

Mastering Java 9 Write Reactive Modular Concurrent And Secure Code

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Hands-On Design Patterns with Kotlin - Alexey Soshin 2018-06-15
Make the most of Kotlin by leveraging design patterns and best practices to build scalable and high performing apps Key Features Understand traditional GOF design patterns to apply generic solutions Shift from OOP to FP; covering reactive and concurrent patterns in a step-by-step manner Choose the best microservices architecture and MVC for your development environment Book Description Design patterns enable you as a developer to speed up the development process by providing you with proven development paradigms. Reusing design patterns helps prevent complex issues that can cause major problems, improves your code base, promotes code reuse, and makes an architecture more robust. The mission of this book is to ease the adoption of design patterns in Kotlin and provide good practices for programmers. The book begins by showing you the practical aspects of smarter coding in Kotlin, explaining the basic Kotlin syntax and the impact of design patterns. From there, the book provides an in-depth explanation of the classical design patterns of creational, structural, and behavioral families, before heading into functional programming. It then takes you through reactive and

concurrent patterns, teaching you about using streams, threads, and coroutines to write better code along the way 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 Get to grips with Kotlin principles, including its strengths and weaknesses Understand classical design patterns in Kotlin Explore functional programming using built-in features of Kotlin Solve real-world problems using reactive and concurrent design patterns Use threads and coroutines to simplify concurrent code flow Understand antipatterns to write clean Kotlin code, avoiding common pitfalls Learn about the design considerations necessary while choosing between architectures Who this book is for This book is for developers who would like to master design patterns with Kotlin to build efficient and scalable applications. Basic Java or Kotlin programming knowledge is assumed

IBM Cognos Dynamic Query - Nigel Campbell 2013-09-12

This IBM® Redbooks® publication explains how IBM Cognos® Business Intelligence (BI) administrators, authors, modelers, and power users can

use the dynamic query layer effectively. It provides guidance for determining which technology within the dynamic query layer can best satisfy your business requirements. Administrators can learn how to tune the query service effectively and preferred practices for managing their business intelligence content. This book includes information about metadata modeling of relational data sources with IBM Cognos Framework Manager. It includes considerations that can help you author high-performing applications that satisfy analytical requirements of users. This book provides guidance for troubleshooting issues related to the dynamic query layer of Cognos BI. Related documents: Solution Guide : Big Data Analytics with IBM Cognos BI Dynamic Query Blog post : IBM Cognos Dynamic Query Extensibility

RxJS in Action - Paul Daniels 2017-07-20

Summary RxJS in Action gives you the development skills you need to create reactive applications with RxJS. This book is full of theory and practical examples that build on each other and help you begin thinking in a reactive manner. Foreword by Ben Lesh, Project lead, RxJS 5. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology On the web, events and messages flow constantly between UI and server components. With RxJS, you can filter, merge, and transform these streams directly, opening the world of data flow programming to browser-based apps. This JavaScript implementation of the ReactiveX spec is perfect for on-the-fly tasks like autocomplete. Its asynchronous communication model makes concurrency much, much easier. About the Book RxJS in Action is your guide to building a reactive web UI using RxJS. You'll begin with an intro to stream-based programming as you explore the power of RxJS through practical examples. With the core concepts in hand, you'll tackle production techniques like error handling, unit testing, and interacting with frameworks like React and Redux. And because RxJS builds on ideas from the world of functional programming, you'll even pick up some key FP concepts along the way. What's Inside Building clean, declarative, fault-tolerant applications Transforming and composing streams Taming asynchronous processes Integrating streams

with third-party libraries Covers RxJS 5 About the Reader This book is suitable for readers comfortable with JavaScript and standard web application architectures. About the Author Paul P. Daniels is a professional software engineer with experience in .NET, Java, and JavaScript. Luis Atencio is a software engineer working daily with Java, PHP, and JavaScript platforms, and author of Manning's Functional Programming in JavaScript. Table of Contents PART 1 - UNDERSTANDING STREAMS Thinking reactively Reacting with RxJS Core operators It's about time you used RxJS PART 2 - OBSERVABLES IN PRACTICE Applied reactive streams Coordinating business processes Error handling with RxJS PART 3 MASTERING RXJS Heating up observables Toward testable, reactive programs RxJS in the wild [Building Evolutionary Architectures](#) - Neal Ford 2017-09-18

The software development ecosystem is constantly changing, providing a constant stream of new tools, frameworks, techniques, and paradigms. Over the past few years, incremental developments in core engineering practices for software development have created the foundations for rethinking how architecture changes over time, along with ways to protect important architectural characteristics as it evolves. This practical guide ties those parts together with a new way to think about architecture and time.

