

Design Patterns Dzone Refcardz

How do you detangle a monolithic system and migrate it to a microservice architecture? How do you do it while maintaining business-as-usual? As a companion to Sam Newman's extremely popular *Building Microservices*, this new book details a proven method for transitioning an existing monolithic system to a microservice architecture. With many illustrative examples, insightful migration patterns, and a bevy of practical advice to transition your monolith enterprise into a microservice operation, this practical guide covers multiple scenarios and strategies for a successful migration, from initial planning all the way through application and database decomposition. You'll learn several tried and tested patterns and techniques that you can use as you migrate your existing architecture. Ideal for organizations looking to transition to microservices, rather than rebuild Helps companies determine whether to migrate, when to migrate, and where to begin Addresses communication, integration, and the migration of legacy systems Discusses multiple migration patterns and where they apply Provides database migration examples, along with synchronization strategies Explores application decomposition, including several architectural refactoring patterns Delves into details of database decomposition, including the impact of breaking referential and transactional integrity, new failure modes, and more

Your Company Isn't Fast Enough. Here's How to Change That. The traditional hierarchical organization is dead, but what replaces it? Numerous new models--the agile organization, the networked organization, and holacracy, to name a few--have emerged, but leaders need to know what really works. How do you build an organization that is responsive to fast-changing markets? What kind of organization delivers both speed and scale, and how do you lead it? Arthur Yeung and Dave Ulrich provide leaders with a much-needed blueprint for reinventing the organization. Based on their in-depth research at leading Chinese, US, and European firms such as Alibaba, Amazon, DiDi, Facebook, Google, Huawei, Supercell, and Tencent, and drawing from their synthesis of the latest organization research and practice, Yeung and Ulrich explain how to build a new kind of organization (a "market-oriented ecosystem") that responds to changing market opportunities with speed and scale. While other books address individual pieces of the puzzle, *Reinventing the Organization* offers a practical, integrated, six-step framework and looks at all the decisions leaders need to make--choosing the right strategies, capabilities, structure, culture, management tools, and leadership--to deliver radically greater value in fast-moving markets. For any leader eager to build a stronger, more responsive organization and for all those in HR, organizational development, and consulting who will shape and deliver it, this book provides a much-needed roadmap for reinvention.

Summary Spring Roo in Action is a unique book that teaches you how to code Java in Roo, with a particular focus on Spring-based applications. Through hands-on examples, you'll learn how Roo creates well-formed application structures and supports best practices and tools. Plus, you'll get a quick-and-dirty guide to setting up Roo effectively in your environment. About the Technology Roo is a lightweight Java console shell that simplifies compile-time tasks. It improves productivity by enforcing correct coding practices and patterns and integrates with mainstream Java technologies, including ActiveMQ, GWT, JPA, and OSGi. And, when you finish coding, it gets out of the way so there's no runtime impact. About the Book *Spring Roo in Action* teaches you to code Java more efficiently using Roo. With the help of many examples, it shows you how to build application components from the database layer to the user interface. The book takes a test-first approach and points out how Roo can help automate many of the mundane details of coding Java apps. Along the way, you'll address important topics like security, messaging, and cloud computing. This book is for Java developers who want to get more productive by using Roo. 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

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Learn Roo from the ground up Integrate with existing projects Create custom add-ons Use Roo with Spring =====?===== Table of Contents PART 1 STARTING SPRING APPS RAPIDLY WITH ROO What is Spring Roo? Getting started with Roo PART 2 DATABASES AND ENTITIES Database persistence with entities Relationships, JPA, and advanced persistence PART 3 WEB DEVELOPMENT Rapid web applications with Roo Advanced web applications RIA and other web frameworks Configuring security PART 4 INTEGRATION Testing your application Enterprise services—email and messaging Roo add-ons Advanced add-ons and deployment PART 5 ROO IN THE CLOUD Cloud computing Workflow applications using Spring Integration

A computer beats the reigning human champion of Go, a game harder than chess. Another is composing classical music. Labs are creating life-forms from synthetic DNA. A doctor designs an artificial trachea, uses a 3D printer to produce it, and implants it and saves a child's life. Astonishing technological advances like these are arriving in increasing numbers. Scholar and entrepreneur Vivek Wadhwa uses this book to alert us to dozens of them and raise important questions about what they may mean for us. Breakthroughs such as personalized genomics, self-driving vehicles, drones, and artificial intelligence could make our lives healthier, safer, and easier. But the same technologies raise the specter of a frightening, alienating future: eugenics, a jobless economy, complete loss of privacy, and ever-worsening economic inequality. As Wadhwa puts it, our choices will determine if our future is Star Trek or Mad Max. Wadhwa offers us three questions to ask about every emerging technology: Does it have the potential to benefit everyone equally? What are its risks and rewards? And does it promote autonomy or dependence? Looking at a broad array of advances in this light, he emphasizes that the future is up to us to create—that even if our hands are not on the wheel, we will decide the driverless car's destination.

