resilience, logging, monitoring and tracing in a modern enterprise world. Last but not least the demands of securing enterprise systems are covered. By the end, you will understand the ins and outs of Java EE so that you can make critical design decisions that not only live up to, but also surpass your clients' expectations. Style and approach This book focuses on solving business problems and meeting customer demands in the enterprise world. It covers how to create enterprise applications with reasonable technology choices, free of cargo-cult and over-engineering. The aspects shown in this book not only demonstrate how to realize a certain solution, but also explain its motivations and reasoning.

Software architecture is an important factor for the success of any software project. In the context of systematic design and construction, solid software architecture ensures the fulfilment of quality requirements such as expandability, flexibility, performance, and time-to-market. Software architects reconcile customer requirements with the available technical options and the prevailing conditions and constraints. They ensure the creation of appropriate structures and smooth interaction of all system components. As team players, they work closely with software developers and other parties involved in the project. This book gives you all the basic know-how you need to begin designing scalable system software architectures. It goes into detail on all the most important terms and concepts and how they relate to other IT practices. Following on from the basics, it describes the techniques and methods required for the planning, documentation, and quality management of software architectures. It details the role, the tasks, and the work environment of a software architect, as well as looking at how the job itself is embedded in company and project structures. The book is designed for self-study and covers the curriculum for the Certified Professional for Software Architecture – Foundation Level (CPSA-F) exam as defined by the International Software Architecture Qualification Board (iSAQB).

This book includes 12 chapters + 1 bonus chapter How will this book help you? Whether you're a seasoned Product Manager, Product Owner or are new to the Agile world - there's always something new to learn. If you are looking to get certified as a Product Owner, or need a different perspective on how to handle practical product scenarios, this book will help. This is what you get: Part 1: All the Scrum basics - Whether you are new, or need a knowledge refresh, Part 1 will cover the main points about the history of Scrum, the Roles, Artifacts and Events. This part is straight to the point but comprehensive enough to update you with everything that is Scrum. Part 2: All about Products and Product Ownership - What does a Product Owner do? What don't they do? How do they get a good product out in the market? What tools can they use to help them? This part answers all these questions, and more! Not only does it cover the Product Owner fundamentals, but it includes short descriptions of business and marketing concepts that make a product succeed. This section exceeds the basics of Product Ownership - you'll have a good grasp of everything from product strategy to product metrics, market personas and more! Part 3: All about the action - The day to day of a Product Owner, Planning releases, Participating in Scrum Events, Managing the Product Backlog, Requirements gathering - it's all there! We've even included a bonus section that goes through the most common challenging situations that a Product Owner encounters, and how to tackle them. Reading this book well, will help you get through the first and second PSPOTM certifications.

Build a microservices architecture with Spring Boot, by evolving an application from a small monolith to an event-driven architecture composed of several services. This book follows an incremental approach to teach microservice structure, test-driven development, Eureka, Ribbon, Zuul, and end-to-end tests with Cucumber. Author Moises Macero follows a very pragmatic approach to explain the benefits of using this type of software architecture, instead of keeping you distracted with theoretical concepts. He covers some of the state-of-the-art techniques in computer programming, from a practical point of view. You'll focus on what's important, starting with the minimum viable product but keeping the flexibility to evolve it. What You'll Learn Build microservices with Spring Boot Use event-driven architecture and messaging with RabbitMQ Create RESTful services with Spring Master service discovery with Eureka and load balancing with Ribbon Route requests with Zuul as your API gateway Write end-to-end tests for an event-driven architecture using Cucumber Carry out continuous integration and deployment Who This Book Is For Those with at least some prior experience with Java programming. Some prior exposure to Spring Boot recommended but not required.

For more than a decade, Ruby developers have turned to The Ruby Way for reliable “how-to” guidance on effective Ruby programming. Now, Hal Fulton and André Arko have thoroughly updated this classic guide to cover new language enhancements and developers' experiences through Ruby 2.1. The new edition illuminates Ruby 2.1 through 400+ examples, each answering the question: “How do I do this in Ruby?” For each example, they present both a task description and realistic technical constraints. Next, they walk step-by-step through presenting one good solution, offering detailed explanations to promote deeper understanding. Conveniently organized by topic, The Ruby Way, Third Edition makes it easier than ever to find the specific solution you want—and to write better code by reflecting Ruby's unique philosophy and spirit. Coverage includes Ruby 2.1 overview: terminology, philosophy, and basic principles Best practices for strings and regular expressions Efficiently internationalizing your code Performing calculations (including trigonometry, calculus, statistics, and time/date calculations) Working with “Rubyesque” objects such as symbols and ranges Using arrays, hashes, stacks, queues, trees, graphs, and other data structures Efficiently storing data with YAML, JSON, and SQLite3 Leveraging object-oriented and dynamic features, from multiple constructors to program inspection Building GUIs with Shoes 4, Ruby/Tk, Ruby/GTK3, QtRuby, and other toolkits Improving thread performance by understanding Ruby's synchronization methods and avoiding its pitfalls Automating system administration with Ruby Data