The Image of the City - Kevin Lynch 1964-06-15

The classic work on the evaluation of city form. What does the city's form actually mean to the people who live there? What can the city planner do to make the city's image more vivid and memorable to the city dweller? To answer these questions, Mr. Lynch, supported by studies of Los Angeles, Boston, and Jersey City, formulates a new criterion—imageability—and shows its potential value as a guide for the building and rebuilding of cities. The wide scope of this study leads to an original and vital method for the evaluation of city form. The architect, the planner, and certainly the city dweller will all want to read this book. *Introduction to Embedded Systems, Second Edition* - Edward Ashford Lee 2016-12-30

An introduction to the engineering principles of embedded systems, with

a focus on modeling, design, and analysis of cyber-physical systems. The most visible use of computers and software is processing information for human consumption. The vast majority of computers in use, however, are much less visible. They run the engine, brakes, seatbelts, airbag, and audio system in your car. They digitally encode your voice and construct a radio signal to send it from your cell phone to a base station. They command robots on a factory floor, power generation in a power plant, processes in a chemical plant, and traffic lights in a city. These less visible computers are called embedded systems, and the software they run is called embedded software. The principal challenges in designing and analyzing embedded systems stem from their interaction with physical processes. This book takes a cyber-physical approach to embedded systems, introducing the engineering concepts underlying embedded systems as a technology and as a subject of study. The focus is on modeling, design, and analysis of cyber-physical systems, which integrate computation, networking, and physical processes. The second edition offers two new chapters, several new exercises, and other improvements. The book can be used as a textbook at the advanced undergraduate or introductory graduate level and as a professional reference for practicing engineers and computer scientists. Readers should have some familiarity with machine structures, computer programming, basic discrete mathematics and algorithms, and signals and systems.

Java Projects - Peter Verhas 2018-08-31

Learn how to build scalable, resilient, and effective applications in Java that suit your software requirements. Key Features Explore advanced technologies that Java 11 delivers such as web programming and parallel computing Discover modern programming paradigms such as microservices, cloud computing and enterprise structures Build highly responsive applications with this practical introduction to Reactive programming Book Description Java is one of the most commonly used software languages by programmers and developers. In this book, you'll learn the new features of Java 11 quickly and experience a simple and powerful approach to software development. You'll see how to use the

Java runtime tools, understand the Java environment, and create a simple namesorting Java application. Further on, you'll learn about advanced technologies that Java delivers, such as web programming and parallel computing, and will develop a mastermind game. Moving on, we provide more simple examples, to build a foundation before diving into some complex data structure problems that will solidify your Java 11 skills. With a special focus on the features of new projects: Project Valhalla, Project Panama, Project Amber, and Project Loom, this book will help you get employed as a top-notch Java developer. By the end of the book, you'll have a firm foundation to continue your journey toward becoming a professional Java developer. What you will learn Compile, package, and run a program using a build management tool Get to know the principles of test-driven development Separate the wiring of multiple modules from application logic Use Java annotations for configuration Master the scripting API built into the Java language Understand static versus dynamic implementation of code Who this book is for This book is for anyone who wants to learn the Java programming language. No programming experience required. If you have prior experience, it will help you through the book more easily.

The Saffron Kitchen - Yasmin Crowther 2007-08-28

In a powerful debut novel that moves between the crowded streets of London and the desolate mountains of Iran, Yasmin Crowther paints a stirring portrait of a family shaken by events from decades ago and worlds away. On a rainy day in London the dark secrets and troubled past of Maryam Mazar surface violently, with tragic consequences for her daughter, Sara, and her newly orphaned nephew. Maryam leaves her English husband and family and returns to the remote Iranian village where her story began. In a quest to piece their life back together, Sara follows her mother and finally learns the terrible price Maryam once had to pay for her freedom, and of the love she left behind. Set against the breathtaking beauty of two very different places, this stunning family drama transcends culture and is, at its core, a rich and haunting narrative about mothers and daughters.