Design Patterns in Java™ gives you the hands-on practice and deep insight you need to fully leverage the significant power of design patterns in any Java software project. The perfect complement to the classic Design Patterns, this learn-by-doing workbook applies the latest Java features and best practices to all of the original 23 patterns identified in that groundbreaking text. Drawing on their extensive experience as Java instructors and programmers, Steve Metsker and Bill Wake illuminate each pattern with real Java programs, clear UML diagrams, and compelling exercises. You'll move quickly from theory to application—learning how to improve new code and refactor existing code for simplicity, manageability, and performance. Coverage includes Using Adapter to provide consistent interfaces to clients Using Facade to simplify the use of reusable toolkits Understanding the role of Bridge in Java database connectivity The Observer pattern, Model-View-Controller, and GUI behavior Java Remote Method Invocation (RMI) and the Proxy pattern Streamlining designs using the Chain of Responsibility pattern Using patterns to go beyond Java's built-in constructor features Implementing Undo capabilities with Memento Using the State pattern to manage state more cleanly and simply Optimizing existing codebases with extension patterns Providing thread-safe iteration with the Iterator pattern Using Visitor to define new operations without changing hierarchy classes If you're a Java programmer wanting to save time while writing better code, this book's techniques, tips, and clear explanations and examples will help you harness the power of patterns to improve every program you write, design, or maintain. All source code is available for download at <http://www.oozinoz.com>.

Get the best out of Node.js by mastering its most powerful components and patterns to create modular and scalable applications with ease About This Book Create reusable patterns and modules by leveraging the new features of Node.js . Understand the asynchronous single thread design of node and grasp all its features and patterns to take advantage of various functions. This unique guide will help you get the most out of Node.js and its ecosystem. Who This Book Is For The book is meant for developers and software architects with a basic

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working knowledge of JavaScript who are interested in acquiring a deeper understanding of how to design and develop enterprise-level Node.js applications. Basic knowledge of Node.js is also helpful to get the most out of this book. What You Will Learn Design and implement a series of server-side JavaScript patterns so you understand why and when to apply them in different use case scenarios Become comfortable with writing asynchronous code by leveraging constructs such as callbacks, promises, generators and the async-await syntax Identify the most important concerns and apply unique tricks to achieve higher scalability and modularity in your Node.js application Untangle your modules by organizing and connecting them coherently Reuse well-known techniques to solve common design and coding issues Explore the latest trends in Universal JavaScript, learn how to write code that runs on both Node.js and the browser and leverage React and its ecosystem to implement universal applications In Detail Node.js is a massively popular software platform that lets you use JavaScript to easily create scalable server-side applications. It allows you to create efficient code, enabling a more sustainable way of writing software made of only one language across the full stack, along with extreme levels of reusability, pragmatism, simplicity, and collaboration. Node.js is revolutionizing the web and the way people and companies create their software. In this book, we will take you on a journey across various ideas and components, and the challenges you would commonly encounter while designing and developing software using the Node.js platform. You will also discover the "Node.js way" of dealing with design and coding decisions. The book kicks off by exploring the basics of Node.js describing it's asynchronous single-threaded architecture and the main design patterns. It then shows you how to master the asynchronous control flow patterns, and the stream component and it culminates into a detailed list of Node.js implementations of the most common design patterns as well as some specific design patterns that are exclusive to the Node.js world. Lastly, it dives into more advanced concepts such as Universal Javascript, and scalability' and it's meant to conclude the journey by giving the reader all the necessary concepts to be able to build an enterprise grade application using Node.js. Style and approach This book takes its intended readers through a comprehensive explanation to create a scalable and efficient real-time server-side apps.

Create various design patterns to master the art of solving problems using Java Key Features This book demonstrates the shift from OOP to functional programming and covers reactive and functional patterns in a clear and step-by-step manner All the design patterns come with a practical use case as part of the explanation, which will improve your productivity Tackle all kinds of performance-related issues and streamline your development Book Description Having a knowledge of design patterns enables you, as a developer, to improve your code base, promote code reuse, and make the architecture more robust. As languages evolve, new features take time to fully understand before they are adopted en masse. The mission of this book is to ease the adoption of the latest trends and provide good practices for programmers. We focus on showing you the practical aspects of smarter coding in Java. We'll start off by going over object-oriented (OOP) and functional programming (FP) paradigms, moving on to describe the most frequently used design patterns in their classical format and explain how Java's functional programming features are changing them. You will learn to enhance implementations by mixing OOP and FP, and finally get to know about the reactive programming model, where FP and OOP are used in conjunction with a view to writing better code. Gradually, the book will show you the latest trends in architecture, moving from MVC to microservices and serverless architecture. We will finish off by highlighting the new Java features and best practices. By the end of the book, you will be able to efficiently address common problems faced while developing applications and be comfortable working on scalable and maintainable projects of any size. What you will learn Understand the OOP and FP paradigms Explore the traditional Java design patterns Get to know the new functional