formats: JSON, XML, RSS, Atom, RMagick, PDF, and more Testing and debugging with RSpec, Minitest, Cucumber, byebug, and pry Measuring Ruby program performance Packaging and distributing code, and managing dependencies with Bundler Network programming: clients, time servers, POP, SMTP, IMAP, Open-URI Web applications: HTTP servers, Rails, Sinatra, HTML generation, and more Writing distributed Ruby software with drb Choosing modern development tools that maximize your productivity All source code for this book may be downloaded at www.rubyhacker.com. informat.com/aw informat.com/ruby rubyhacker.com/therubyway therubyway.io

Follow this handbook to build, configure, tune, and secure Apache Cassandra databases. Start with the installation of Cassandra and move on to the creation of a single instance, and then a cluster of Cassandra databases. Cassandra is increasingly a key player in many big data environments, and this book shows you how to use Cassandra with Apache Spark, a popular big data processing framework. Also covered are day-to-day topics of importance such as the backup and recovery of Cassandra databases, using the right compression and compaction strategies, and loading and unloading data. Expert Apache Cassandra Administration provides numerous step-by-step examples starting with the basics of a Cassandra database, and going all the way through backup and recovery, performance optimization, and monitoring and securing the data. The book serves as an authoritative and comprehensive guide to the building and management of simple to complex Cassandra databases. The book: Takes you through building a Cassandra database from installation of the software and creation of a single database, through to complex clusters and data centers Provides numerous examples of actual commands in a real-life Cassandra environment that show how to confidently configure, manage, troubleshoot, and tune Cassandra databases Shows how to use the Cassandra configuration properties to build a highly stable, available, and secure Cassandra database that always operates at peak efficiency What You'll Learn Install the Cassandra software and create your first database Understand the Cassandra data model, and the internal architecture of a Cassandra database Create your own Cassandra cluster, step-by-step Run a Cassandra cluster on Docker Work with Apache Spark by connecting to a Cassandra database Deploy Cassandra clusters in your data center, or on Amazon EC2 instances Back up and restore mission-critical Cassandra databases Monitor, troubleshoot, and tune production Cassandra databases, and cut your spending on resources such as memory, servers, and storage Who This Book Is For Database administrators, developers, and architects who are looking for an authoritative and comprehensive single volume for all their Cassandra administration needs. Also for administrators who are tasked with setting up and maintaining highly reliable and high-performing Cassandra databases. An excellent choice for big data administrators, database administrators, architects, and developers who use Cassandra as their key data store, to support high volume online transactions, or as a decentralized, elastic data store.

Reviews the worldwide population status, fishery, trade and management of sea cucumbers in five regions: temperate areas of the Northern Hemisphere; Latin America and the Caribbean; Africa and the Indian Ocean; Asia; and the Western Central Pacific. Together, the case studies provide a comprehensive and up-to-date evaluation of the global status of sea cucumbers.

Use an Approach Inspired by Domain-Driven Design to Build Documentation That Evolves to Maximize Value Throughout Your Development Lifecycle Software documentation can come to life, stay dynamic, and actually help you build better software. Writing for developers, coding architects, and other software professionals, Living Documentation shows how to create documentation that evolves throughout your entire design and development lifecycle. Through patterns, clarifying illustrations, and concrete examples, Cyrille Martraire demonstrates how to use well-crafted artifacts and automation to dramatically improve the value of documentation at minimal extra cost. Whatever your domain, language, or technologies, you don't have to choose between working software and comprehensive, high-quality documentation: you can have both. · Extract and augment available knowledge, and make it useful through living curation · Automate the creation of documentation and diagrams that evolve as knowledge changes · Use development tools to refactor documentation · Leverage documentation to improve software designs · Introduce living documentation to new and legacy environments

Speak directly to your system. With its simple commands, flags, and parameters, a well-formed command-line application is the quickest way to automate a backup, a build, or a deployment and simplify your life. With this book, you'll learn specific ways to write command-line applications that are easy to use, deploy, and maintain, using a set of clear best practices and the Ruby programming language. This book is designed to make any programmer or system administrator more productive in their job. Now updated for Ruby 2. Writing a command-line application that's self-documenting, robust, adaptable and forever useful is easier than you might think. Ruby is particularly suited to this task, because it combines high-level abstractions with "close to the metal" system interaction wrapped up in a concise, readable syntax. Plus, Ruby has the support of a rich ecosystem of open source tools and libraries. Ten insightful chapters each explain and demonstrate a command-line best practice. You'll see how to use these tools to elevate the lowliest automation script to a maintainable, polished application. You'll learn how to use free, open source parsers to create user-friendly command-line interfaces as well as command suites. You'll see how to use defaults to keep options simple for everyday users, while giving advanced users options for more complex tasks. There's no reason why a command-line application should lack documentation, whether it's part of a help command or a man page; you'll find out when and how to use both. Your journey from command-line novice to pro ends with a look at valuable approaches to testing your apps, and includes some fun techniques for outside-the-box, colorful interfaces that will delight your users. With Ruby, the command line is not dead. Long live the command line.