Learning SQL - Alan Beaulieu 2009-04-11

Updated for the latest database management systems -- including MySQL 6.0, Oracle 11g, and Microsoft's SQL Server 2008 -- this introductory guide will get you up and running with SQL quickly. Whether you need to write database applications, perform administrative tasks, or generate reports, *Learning SQL, Second Edition*, will help you easily master all the SQL fundamentals. Each chapter presents a self-contained lesson on a key SQL concept or technique, with numerous illustrations and annotated examples. Exercises at the end of each chapter let you practice the skills you learn. With this book, you will: Move quickly through SQL basics and learn several advanced features Use SQL data statements to generate, manipulate, and retrieve data Create database objects, such as tables, indexes, and constraints, using SQL schema statements Learn how data sets interact with queries, and understand the importance of subqueries Convert and manipulate data with SQL's built-in functions, and use conditional logic in data statements Knowledge of SQL is a must for interacting with data. With *Learning SQL*, you'll quickly learn how to put the power and flexibility of this language to work.

Learning RxJava - Thomas Nield 2017-06-20

Reactive Programming with Java and ReactiveX About This Book Explore the essential tools and operators RxJava provides, and know which situations to use them in Delve into Observables and Subscribers, the core components of RxJava used for building scalable and performant reactive applications Delve into the practical implementation of tools to effectively take on complex tasks such as concurrency and backpressure Who This Book Is For The primary audience for this book is developers with at least a fundamental mastery of Java. Some readers will likely be interested in RxJava to make programs more resilient, concurrent, and scalable. Others may be checking out reactive programming just to see what it is all about, and to judge whether it can solve any problems they may have. What You Will Learn Learn the features of RxJava 2 that bring about many significant changes, including new reactive types such as Flowable, Single, Maybe, and Completable Understand how reactive programming works and the mindset to "think reactively" Demystify the

Observable and how it quickly expresses data and events as sequences Learn the various Rx operators that transform, filter, and combine data and event sequences Leverage multicasting to push data to multiple destinations, and cache and replay them Discover how concurrency and parallelization work in RxJava, and how it makes these traditionally complex tasks trivial to implement Apply RxJava and Retrolambda to the Android domain to create responsive Android apps with better user experiences Use RxJava with the Kotlin language to express RxJava more idiomatically with extension functions, data classes, and other Kotlin features In Detail RxJava is a library for composing asynchronous and event-based programs using Observable sequences for the JVM, allowing developers to build robust applications in less time. *Learning RxJava* addresses all the fundamentals of reactive programming to help readers write reactive code, as well as teach them an effective approach to designing and implementing reactive libraries and applications. Starting with a brief introduction to reactive programming concepts, there is an overview of Observables and Observers, the core components of RxJava, and how to combine different streams of data and events together. You will also learn simpler ways to achieve concurrency and remain highly performant, with no need for synchronization. Later on, we will leverage backpressure and other strategies to cope with rapidly-producing sources to prevent bottlenecks in your application. After covering custom operators, testing, and debugging, the book dives into hands-on examples using RxJava on Android as well as Kotlin. Style and approach This book will be different from other Rx books, taking an approach that comprehensively covers Rx concepts and practical applications.

Mastering Microservices with Java 9 - Sourabh Sharma 2017-12-07

Master the art of implementing scalable microservices in your production environment with ease About This Book Use domain-driven design to build microservices Use Spring Cloud to use Service Discovery and Registration Use Kafka, Avro and Spring Streams for implementing event based microservices Who This Book Is For This book is for Java developers who are familiar with the microservices architecture and now wants to take a deeper dive into effectively implementing microservices

at an enterprise level. A reasonable knowledge level and understanding of core microservice elements and applications is expected. What You Will Learn Use domain-driven design to design and implement microservices Secure microservices using Spring Security Learn to develop REST service development Deploy and test microservices Troubleshoot and debug the issues faced during development Learning best practices and common principals about microservices In Detail Microservices are the next big thing in designing scalable, easy-to-maintain applications. It not only makes app development easier, but also offers great flexibility to utilize various resources optimally. If you want to build an enterprise-ready implementation of the microservices architecture, then this is the book for you! Starting off by understanding the core concepts and framework, you will then focus on the high-level design of large software projects. You will gradually move on to setting up the development environment and configuring it before implementing continuous integration to deploy your microservice architecture. Using Spring security, you will secure microservices and test them effectively using REST Java clients and other tools like RxJava 2.0. We'll show you the best patterns, practices and common principals of microservice design and you'll learn to troubleshoot and debug the issues faced during development. We'll show you how to design and implement reactive microservices. Finally, we'll show you how to migrate a monolithic application to microservices based application. By the end of the book, you will know how to build smaller, lighter, and faster services that can be implemented easily in a production environment. Style and approach This book starts from the basics, including environment setup and provides easy-to-follow steps to implement the sample project using microservices.