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features of Java See how design patterns are changed and affected by the new features Discover what reactive programming is and why is it the natural augmentation of FP Work with reactive design patterns and find the best ways to solve common problems using them See the latest trends in architecture and the shift from MVC to serverless applications Use best practices when working with the new features Who this book is for This book is for those who are familiar with Java development and want to be in the driver's seat when it comes to modern development techniques. Basic OOP Java programming experience and elementary familiarity with Java is expected.

Threads are a fundamental part of the Java platform. As multicore processors become the norm, using concurrency effectively becomes essential for building high-performance applications. Java SE 5 and 6 are a huge step forward for the development of concurrent applications, with improvements to the Java Virtual Machine to support high-performance, highly scalable concurrent classes and a rich set of new concurrency building blocks. In *Java Concurrency in Practice*, the creators of these new facilities explain not only how they work and how to use them, but also the motivation and design patterns behind them. However, developing, testing, and debugging multithreaded programs can still be very difficult; it is all too easy to create concurrent programs that appear to work, but fail when it matters most: in production, under heavy load. *Java Concurrency in Practice* arms readers with both the theoretical underpinnings and concrete techniques for building reliable, scalable, maintainable concurrent applications. Rather than simply offering an inventory of concurrency APIs and mechanisms, it provides design rules, patterns, and mental models that make it easier to build concurrent programs that are both correct and performant. This book covers: Basic concepts of concurrency and thread safety Techniques for building and composing thread-safe classes Using the concurrency building blocks in `java.util.concurrent` Performance optimization dos and don'ts Testing concurrent programs Advanced topics such as atomic variables, nonblocking algorithms, and the Java Memory Model

Domain-Driven Design (DDD) is an approach to software development for complex businesses and other domains. DDD tackles that complexity by focusing the team's attention on knowledge of the domain, picking apart the most tricky, intricate problems with models, and shaping the software around those models. Easier said than done! The techniques of DDD help us approach this systematically. This reference gives a quick and authoritative summary of the key concepts of DDD. It is not meant as a learning introduction to the subject. Eric Evans' original book and a handful of others explain DDD in depth from different perspectives. On the other hand, we often need to scan a topic quickly or get the gist of a particular pattern. That is the purpose of this reference. It is complementary to the more discursive books. The starting point of this text was a set of excerpts from the original book by Eric Evans, *Domain-Driven-Design: Tackling Complexity in the Heart of Software*, 2004 - in particular, the pattern summaries, which were placed in the Creative Commons by Evans and the publisher, Pearson Education. In this reference, those original summaries have been updated and expanded with new content. The practice and understanding of DDD has not stood still over the past decade, and Evans has taken this chance to document some important refinements. Some of the patterns and definitions have been edited or rewritten by Evans to clarify the original intent. Three patterns have been added, describing concepts whose usefulness and

importance has emerged in the intervening years. Also, the sequence and grouping of the topics has been changed significantly to better emphasize the core principles. This is an up-to-date, quick reference to DDD.

The Go Programming Language is the authoritative resource for any programmer who wants to learn Go. It shows how to write clear and idiomatic Go to solve real-world problems. The book does not assume prior knowledge of Go nor experience with any specific language, so you'll find it accessible whether you're most comfortable with JavaScript, Ruby, Python, Java, or C++. The first chapter is a tutorial on the basic concepts of Go, introduced through programs for file I/O and text processing, simple graphics, and web clients and servers. Early chapters cover the structural elements of Go programs: syntax, control flow, data types, and the organization of a program into packages, files, and functions. The examples illustrate many packages from the standard library and show how to create new ones of your own. Later chapters explain the package mechanism in more detail, and how to build, test, and maintain projects using the go tool. The chapters on methods and interfaces introduce Go's unconventional approach to object-oriented programming, in which methods can be declared on any type and interfaces are implicitly satisfied. They explain the key principles of encapsulation, composition, and substitutability using realistic examples. Two chapters on concurrency present in-depth approaches to this increasingly important topic. The first, which covers the basic mechanisms of goroutines and channels, illustrates the style known as communicating sequential processes for which Go is renowned. The second covers more traditional aspects of concurrency with shared variables. These chapters provide a solid foundation for programmers encountering concurrency for the first time. The final two chapters explore lower-level features of Go. One covers the art of metaprogramming using reflection. The other shows how to use the unsafe package to step outside the type system for special situations, and how to use the cgo tool to create Go bindings for C libraries. The book features hundreds of interesting and practical examples of well-written Go code that cover the whole language, its most important packages, and a wide range of applications. Each chapter has exercises to test your understanding and explore extensions and alternatives. Source code is freely available for download from <http://gopl.io/> and may be conveniently fetched, built, and installed using the go get command.