Behaviour Driven Development is about writing software that matters. It is an approach to agile software development that takes cues from Test Driven Development, Domain Driven Design, and Acceptance Test Driven Planning. RSpec and Cucumber are the leading Behaviour Driven Development tools in Ruby. RSpec supports Test Driven Development in Ruby through the BDD lens, keeping your focus on design and documentation while also supporting thorough testing and quick fault isolation. Cucumber, RSpec's steadfast companion, supports Acceptance Test Driven Planning with business-facing, executable requirements documentation that helps to ensure that you are writing relevant software targeted at real business needs. The RSpec Book will introduce you to RSpec, Cucumber, and a number of other tools that make up the Ruby BDD family. Replete with tutorials and practical examples, the RSpec Book will help you get your BDD on, taking you from executable requirements to working software that is clean, well tested, well documented, flexible and highly maintainable.

Build robust Scala applications by implementing the fundamentals of test-driven development in your workflow About This Book Get a deep understanding of various testing concepts such as test-driven development (TDD) and BDD Efficient usage of the built-in Scala features such as ScalaTest, specs2, and Scala check Change your approach towards problem solving by thinking about the boundaries of the problem and its definition rather than focusing on the solution Who This Book Is For This book is for Scala developers who are looking to write better quality and easily maintainable code. No previous knowledge of TDD/BDD is required. What You Will Learn Understand the basics of TDD and its significance Refactoring tests to build APIs in order to increase test coverage How to leverage the inbuilt Scala testing modules like ScalaTest, specs2 and Scala Check Writing test fixtures and apply the concepts of BDD How to divide tests to run

at different points in continuous delivery cycle Benefits of refactoring and how it affects the final quality of code produced Understanding of SBT based build environment and how to use it to run tests The fundamentals of mocking and stubbing in Scala and how to use it efficiently In Detail Test-driven development (TDD) produces high-quality applications in less time than is possible with traditional methods. Due to the systematic nature of TDD, the application is tested in individual units as well as cumulatively, right from the design stage, to ensure optimum performance and reduced debugging costs. This step-by-step guide shows you how to use the principles of TDD and built-in Scala testing modules to write clean and fully tested Scala code and give your workflow the change it needs to let you create better applications than ever before. After an introduction to TDD, you will learn the basics of ScalaTest, one of the most flexible and most popular testing tools around for Scala, by building your first fully test-driven application. Building on from that you will learn about the ScalaTest API and how to refactor code to produce high-quality applications. We'll teach you the concepts of BDD (Behavior-driven development) and you'll see how to add functional tests to the existing suite of tests. You'll be introduced to the concepts of Mocks and Stubs and will learn to increase test coverage using properties. With a concluding chapter on miscellaneous tools, this book will enable you to write better quality code that is easily maintainable and watch your apps change for the better. Style and approach This step-by-step guide explains the significance of TDD in Scala through various practical examples. You will learn to write a complete test-driven application throughout the course of the book.

Summary Specification by Example is an emerging practice for creating software based on realistic examples, bridging the communication gap between business stakeholders and the dev teams building the software. In this book, author Gojko Adzic distills interviews with successful teams worldwide, sharing how they specify, develop, and deliver software, without defects, in short iterative delivery cycles. About the Technology Specification by Example is a collaborative method for specifying requirements and tests. Seven patterns, fully explored in this book, are key to making the method effective. The method has four main benefits: it produces living, reliable documentation; it defines expectations clearly and makes validation efficient; it reduces rework; and, above all, it assures delivery teams and business stakeholders that the software that's built is right for its purpose. About the Book This book distills from the experience of leading teams worldwide effective ways to specify, test, and deliver software in short, iterative delivery cycles. Case studies in this book range from small web startups to large financial institutions, working in many processes including XP, Scrum, and Kanban. This book is written for developers, testers, analysts, and business people working together to build great software. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Common process patterns How to avoid bad practices Fitting SBE in your process 50+ case studies ===== Table of Contents Part 1 Getting started Part 2 Key process patterns Part 3 Case studies Key benefits Key process patterns Living documentation Initiating the changes Deriving scope from goals Specifying collaboratively Illustrating using examples Refining the specification Automating validation without changing specifications Validating frequently Evolving a documentation system uSwitch RainStor Iowa Student Loan Sabre Airline Solutions ePlan Services Songkick Concluding thoughts