Machine Learning Systems - Jeffrey Smith 2018-05-21

Summary Machine Learning Systems: Designs that scale is an example-rich guide that teaches you how to implement reactive design solutions in your machine learning systems to make them as reliable as a well-built web app. Foreword by Sean Owen, Director of Data Science, Cloudera Purchase of the print book includes a free eBook in PDF, Kindle, and

ePub formats from Manning Publications. About the Technology If you're building machine learning models to be used on a small scale, you don't need this book. But if you're a developer building a production-grade ML application that needs quick response times, reliability, and good user experience, this is the book for you. It collects principles and practices of machine learning systems that are dramatically easier to run and maintain, and that are reliably better for users. About the Book Machine Learning Systems: Designs that scale teaches you to design and implement production-ready ML systems. You'll learn the principles of reactive design as you build pipelines with Spark, create highly scalable services with Akka, and use powerful machine learning libraries like MLib on massive datasets. The examples use the Scala language, but the same ideas and tools work in Java, as well. What's Inside Working with Spark, MLib, and Akka Reactive design patterns Monitoring and maintaining a large-scale system Futures, actors, and supervision About the Reader Readers need intermediate skills in Java or Scala. No prior machine learning experience is assumed. About the Author Jeff Smith builds powerful machine learning systems. For the past decade, he has been working on building data science applications, teams, and companies as part of various teams in New York, San Francisco, and Hong Kong. He blogs (<https://medium.com/@jeffksmithjr>), tweets (@jeffksmithjr), and speaks (www.jeffsmith.tech/speaking) about various aspects of building real-world machine learning systems. Table of Contents PART 1 - FUNDAMENTALS OF REACTIVE MACHINE LEARNING Learning reactive machine learning Using reactive tools PART 2 - BUILDING A REACTIVE MACHINE LEARNING SYSTEM Collecting data Generating features Learning models Evaluating models Publishing models Responding PART 3 - OPERATING A MACHINE LEARNING SYSTEM Delivering Evolving intelligence

Java 11 Cookbook - Nick Samoylov 2018-09-29

Solutions for modular, functional, reactive, GUI, network, and multithreaded programming Key Features Explore the latest features of Java 11 to implement efficient and reliable code Develop memory-efficient applications, understanding new garbage collection in Java 11 Create

restful webservices and microservices with Spring boot 2 and DockerBook Description For more than three decades, Java has been on the forefront of developing robust software that has helped versatile businesses meet their requirements. Being one of the most widely used programming languages in history, it's imperative for Java developers to discover effective ways of using it in order to take full advantage of the power of the latest Java features. Java 11 Cookbook offers a range of software development solutions with simple and straightforward Java 11 code examples to help you build a modern software system. Starting with the installation of Java, each recipe addresses various problem by explaining the solution and offering insights into how it works. You'll explore the new features added to Java 11 that will make your application modular, secure, and fast. The book contains recipes on functional programming, GUI programming, concurrent programming, and database programming in Java. You'll also be taken through the new features introduced in JDK 18.3 and 18.9. By the end of this book, you'll be equipped with the skills required to write robust, scalable, and optimal Java code effectively. What you will learnSet up JDK and understand what's new in the JDK 11 installationImplement object-oriented designs using classes and interfacesManage operating system processesCreate a modular application with clear dependenciesBuild graphical user interfaces using JavaFXUse the new HTTP Client APIExplore the new diagnostic features in Java 11Discover how to use the new JShell REPL toolWho this book is for The book is for intermediate-to-advanced Java programmers who want to make their applications fast, secure, and scalable.