A collection of best practices and effective implementation recommendations that are proven to work, Secure, Resilient, and Agile Software Development leaves the boring details of software security theory out of the discussion as much as possible to concentrate on practical applied software security for practical people. Written to aid your career as well as your organization, the book shows how to gain skills in secure and resilient software development and related tasks. The book explains how to integrate these development skills into your daily duties, thereby increasing your professional value to your company, your management, your community, and your industry. Secure, Resilient, and Agile Software

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Development was written for the following professionals: AppSec architects and program managers in information security organizations Enterprise architecture teams with application development focus Scrum teams DevOps teams Product owners and their managers Project managers Application security auditors With a detailed look at Agile and Scrum software development methodologies, this book explains how security controls need to change in light of an entirely new paradigm on how software is developed. It focuses on ways to educate everyone who has a hand in any software development project with appropriate and practical skills to Build Security In. After covering foundational and fundamental principles for secure application design, this book dives into concepts, techniques, and design goals to meet well-understood acceptance criteria on features an application must implement. It also explains how the design sprint is adapted for proper consideration of security as well as defensive programming techniques. The book concludes with a look at white box application analysis and sprint-based activities to improve the security and quality of software under development.

In 1994, Design Patterns changed the landscape of object-oriented development by introducing classic solutions to recurring design problems. In 1999, Refactoring revolutionized design by introducing an effective process for improving code. With the highly anticipated Refactoring to Patterns , Joshua Kerievsky has changed our approach to design by forever uniting patterns with the evolutionary process of refactoring. This book introduces the theory and practice of pattern-directed refactorings: sequences of low-level refactorings that allow designers to safely move designs to, towards, or away from pattern implementations. Using code from real-world projects, Kerievsky documents the thinking and steps underlying over two dozen pattern-based design transformations. Along the way he offers insights into pattern differences and how to implement patterns in the simplest possible ways. Coverage includes: A catalog of twenty-seven pattern-directed refactorings, featuring real-world code examples Descriptions of twelve design smells that indicate the need for this book's refactorings General information and new insights about patterns and refactoring Detailed implementation mechanics: how low-level refactorings are combined to implement high-level patterns Multiple ways to implement the same pattern—and when to use each Practical ways to get started even if you have little experience with patterns or refactoring Refactoring to Patterns reflects three years of refinement and the insights of more than sixty software engineering thought leaders in the global patterns, refactoring, and agile development communities. Whether you're focused on legacy or "greenfield" development, this book will make you a better software designer by helping you learn how to make important design changes safely and effectively.

Describes how to use the open source project automation tool to build and test software written in Java and other programming languages.

Today, software engineers need to know not only how to program effectively but

also how to develop proper engineering practices to make their codebase sustainable and healthy. This book emphasizes this difference between programming and software engineering. How can software engineers manage a living codebase that evolves and responds to changing requirements and demands over the length of its life? Based on their experience at Google, software engineers Titus Winters and Hyrum Wright, along with technical writer Tom Manshreck, present a candid and insightful look at how some of the world's leading practitioners construct and maintain software. This book covers Google's unique engineering culture, processes, and tools and how these aspects contribute to the effectiveness of an engineering organization. You'll explore three fundamental principles that software organizations should keep in mind when designing, architecting, writing, and maintaining code: How time affects the sustainability of software and how to make your code resilient over time How scale affects the viability of software practices within an engineering organization What trade-offs a typical engineer needs to make when evaluating design and development decisions

Eclipse is the world's most popular IDE for Java development. And although there are plenty of large tomes that cover all the nooks and crannies of Eclipse, what you really need is a quick, handy guide to the features that are used over and over again in Java programming. You need answers to basic questions such as: Where was that menu? What does that command do again? And how can I set my classpath on a per-project basis? This practical pocket guide gets you up to speed quickly with Eclipse. It covers basic concepts, including Views and editors, as well as features that are not commonly understood, such as Perspectives and Launch Configurations. You'll learn how to write and debug your Java code--and how to integrate that code with tools such as Ant and JUnit. You'll also get a toolbox full of tips and tricks to handle common--and sometimes unexpected--tasks that you'll run across in your Java development cycle. Additionally, the Eclipse IDE Pocket Guide has a thorough appendix detailing all of Eclipse's important views, menus, and commands. The Eclipse IDE Pocket Guide is just the resource you need for using Eclipse, whether it's on a daily, weekly, or monthly basis. Put it in your back pocket, or just throw it in your backpack. With this guide in hand, you're ready to tackle the Eclipse programming environment.