You can test just about anything with Cucumber. We certainly have, and in Cucumber Recipes we'll show you how to apply our hard-won field experience to your own projects. Once you've mastered the basics, this book will show you how to get the most out of Cucumber--from specific situations to advanced test-writing advice. With over forty practical recipes, you'll test desktop, web, mobile, and server applications across a variety of platforms. This book gives you tools that you can use today to automate any system that you encounter, and do it well. The Cucumber Book showed you how your team can work together to write executable specifications--documents that tell a clear story and also happen to be working test code. We'll arm you with ready-rolled solutions to real-world problems: your tests will run faster, read more clearly, and work in any environment. Our first tips will help you fit Cucumber into your workflow. Powerful filters will tame tables full of test data, transforming them into the format your application needs. Custom output formatters will generate reports for any occasion. Continuous Integration servers will run your Cucumber tests every time the code changes. Next, you'll find recipes tailored to the platform you're running on. Ever wanted to know how to test a Grails app from Cucumber? Need to put a Windows program through its paces? How about a mobile app running on Android or iOS? We'll show you how to do all of these. Throughout the book, you'll see how to make Cucumber sing as you interoperate with different platforms, languages, and environments. From embedded circuits to Python and PHP web apps, Cucumber has something for you. What You Need: You'll need basic working knowledge of Cucumber and Ruby. Individual recipes may have additional requirements; for example, a recipe on Windows automation might pull in an open source GUI driver. We've written the recipes for compatibility with Ruby 1.9.3 and 1.8.7, plus Cucumber 1.1.4. Other versions may work as well, but these are the ones we test with.

Automate your mobile app testing About This Book How to automate testing with Appium Apply techniques for creating comprehensive tests How to test on physical devices or emulators Who This Book Is For Are you a mobile developer or a software tester who wishes to use Appium for your test automation? If so, then this is the right book for you .You must have basic Java programming knowledge. You don't need to have prior knowledge of Appium. What You Will Learn Discover Appium and how to set up an automation framework for mobile testing Understand desired capabilities and learn to find element locators Learn to automate gestures and synchronize tests using Appium Take an incremental approach to implement page object pattern Learn to run Appium tests on emulators or physical devices Set up Jenkins to run mobile automation tests by easy to learn steps Discover tips and tricks to record video of test execution, inter app automation concepts Learn to run Appium tests in parallel on multiple devices simultaneously In Detail Appium is an open source test automation framework for mobile applications. It allows you to test all three types of mobile applications: native, hybrid, and mobile web. It allows you to run the automated tests on actual devices, emulators, and simulators. Today, when every mobile app is made on at least two platforms, iOS and Android, you need a tool that allows you to test across platforms. Having two different frameworks for the same app increases the cost of the product and time to maintain it as well. Appium helps save this cost. With mobile app growth exploding, mobile app automation is mainstream now. In this book, author Nishant Verma provides you with a firm grounding in the concepts of Appium while diving into how to set up appium & Cucumber-jvm test automation framework, implement page object design pattern, automate gestures, test execution on emulators and physical devices, and implement continuous integration with Jenkins. The mobile app we have referenced in this book is Quikr because of its relatively lower learning curve to understand the application. It's a local classifieds shopping app. Style and approach This book takes a practical, step-by-step approach to testing and automating individual apps such as native, hybrid, and mobile web apps using different examples.

Teams working on the JVM can now say goodbye forever to misunderstood requirements, tedious manual acceptance tests, and out-of-date documentation. Cucumber - the popular, open-source tool that helps teams communicate more effectively with their customers - now has a Java version, and our bestselling Cucumber Book has been updated to match. The Cucumber for Java Book has the same great advice about how to deliver rock-solid applications collaboratively, but with all code completely rewritten in Java. New chapters cover features unique to the Java version of Cucumber, and reflect insights from the Cucumber team since the original book was published. Until now it's been difficult for teams developing Java applications to learn how to benefit from Behaviour-Driven Development (BDD). This book changes all that by describing in detail how to use Cucumber to harness the power of plain language specifications in your development process. In part 1, you'll discover how to use Cucumber's Gherkin DSL to describe the behavior your customers want from the system. You'll also learn how to write Java code that interprets those plain language specifications and checks them against your application. Part 2 guides you through a worked example, using Spring, MySQL, and Jetty. Enhanced chapters teach you how to use Selenium to drive your application and handle asynchronous Ajax calls, and new chapters cover Dependency Injection (DI) and advanced techniques to help keep your test suites fast. Part 3 shows you how to integrate Cucumber with your Continuous Integration (CI) system, work with a REST web service, and even use BDD with legacy applications. Written by the creator of Cucumber and two of its most experienced users and contributors, The Cucumber for Java Book is an authoritative guide that will give you and your team all the knowledge you need to start using Cucumber with confidence.