Learning Functional Programming in Go - Lex Sheehan 2017-11-24
Function literals, Monads, Lazy evaluation, Currying, and more About This Book Write concise and maintainable code with streams and high-order functions Understand the benefits of currying your Golang functions Learn the most effective design patterns for functional programming and learn when to apply each of them Build distributed MapReduce solutions using Go Who This Book Is For This book is for Golang developers comfortable with OOP and interested in learning how

to apply the functional paradigm to create robust and testable apps. Prior programming experience with Go would be helpful, but not mandatory. What You Will Learn Learn how to compose reliable applications using high-order functions Explore techniques to eliminate side-effects using FP techniques such as currying Use first-class functions to implement pure functions Understand how to implement a lambda expression in Go Compose a working application using the decorator pattern Create faster programs using lazy evaluation Use Go concurrency constructs to compose a functionality pipeline Understand category theory and what it has to do with FP In Detail Functional programming is a popular programming paradigm that is used to simplify many tasks and will help you write flexible and succinct code. It allows you to decompose your programs into smaller, highly reusable components, without applying conceptual restraints on how the software should be modularized. This book bridges the language gap for Golang developers by showing you how to create and consume functional constructs in Golang. The book is divided into four modules. The first module explains the functional style of programming; pure functional programming (FP), manipulating collections, and using high-order functions. In the second module, you will learn design patterns that you can use to build FP-style applications. In the next module, you will learn FP techniques that you can use to improve your API signatures, to increase performance, and to build better Cloud-native applications. The last module delves into the underpinnings of FP with an introduction to category theory for software developers to give you a real understanding of what pure functional programming is all about, along with applicable code examples. By the end of the book, you will be adept at building applications the functional way. Style and approach This book takes a pragmatic approach and shows you techniques to write better functional constructs in Golang. We'll also show you how use these concepts to build robust and testable apps.

Java 9 Programming Blueprints - Jason Lee 2017-07-27

Build a variety of real-world applications by taking advantage of the newest features of Java 9 About This Book See some of the new features

of Java 9 and be introduced to parts of the Java SDK This book provides a set of diverse, interesting projects that range in complexity from fairly simple to advanced and cover HTTP 2.0 Take advantage of Java's new modularity features to write real-world applications that solve a variety of problems Who This Book Is For This book is for Java developers who are already familiar with the language. Familiarity with more advanced topics, such as network programming and threads, would be helpful, but is not assumed. What You Will Learn Learn how to package Java applications as modules by using the Java Platform Module System Implement process management in Java by using the all-new process handling API Integrate your applications with third-party services in the cloud Interact with mail servers using JavaMail to build an application that filters spam messages Learn to use JavaFX to build rich GUI based applications, which are an essential element of application development Write microservices in Java using platform libraries and third-party frameworks Integrate a Java application with MongoDB to build a cloud-based note taking application In Detail Java is a powerful language that has applications in a wide variety of fields. From playing games on your computer to performing banking transactions, Java is at the heart of everything. The book starts by unveiling the new features of Java 9 and quickly walks you through the building blocks that form the basis of writing applications. There are 10 comprehensive projects in the book that will showcase the various features of Java 9. You will learn to build an email filter that separates spam messages from all your inboxes, a social media aggregator app that will help you efficiently track various feeds, and a microservice for a client/server note application, to name a few. The book covers various libraries and frameworks in these projects, and also introduces a few more frameworks that complement and extend the Java SDK. Through the course of building applications, this book will not only help you get to grips with the various features of Java 9, but will also teach you how to design and prototype professional-grade applications with performance and security considerations. Style and approach This is a learn-as-you-build practical guide to building full-fledged applications using Java 9. With a project-based approach, we'll

improve your Java skills. You will experience a variety of solutions to problems with Java.

Mastering Concurrency Programming with Java 8 - Javier Fernández González 2016-02-29

Master the principles and techniques of multithreaded programming with the Java 8 Concurrency API About This Book Implement concurrent applications using the Java 8 Concurrency API and its new components Improve the performance of your applications or process more data at the same time, taking advantage of all of your resources. Construct real-world examples related to machine learning, data mining, image processing, and client/server environments Who This Book Is For If you are a competent Java developer with a good understanding of concurrency but have no knowledge of how to effectively implement concurrent programs or use streams to make processes more efficient, then this book is for you. What You Will Learn Design concurrent applications by converting a sequential algorithm into a concurrent one Discover how to avoid all the possible problems you can get in concurrent algorithms Use the Executor framework to manage concurrent tasks without creating threads Extend and modify Executors to adapt their behavior to your needs Solve problems using the divide and conquer technique and the Fork/Join framework Process massive data sets with parallel streams and Map/Reduce implementation Control data-race conditions using concurrent data structures and synchronization mechanisms Test and monitor concurrent applications In Detail Concurrency programming allows several large tasks to be divided into smaller sub-tasks, which are further processed as individual tasks that run in parallel. All the sub-tasks are combined together once the required results are achieved; they are then merged to get the final output. The whole process is very complex. This process goes from the design of concurrent algorithms to the testing phase where concurrent applications need extra attention. Java includes a comprehensive API with a lot of ready-to-use components to implement powerful concurrency applications in an easy way, but with a high flexibility to adapt these components to your needs. The book starts with a full