"I'm dancing! By god I'm dancing on the walls. I'm dancing on the ceiling. I'm ecstatic. I'm overjoyed. I'm really, really pleased." --From the Foreword by Robert C. Martin (a.k.a. Uncle Bob) This isn't the first book on Java application architecture. No doubt it won't be the last. But rest assured, this title is different. The way we develop Java applications is about to change, and this title explores the new way of Java application architecture. Over the past several years, module frameworks have been gaining traction on the Java platform, and upcoming versions of Java will include a module system that allows you to leverage the power of modularity to build more resilient and flexible software

systems. Modularity isn't a new concept. But modularity will change the way we develop Java applications, and you'll only be able to realize the benefits if you understand how to design more modular software systems. Java Application Architecture will help you Design modular software that is extensible, reusable, maintainable, and adaptable Design modular software today, in anticipation of future platform support for modularity Break large software systems into a flexible composite of collaborating modules Understand where to place your architectural focus Migrate large-scale monolithic applications to applications with a modular architecture Articulate the advantages of modular software to your team Java Application Architecture lays the foundation you'll need to incorporate modular design thinking into your development initiatives. Before it walks you through eighteen patterns that will help you architect modular software, it lays a solid foundation that shows you why modularity is a critical weapon in your arsenal of design tools. Throughout, you'll find examples that illustrate the concepts. By designing modular applications today, you are positioning yourself for the platform and architecture of tomorrow. That's why Uncle Bob is dancing. Describes ways to incorporate domain modeling into software development.

Microservices can have a positive impact on your enterprise—just ask Amazon and Netflix—but you can fall into many traps if you don't approach them in the right way. This practical guide covers the entire microservices landscape, including the principles, technologies, and methodologies of this unique, modular style of system building. You'll learn about the experiences of organizations around the globe that have successfully adopted microservices. In three parts, this book explains how these services work and what it means to build an application the Microservices Way. You'll explore a design-based approach to microservice architecture with guidance for implementing various elements. And you'll get a set of recipes and practices for meeting practical, organizational, and cultural challenges to microservice adoption. Learn how microservices can help you drive business objectives Examine the principles, practices, and culture that define microservice architectures Explore a model for creating complex systems and a design process for building a microservice architecture Learn the fundamental design concepts for individual microservices Delve into the operational elements of a microservices architecture, including containers and service discovery Discover how to handle the challenges of introducing microservice architecture in your organization Master Java EE design pattern implementation to improve your design skills and your application's architecture Professional Java EE Design Patterns is the perfect companion for anyone who wants to work more effectively with Java EE, and the only resource that covers both the theory and application of design patterns in solving real-world problems. The authors guide readers through both the fundamental and advanced features of Java EE 7, presenting patterns throughout, and demonstrating how they are used in day-to-day problem solving. As the most popular programming language in community-driven enterprise software, Java EE provides an API and runtime environment that is a superset of Java SE. Written for the junior and experienced Java EE developer seeking to improve design quality and effectiveness, the book covers areas including: Implementation and problem-solving with design patterns Connection between existing Java SE design patterns and new Java EE concepts Harnessing the power of Java EE in design patterns Individually-based focus that fully explores each pattern Colorful war-stories showing how patterns were used in the field to solve real-life problems Unlike most Java EE books that simply offer descriptions or recipes, this book drives home the implementation of the pattern to real problems to ensure that the reader learns how

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the patterns should be used and to be aware of their pitfalls. For the programmer looking for a comprehensive guide that is actually useful in the everyday workflow, Professional Java EE Design Patterns is the definitive resource on the market.

One of the biggest challenges for organizations that have adopted microservice architecture is the lack of architectural, operational, and organizational standardization. After splitting a monolithic application or building a microservice ecosystem from scratch, many engineers are left wondering what's next. In this practical book, author Susan Fowler presents a set of microservice standards in depth, drawing from her experience standardizing over a thousand microservices at Uber. You'll learn how to design microservices that are stable, reliable, scalable, fault tolerant, performant, monitored, documented, and prepared for any catastrophe. Explore production-readiness standards, including: Stability and Reliability: develop, deploy, introduce, and deprecate microservices; protect against dependency failures Scalability and Performance: learn essential components for achieving greater microservice efficiency Fault Tolerance and Catastrophe Preparedness: ensure availability by actively pushing microservices to fail in real time Monitoring: learn how to monitor, log, and display key metrics; establish alerting and on-call procedures Documentation and Understanding: mitigate tradeoffs that come with microservice adoption, including organizational sprawl and technical debt