Use an Approach Inspired by Domain-Driven Design to Build Documentation That Evolves to Maximize Value Throughout Your Development Lifecycle Software documentation can come to life, stay dynamic, and actually help you build better software. Writing for developers, coding architects, and other software professionals, Living Documentation shows how to create documentation that evolves throughout your entire design and development lifecycle. Through patterns, clarifying illustrations, and concrete examples, Cyrille Martraire demonstrates how to use well-crafted artifacts and automation to dramatically improve the value of documentation at minimal extra cost. Whatever your domain, language, or technologies, you don't have to choose between working software and comprehensive, high-quality documentation: you can have both.

- Extract and augment available knowledge, and make it useful through living curation
- Automate the creation of documentation and diagrams that evolve as knowledge changes
- Use development tools to refactor documentation
- Leverage documentation to improve software designs
- Introduce living documentation to new and legacy environments

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

This publication contains current information on the status of world sea cucumber resources and use, focusing on established countries such as China, Ecuador, Indonesia, Japan, Malaysia and the Philippines, as well as relative newcomers to the sector such as Cuba, Egypt, Madagascar and Tanzania. Issues discussed include technical advances in artificial reproduction and farming of selected commercial species; and the report includes the recommendations of a FAO workshop on cucumber aquaculture and management, held in China, in October 2003.

Master BDD to deliver higher-value software more quickly To develop high-value products quickly, software development teams need better ways to collaborate. Agile methods like Scrum and Kanban are helpful, but they're not enough. Teams need better ways to work inside each sprint or work item. Behavior-driven development (BDD) adds just enough structure for product experts, testers, and developers to collaborate more effectively. Drawing on extensive experience helping teams adopt BDD, Richard Lawrence and Paul Rayner show how to explore changes in system behavior with examples through conversations, how to capture your examples in expressive language, and how to flow the results into effective automated testing with Cucumber. Where most BDD resources focus on test automation, this guide goes deep into how BDD changes team collaboration and what that collaboration looks like day to day. Concrete examples and practical advice will prepare you to succeed with BDD, whatever your context or role.

- Learn how to collaborate better by using concrete examples of system behavior
- Identify your project's meaningful increment of value so you're always working on something important
- Begin experimenting with BDD slowly and at low risk
- Move smoothly from informal examples to automated tests in Cucumber
- Use BDD to deliver more frequently with greater visibility
- Make Cucumber scenarios more expressive to ensure you're building the right thing
- Grow a Cucumber suite that acts as high-value living documentation
- Sustainably work with complex scenario data
- Get beyond the "mini-waterfalls" that often arise on Scrum teams

Solid requirements engineering has increasingly been recognized as the key to improved, on-time, and on-budget delivery of software and systems projects. This textbook provides a comprehensive treatment of the theoretical and practical aspects of discovering, analyzing, modeling, validating, testing, and writing requirements for systems of all kinds, with an intentional focus on software-intensive systems. It brings into play a variety of formal methods, social models, and modern requirements for writing techniques to be useful to the practicing engineer. This book was written to support both undergraduate and graduate requirements engineering courses. Each chapter includes simple, intermediate, and advanced exercises. Advanced exercises are suitable as a research assignment or independent study and are denoted by an asterisk. Various exemplar systems illustrate points throughout the book, and four systems in particular—a baggage handling system, a point of sale system, a smart home system, and a wet well pumping system—are used repeatedly. These systems involve application domains with which most readers are likely to be familiar, and they cover a wide range of applications from embedded to organic in both industrial and consumer implementations. Vignettes at the end of each chapter

provide mini-case studies showing how the learning in the chapter can be employed in real systems. Requirements engineering is a dynamic field and this text keeps pace with these changes. Since the first edition of this text, there have been many changes and improvements. Feedback from instructors, students, and corporate users of the text was used to correct, expand, and improve the material. This third edition includes many new topics, expanded discussions, additional exercises, and more examples. A focus on safety critical systems, where appropriate in examples and exercises, has also been introduced. Discussions have also been added to address the important domain of the Internet of Things. Another significant change involved the transition from the retired IEEE Standard 830, which was referenced throughout previous editions of the text, to its successor, the ISO/IEC/IEEE 29148 standard.