The easy way to learn programming fundamentals with Python Python is a remarkably powerful and dynamic programming language that's used in a wide variety of application domains. Some of its key distinguishing features include a very clear, readable syntax, strong introspection capabilities, intuitive object orientation, and natural expression of procedural code. Plus, Python features full modularity, supporting hierarchical packages, exception-based error handling, and modules easily written in C, C++, Java, R, or .NET languages, such as C#. In addition, Python supports a number of coding styles that include: functional, imperative, object-oriented, and procedural. Due to its ease of use and flexibility, Python is constantly growing in popularity—and now you can wear your programming hat with pride and join the ranks of the pros with the help of this guide. Inside, expert author John Paul Mueller gives a complete step-by-step overview of all there is to know about Python. From performing common and advanced tasks, to collecting data, to interacting with package—this book covers it all! Use Python to create and run your first application Find out how to troubleshoot and fix errors Learn to work with Anaconda and use Magic Functions Benefit from completely updated and revised information since the last edition If you've never used Python or are new to programming in general, Beginning Programming with Python For Dummies is a helpful resource that will set you up for success.

This book follows a standard tutorial approach with approximately 750 code samples spread through the 19 chapters. This amounts to over 5,900 lines of code that illustrate each concept. This book is aimed at programmers who have already learned the basics of object-oriented Python and need to write more sophisticated, flexible code that integrates seamlessly with the rest of Python. This book assumes a computer science background, with experience of common Python design patterns.

Patterns, Domain-Driven Design (DDD), and Test-Driven Development (TDD) enable architects and developers to create systems that are powerful, robust, and maintainable. Now, there's a comprehensive, practical guide to leveraging all these techniques primarily in Microsoft .NET environments, but the discussions are just as useful for Java developers. Drawing on seminal work by Martin Fowler (Patterns of Enterprise Application Architecture) and Eric Evans (Domain-Driven Design), Jimmy Nilsson shows how to create real-world architectures for any .NET application. Nilsson illuminates each principle with clear, well-annotated code examples based on C# 1.1 and 2.0. His examples and discussions will be valuable both to C# developers and those working with other .NET languages and any databases—even with other platforms, such as J2EE. Coverage includes · Quick primers on

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patterns, TDD, and refactoring · Using architectural techniques to improve software quality · Using domain models to support business rules and validation · Applying enterprise patterns to provide persistence support via NHibernate · Planning effectively for the presentation layer and UI testing · Designing for Dependency Injection, Aspect Orientation, and other new paradigms Get up to speed on Git for tracking, branching, merging, and managing code revisions.

Through a series of step-by-step tutorials, this practical guide takes you quickly from Git fundamentals to advanced techniques, and provides friendly yet rigorous advice for navigating the many functions of this open source version control system. This thoroughly revised edition also includes tips for manipulating trees, extended coverage of the reflog and stash, and a complete introduction to the GitHub repository. Git lets you manage code development in a virtually endless variety of ways, once you understand how to harness the system's flexibility. This book shows you how. Learn how to use Git for several real-world development scenarios Gain insight into Git's common-use cases, initial tasks, and basic functions Use the system for both centralized and distributed version control Learn how to manage merges, conflicts, patches, and diffs Apply advanced techniques such as rebasing, hooks, and ways to handle submodules Interact with Subversion (SVN) repositories—including SVN to Git conversions Navigate, use, and contribute to open source projects though GitHub

Microservices is an architectural style in which large, complex software applications are composed of one or more smaller services. Each of these microservices focuses on completing one task that represents a small business capability. These microservices can be developed in any programming language. This IBM® Redbooks® publication covers Microservices best practices for Java. It focuses on creating cloud native applications using the latest version of IBM WebSphere® Application Server Liberty, IBM Bluemix® and other Open Source Frameworks in the Microservices ecosystem to highlight Microservices best practices for Java.

Winner of the 2011 Jolt Excellence Award! Getting software released to users is often a painful, risky, and time-consuming process. This groundbreaking new book sets out the principles and technical practices that enable rapid, incremental delivery of high quality, valuable new functionality to users. Through automation of the build, deployment, and testing process, and improved collaboration between developers, testers, and operations, delivery teams can get changes released in a matter of hours— sometimes even minutes—no matter what the size of a project or the complexity of its code base. Jez Humble and David Farley begin by presenting the foundations of a rapid, reliable, low-risk delivery process. Next, they introduce the “deployment pipeline,” an automated process for managing all changes, from check-in to release. Finally, they discuss the “ecosystem” needed to support continuous delivery, from infrastructure, data and configuration management to governance. The authors introduce state-of-the-art techniques, including automated infrastructure management and data migration, and the use of virtualization. For each, they review key issues, identify best practices, and demonstrate how to mitigate risks. Coverage includes

- Automating all facets of building, integrating, testing, and deploying software
- Implementing deployment pipelines at team and organizational levels
- Improving collaboration between developers, testers, and operations
- Developing features incrementally on large and distributed teams
- Implementing an effective configuration management strategy
- Automating acceptance testing, from analysis to implementation
- Testing capacity and other non-functional requirements
- Implementing continuous deployment and zero-downtime releases
- Managing infrastructure, data, components and dependencies
- Navigating risk management, compliance, and auditing

Whether you're a developer, systems administrator, tester, or manager, this book will help your organization move from idea to release faster than ever—so you can deliver value to your business rapidly and reliably.

2012 Jolt Award finalist! Pioneering the Future of Software Test Do you need to get it right,

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too? Then, learn from Google. Legendary testing expert James Whittaker, until recently a Google testing leader, and two top Google experts reveal exactly how Google tests software, offering brand-new best practices you can use even if you're not quite Google's size...yet! Breakthrough Techniques You Can Actually Use Discover 100% practical, amazingly scalable techniques for analyzing risk and planning tests...thinking like real users...implementing exploratory, black box, white box, and acceptance testing...getting usable feedback...tracking issues...choosing and creating tools...testing "Docs & Mocks," interfaces, classes, modules, libraries, binaries, services, and infrastructure...reviewing code and refactoring...using test hooks, presubmit scripts, queues, continuous builds, and more. With these techniques, you can transform testing from a bottleneck into an accelerator--and make your whole organization more productive!

Unscaled identifies the forces that are reshaping the global economy and turning one of the fundamental laws of business and society--the economies of scale--on its head. An innovative trend combining technology with economics is unraveling behemoth industries--including corporations, banks, farms, media conglomerates, energy systems, governments, and schools--that have long dominated business and society. Size and scale have become a liability. A new generation of upstarts is using artificial intelligence to automate tasks that once required expensive investment, and "renting" technology platforms to build businesses for hyper-focused markets, enabling them to grow big without the bloat of giant organizations. In Unscaled, venture capitalist Hemant Taneja explains how the unscaled phenomenon allowed Warby Parker to cheaply and easily start a small company, build a better product, and become a global competitor in no time, upending entrenched eyewear giant Luxottica. It similarly enabled Stripe to take on established payment processors throughout the world, and Livongo to help diabetics control their disease while simultaneously cutting the cost of treatment. The unscaled economy is remaking massive, deeply rooted industries and opening up fantastic possibilities for entrepreneurs, imaginative companies, and resourceful individuals. It can be the model for solving some of the world's greatest problems, including climate change and soaring health-care costs, but will also unleash new challenges that today's leaders must address.

What could you do with data if scalability wasn't a problem? With this hands-on guide, you'll learn how Apache Cassandra handles hundreds of terabytes of data while remaining highly available across multiple data centers -- capabilities that have attracted Facebook, Twitter, and other data-intensive companies. Cassandra: The Definitive Guide provides the technical details and practical examples you need to assess this database management system and put it to work in a production environment. Author Eben Hewitt demonstrates the advantages of Cassandra's nonrelational design, and pays special attention to data modeling. If you're a developer, DBA, application architect, or manager looking to solve a database scaling issue or future-proof your application, this guide shows you how to harness Cassandra's speed and flexibility. Understand the tenets of Cassandra's column-oriented structure Learn how to write, update, and read Cassandra data Discover how to add or remove nodes from the cluster as your application requires Examine a working application that translates from a relational model to Cassandra's data model Use examples for writing clients in Java, Python, and C# Use the JMX interface to monitor a cluster's usage, memory patterns, and more Tune memory settings, data storage, and caching for better performance

Design Patterns Refactoring to Patterns Pearson Education

Presents practical advice on the disciplines, techniques, tools, and practices of computer programming and how to approach software development with a sense of pride, honor, and self-respect.

If you're familiar with functional programming basics and want to gain a much deeper understanding, this in-depth guide takes you beyond syntax and demonstrates how you need

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to think in a new way. Software architect Neal Ford shows intermediate to advanced developers how functional coding allows you to step back a level of abstraction so you can see your programming problem with greater clarity. Each chapter shows you various examples of functional thinking, using numerous code examples from Java 8 and other JVM languages that include functional capabilities. This book may bend your mind, but you'll come away with a much better grasp of functional programming concepts. Understand why many imperative languages are adding functional capabilities Compare functional and imperative solutions to common problems Examine ways to cede control of routine chores to the runtime Learn how memoization and laziness eliminate hand-crafted solutions Explore functional approaches to design patterns and code reuse View real-world examples of functional thinking with Java 8, and in functional architectures and web frameworks Learn the pros and cons of living in a paradigmatically richer world If you're new to functional programming, check out Josh Backfield's book *Becoming Functional*.