Strengthen your applications by adopting Test-Driven Development (TDD), the OpenAPI Specification, Continuous Integration (CI), and container orchestration. Key Features Create production-grade JavaScript applications from scratch Build microservices and deploy them to a Docker container for scaling applications Test and deploy your code with confidence using Travis CI Book Description With the over-abundance of tools in the JavaScript ecosystem, it's easy to feel lost. Build tools, package managers, loaders, bundlers, linters, compilers, transpilers, typecheckers - how do you make sense of it all? In this book, we will build a simple API and React application from scratch. We begin by setting up our development environment using Git, yarn, Babel, and ESLint. Then, we will use Express, Elasticsearch and JSON Web Tokens (JWTs) to build a stateless API service. For the front-end, we will use React, Redux, and Webpack. A central theme in the book is maintaining code quality. As such, we will enforce a Test-Driven Development (TDD) process using Selenium, Cucumber, Mocha, Sinon, and Istanbul. As we progress through the book, the focus will shift towards automation and infrastructure. You will learn to work with Continuous Integration (CI) servers like Jenkins, deploying services inside Docker containers, and run them on Kubernetes. By following this book, you would gain the skills needed to build robust, production-ready applications. What you will learn Practice Test-Driven Development (TDD) throughout the entire book Use Cucumber, Mocha and Selenium to write E2E, integration, unit and UI tests Build stateless APIs using Express and Elasticsearch Document your API using OpenAPI and Swagger Build and bundle front-end applications using React, Redux and Webpack Containerize services using Docker Deploying scalable microservices using Kubernetes Who this book is for If you're a JavaScript developer looking to expand your skillset and become a senior JavaScript developer by building production-ready web applications, then this book is for you.

The Cucumber Book Behaviour-Driven Development for Testers and Developers Pragmatic Bookshelf

Agile software development teams are seeking better ways to create business-facing automated tests that support the development of the right product. Cucumber is rapidly becoming the most popular tool for accomplishing this objective – but, until now, no book has covered Behavior-Driven Development (BDD) practices and tools in sufficient depth. Teams have been forced to keep reinventing the wheel, or else to hire one of a handful of consultants at great expense. Behavior-Driven Development with Cucumber fills that gap. ¿ Richard Lawrence and Paul Rayner begin by illuminating ATDD's value, and showing how it can help you produce better software with less pain. Next, they present a complete BDD/Cucumber reference and tutorial that provides a common language for software customers and team members alike. Lawrence and Rayner thoroughly explain the role of each team member and stakeholder, with a particularly insightful emphasis on non-developers. Next, they show how to automate functional tests for web, console, native client, legacy, and other applications on the Ruby, Java, and .NET. platforms. To complement the Web's existing Ruby-oriented Cucumber resources, the authors provide even more Java (Cuke4Duke) and C# (Cuke4Nuke) examples. ¿ Throughout, you'll find concrete examples and hands-on exercises based on the authors' extensive experience teaching BDD to software professionals and helping software organizations successfully implement BDD strategies.

Blockchain has emerged as a disruptive technology in the areas of trading assets and sharing information. It has the capability to transform many industries, professions, and aspects of life. The focus of this IBM® Redbooks® publication is to help developers build blockchain solutions and use IBM Blockchain Platform to start, test, and move applications into production. This publication covers some blockchain for business use cases. It also describes how to get started in defining, developing, and deploying a Hyperledger Composer business network to Hyperledger Fabric, both locally on a workstation and remotely on the IBM Blockchain Starter Plan. A fund clearing business network is used as an example scenario for blockchain and this source code is available for download, testing, and use. The Redpaper contains detailed information on how we put it together and more, so grab a copy of it via the download link on this page as well. This paper is part one of a series of papers and educational materials. Later materials will describe how to use IBM Blockchain Platform to test and scale your business network, to integrate more completely with a COBOL business application running in IBM CICS®, and to manage changes to your business network in a production environment.

Summary BDD in Action teaches you the Behavior-Driven Development model and shows you how to integrate it into your existing development process. First you'll learn how to apply BDD to requirements analysis to define features that focus your development efforts on underlying business goals. Then, you'll discover how to automate acceptance criteria and use tests to guide and report on the development process. Along the way, you'll apply BDD principles at the coding level to write more maintainable and better documented code. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology You can't write good software if you don't understand what it's supposed to do. Behavior-Driven Development (BDD) encourages teams to use conversation and concrete examples to build up a shared understanding of how an application should work and which features really matter. With an emerging body of best practices and sophisticated new tools that assist in requirement analysis and test automation, BDD has become a hot, mainstream practice. About the Book BDD in Action teaches you BDD principles and practices and shows you how to integrate them into your existing development process, no matter what language you use. First, you'll apply BDD to requirements analysis so you can focus your development efforts on underlying business goals. Then, you'll discover how to automate acceptance criteria and use tests to guide and report on the development process. Along the way, you'll apply BDD principles at the coding level to write more maintainable and better documented code. No prior experience with BDD is required. What's Inside BDD theory and practice How BDD will affect your team BDD for acceptance, integration, and unit testing Examples in Java, .NET, JavaScript, and more Reporting and living documentation About the Author John Ferguson Smart is a specialist in BDD, automated testing, and software lifecycle development optimization. Table of Contents PART 1: FIRST STEPS Building software that makes a difference BDD—the whirlwind tour PART 2: WHAT DO I WANT? DEFINING REQUIREMENTS USING BDD Understanding the business goals: Feature