Most modern business systems include independent applications that exchange information with each other—a technique usually called enterprise integration. An architectural approach called the Enterprise Service Bus (ESB) offers developers a way to handle the messages between those independent applications without creating a lot of custom code. While commercial ESB solutions can be quite expensive to implement and maintain, a set of high-quality open source ESB tools offer the same functionality at a substantially lower cost. *Open Source ESBs in Action* shows you how to implement and use two open source ESB implementations: Mule and ServiceMix. The authors introduce you to these freely-available ESB tools and present practical examples of how to use them in real-world scenarios. You will learn how the various features of an ESB such as transformation, routing, security, connectivity and more can be implemented using Mule and ServiceMix. You will also learn how to solve common enterprise integration problems using a structured approach. Beyond simply learning how Mule and Service Mix work, you'll learn the core techniques of ESB implementation such as Process Choreography, or the implementation of complex business processes through an ESB, and Service Orchestration, or exposing a set of services as a single service. The book shows you the fundamentals of ESB-based event processing and Quality of Service concerns like security, reliable delivery, and transaction management. Working in integration projects is exciting, with new technologies and paradigms arriving every day. Open Source technologies like Mule and ServiceMix both offer lower-cost solutions and a higher degree of innovation than commercial ESB implementations. *Open Source ESBs in Action* will help you master ESB-driven integration techniques quickly and will provide you with knowledge you need to work effectively with Mule and ServiceMix. 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.

Learn what it takes to succeed in the the most in-demand tech job Harvard Business Review calls it the sexiest tech job of the 21st century. Data scientists are in demand, and this unique book shows you exactly what employers want and the skill set that separates the quality data scientist from other talented IT

professionals. Data science involves extracting, creating, and processing data to turn it into business value. With over 15 years of big data, predictive modeling, and business analytics experience, author Vincent Granville is no stranger to data science. In this one-of-a-kind guide, he provides insight into the essential data science skills, such as statistics and visualization techniques, and covers everything from analytical recipes and data science tricks to common job interview questions, sample resumes, and source code. The applications are endless and varied: automatically detecting spam and plagiarism, optimizing bid prices in keyword advertising, identifying new molecules to fight cancer, assessing the risk of meteorite impact. Complete with case studies, this book is a must, whether you're looking to become a data scientist or to hire one. Explains the finer points of data science, the required skills, and how to acquire them, including analytical recipes, standard rules, source code, and a dictionary of terms Shows what companies are looking for and how the growing importance of big data has increased the demand for data scientists Features job interview questions, sample resumes, salary surveys, and examples of job ads Case studies explore how data science is used on Wall Street, in botnet detection, for online advertising, and in many other business-critical situations Developing Analytic Talent: Becoming a Data Scientist is essential reading for those aspiring to this hot career choice and for employers seeking the best candidates.

Domain Driven Design is a vision and approach for dealing with highly complex domains that is based on making the domain itself the main focus of the project, and maintaining a software model that reflects a deep understanding of the domain. This book is a short, quickly-readable summary and introduction to the fundamentals of DDD; it does not introduce any new concepts; it attempts to concisely summarize the essence of what DDD is, drawing mostly Eric Evans' original book, as well other sources since published such as Jimmy Nilsson's Applying Domain Driven Design, and various DDD discussion forums. The main topics covered in the book include: Building Domain Knowledge, The Ubiquitous Language, Model Driven Design, Refactoring Toward Deeper Insight, and Preserving Model Integrity. Also included is an interview with Eric Evans on Domain Driven Design today.

"Modern, efficient, and secure techniques for PHP professionals"--Cover.

Todo software passa por algum tipo de manutenção ao longo de sua vida. Por isso, é bom ter uma ferramenta para nos ajudar a criar programas fáceis de manter. É o que Zend Framework faz para a linguagem de programação PHP, usando o paradigma da Orientação a Objetos. Zend Framework 3 é um framework de código aberto para o desenvolvimento de aplicações e serviços Web com PHP, que segue uma filosofia de componentes use quando quiser. Neste livro, Flávio Lisboa se dirige a quem quer aprender Zend Framework 3 de verdade. Se você quer realmente aprender a programar em PHP e quer desenvolver com componentes reutilizáveis que podem ser adaptados às suas necessidades – pensando no melhor compromisso entre controle e desempenho

–, este é o livro certo. Você verá como aplicar o padrão MVC com ZF3, abordando os componentes Zendvc, Zendiew, e o componente de geração de formulários dinâmicos, o Zendorm, além de vários padrões e recomendações de desenvolvimento gerais e orientados para PHP. As versões das ferramentas utilizadas no livro são: Zend Framework 3, PHP 5.6 ou 7 e Zend Eclipse PDT 12

This is a focused guide with lots of practical recipes with presentations of business issues and presentation of the whole test of the system. This book shows the use of Mockito's popular unit testing frameworks such as JUnit, PowerMock, TestNG, and so on. If you are a software developer with no testing experience (especially with Mockito) and you want to start using Mockito in the most efficient way then this book is for you. This book assumes that you have a good knowledge level and understanding of Java-based unit testing frameworks.

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