Injection and related techniques Defining and illustrating features From examples to executable specifications Automating the scenarios PART 3: HOW DO I BUILD IT? CODING THE BDD WAY From executable specifications to rock-solid automated acceptance tests Automating acceptance criteria for the UI layer Automating acceptance criteria for non-UI requirements BDD and unit testing PART 4: TAKING BDD FURTHER Living Documentation: reporting and project management BDD in the build process

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. Ruby has built an enormous following of developers attracted by its intuitiveness, flexibility, and simplicity. Meanwhile, Microsoft's .NET has grown and matured into a platform of unparalleled power. IronRuby brings them together, enabling developers to write elegant, efficient Ruby code that seamlessly integrates with .NET objects and leverages .NET's full capabilities. Now, in IronRuby Unleashed, one of IronRuby's most respected early adopters demonstrates how to write outstanding production software with the brand new IronRuby 1.0. Writing for both Ruby and .NET developers, Shay Friedman covers every facet of IronRuby programming. Friedman begins by explaining how IronRuby leverages the new Dynamic Language Runtime (DLR) libraries to run atop the .NET Framework and access its resources. Next, he presents an in-depth IronRuby tutorial that ranges from basic syntax and object-oriented programming techniques through advanced concepts. Building on this foundation, you'll learn how to make the most of a broad spectrum of .NET platform features. IronRuby Unleashed thoroughly illuminates the use of IronRuby and .NET with today's most powerful frameworks and technologies, including WPF, ASP.NET MVC, Ruby on Rails, and Silverlight. You'll also find detailed coverage of unit testing, as well as cutting-edge techniques for extending IronRuby with C# or VB.NET. Detailed information on how to... Install IronRuby and choose the right development environment for your needs Master IronRuby syntax, methods, blocks, classes, modules, libraries, and more Write code that takes advantage of IronRuby's dynamic and metaprogramming features Utilize .NET services and frameworks to write more powerful Ruby code than ever before Incorporate efficient data access into your IronRuby applications Use IronRuby to build Windows software with both WinForms and WPF Rapidly build high-quality Web applications with IronRuby and Ruby on Rails Create rich Web 2.0 applications with IronRuby and Microsoft Silverlight Test .NET code with Ruby's leading unit testing frameworks Run IronRuby code from other .NET code, and create .NET code libraries that fit well with IronRuby code

Summary Writing Great Specifications is an example-rich tutorial that teaches you how to write good Gherkin specification documents that take advantage of the benefits of specification by example. Foreword written by Gojko Adzic. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The clearest way to communicate a software specification is to provide examples of how it should work. Turning these story-based descriptions into a well-organized dev plan is another matter. Gherkin is a human-friendly, jargon-free language for documenting a suite of examples as an executable specification. It fosters efficient collaboration between business and dev teams, and it's an excellent foundation for the specification by example (SBE) process. About the Book Writing Great Specifications teaches you how to capture executable software designs in Gherkin following the SBE method. Written for both developers and non-technical team members, this practical book starts with collecting individual feature stories and organizing them into a full, testable spec. You'll learn to choose the best scenarios, write them in a way that anyone can understand, and ensure they can be easily updated by anyone.management. What's Inside Reading and writing Gherkin Designing story-based test cases Team Collaboration Managing a suite of Gherkin documents About the Reader Primarily written for developers and architects, this book is accessible to any member of a software design team. About the Author Kamil Nicieja is a seasoned engineer, architect, and project manager with deep expertise in Gherkin and SBE. Table of contents Introduction to specification by example and Gherkin PART 1 - WRITING EXECUTABLE SPECIFICATIONS WITH EXAMPLES The specification layer and the automation layer Mastering the Given-When-Then template The basics of scenario outlines Choosing examples for scenario outlines The life cycle of executable specifications Living documentation PART 2 - MANAGING SPECIFICATION SUITES Organizing scenarios into a specification suite Refactoring features into abilities and business needs Building a domain-driven specification suite Managing large projects with bounded contexts

The world's most comprehensive, well documented and well illustrated book on this subject. With extensive subject and geographic index. 189 photographs and illustrations, many in color. Free of charge in digital PDF format on Google Books.

The world's most comprehensive, well documented, and well illustrated book on this subject. With extensive index. 333 color photographs and illustrations. Free of charge in digital PDF format on Google Books.

With Acceptance Test-Driven Development (ATDD), business customers, testers, and developers can collaborate to produce testable requirements that help them build higher quality software more rapidly. However, ATDD is still widely misunderstood by many practitioners. ATDD by Example is the first practical, entry-level, hands-on guide to implementing and successfully applying it. ATDD pioneer Markus Gärtner walks readers step by step through deriving the right systems from business users, and then implementing fully automated, functional tests that accurately reflect business requirements, are intelligible to stakeholders, and promote more effective development. Through two end-to-end case studies, Gärtner demonstrates how ATDD can be applied using diverse frameworks and languages. Each case study is accompanied by an extensive set of artifacts, including test automation classes, step definitions, and full sample implementations. These realistic examples illuminate ATDD's fundamental principles, show how ATDD fits into the broader development process, highlight tips from Gärtner's extensive experience, and identify crucial pitfalls to avoid. Readers will learn to Master the thought processes associated with successful ATDD implementation Use ATDD with Cucumber to describe software in ways businesspeople can understand Test web pages using ATDD tools Bring ATDD to Java with the FitNesse wiki-based acceptance test framework Use examples more effectively in Behavior-Driven Development (BDD) Specify software collaboratively through innovative workshops Implement more user-friendly and collaborative test automation Test more cleanly, listen to test results, and refactor tests for greater value If you're a tester, analyst, developer, or project manager, this book offers a concrete foundation for achieving real benefits with ATDD now—and it will help you reap even more value as you gain experience.

Your customers want rock-solid, bug-free software that does exactly what they expect it to do. Yet they can't always articulate their ideas clearly enough for you to turn them into code. You need Cucumber: a testing, communication, and requirements tool—all rolled into one. All the code in this book is updated for Cucumber 2.4, Rails 5, and RSpec 3.5. Express your customers' wild ideas as a set of clear, executable specifications that everyone on the team can read. Feed those examples into Cucumber and let it guide your development. Build just the right code to keep your customers happy. You can use Cucumber to test almost any system or any platform. Get started by using the core features of Cucumber and working with Cucumber's Gherkin DSL to describe-in plain language-the behavior your

customers want from the system. Then write Ruby code that interprets those plain-language specifications and checks them against your application. Next, consolidate the knowledge you've gained with a worked example, where you'll learn more advanced Cucumber techniques, test asynchronous systems, and test systems that use a database. Recipes highlight some of the most difficult and commonly seen situations the authors have helped teams solve. With these patterns and techniques, test Ajax-heavy web applications with Capybara and Selenium, REST web services, Ruby on Rails applications, command-line applications, legacy applications, and more. Written by the creator of Cucumber and the co-founders of Cucumber Ltd., this authoritative guide will give you and your team all the knowledge you need to start using Cucumber with confidence. What You Need: Windows, Mac OS X (with XCode) or Linux, Ruby 1.9.2 and upwards, Cucumber 2.4, Rails 5, and RSpec 3.5

"This book is sure to be a modern classic and is one of the most important books on gardening in the current century." —Jere Gettle, founder, Baker Creek Heirloom Seeds Heirloom Vegetable Gardening has always been a book for gardeners and cooks interested in unique flavors, colors, and history in their produce. This updated edition has been improved throughout with growing zones, advice, and new plant entries. Line art has been replaced with lush, full-color photography. Yet at the core, this book delivers on the same promise it made two decades ago: It's a comprehensive guide based on meticulous first-person research to these 300+ plants, making it a book to come back to season after season.

Since Test-Driven Infrastructure with Chef first appeared in mid-2011, infrastructure testing has begun to flourish in the web ops world. In this revised and expanded edition, author Stephen Nelson-Smith brings you up to date on this rapidly evolving discipline, including the philosophy driving it and a growing array of tools. You'll get a hands-on introduction to the Chef framework, and a recommended toolchain and workflow for developing your own test-driven production infrastructure. Several exercises and examples throughout the book help you gain experience with Chef and the entire infrastructure-testing ecosystem. Learn how this test-first approach provides increased security, code quality, and peace of mind. Explore the underpinning philosophy that infrastructure can and should be treated as code Become familiar with the MASCOT approach to test-driven infrastructure Understand the basics of test-driven and behavior-driven development for managing change Dive into Chef fundamentals by building an infrastructure with real examples Discover how Chef works with tools such as Virtualbox and Vagrant Get a deeper understanding of Chef by learning Ruby language basics Learn the tools and workflow necessary to conduct unit, integration, and acceptance tests

[Copyright: c5015aaa4a928da88b30540f61bf5a38](#)