description of design principles of concurrent applications and how to parallelize a sequential algorithm. We'll show you how to use all the components of the Java Concurrency API from basics to the most advanced techniques to implement them in powerful concurrency applications in Java. You will be using real-world examples of complex algorithms related to machine learning, data mining, natural language processing, image processing in client / server environments. Next, you will learn how to use the most important components of the Java 8 Concurrency API: the Executor framework to execute multiple tasks in your applications, the Phaser class to implement concurrent tasks divided into phases, and the Fork/Join framework to implement concurrent tasks that can be split into smaller problems (using the divide and conquer technique). Toward the end, we will cover the new inclusions in Java 8 API, the Map and Reduce model, and the Map and Collect model. The book will also teach you about the data structures and synchronization utilities to avoid data-race conditions and other critical problems. Finally, the book ends with a detailed description of the tools and techniques that you can use to test a Java concurrent application. Style and approach A complete guide implementing real-world examples with algorithms related to machine learning, data mining, and natural language processing in client/server environments. All the examples are explained in a step-by-step approach.

Hands-On Design Patterns with Swift - Florent Vilmart 2018-12-24

From learning about the most sought-after design patterns to a comprehensive coverage of architectural patterns and code testing, this book is all you need to write clean, reusable code Key Features Write clean, reusable and maintainable code, and make the most of the latest Swift version. Analyze case studies of some of the popular open source projects and give your workflow a huge boost Choose patterns such as MVP, MVC, and MVVM depending on the application being built Book Description Swift keeps gaining traction not only amongst Apple developers but also as a server-side language. This book demonstrates how to apply design patterns and best practices in real-life situations, whether that's for new or already existing projects. You'll begin with a

quick refresher on Swift, the compiler, the standard library, and the foundation, followed by the Cocoa design patterns - the ones at the core of many cocoa libraries - to follow up with the creational, structural, and behavioral patterns as defined by the GoF. You'll get acquainted with application architecture, as well as the most popular architectural design patterns, such as MVC and MVVM, and learn to use them in the context of Swift. In addition, you'll walk through dependency injection and functional reactive programming. Special emphasis will be given to techniques to handle concurrency, including callbacks, futures and promises, and reactive programming. These techniques will help you adopt a test-driven approach to your workflow in order to use Swift Package Manager and integrate the framework into the original code base, along with Unit and UI testing. By the end of the book, you'll be able to build applications that are scalable, faster, and easier to maintain. What you will learn Work efficiently with Foundation and Swift Standard library Understand the most critical GoF patterns and use them efficiently Use Swift 4.2 and its unique capabilities (and limitations) to implement and improve GoF patterns Improve your application architecture and optimize for maintainability and performance Write efficient and clean concurrent programs using futures and promises, or reactive programming techniques Use Swift Package Manager to refactor your program into reusable components Leverage testing and other techniques for writing robust code Who this book is for This book is for intermediate developers who want to apply design patterns with Swift to structure and scale their applications. You are expected to have basic knowledge of iOS and Swift.

Node.js Design Patterns - Mario Casciaro 2016-07-18

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

developers and software architects with a basic working knowledge of JavaScript who are interested in acquiring a deeper understanding of how to design and develop enterprise-level Node.js applications. Basic knowledge of Node.js is also helpful to get the most out of this book.

What You Will Learn Design and implement a series of server-side JavaScript patterns so you understand why and when to apply them in different use case scenarios Become comfortable with writing asynchronous code by leveraging constructs such as callbacks, promises, generators and the `async-await` syntax Identify the most important concerns and apply unique tricks to achieve higher scalability and modularity in your Node.js application Untangle your modules by organizing and connecting them coherently Reuse well-known techniques to solve common design and coding issues Explore the latest trends in Universal JavaScript, learn how to write code that runs on both Node.js and the browser and leverage React and its ecosystem to implement universal applications

In Detail Node.js is a massively popular software platform that lets you use JavaScript to easily create scalable server-side applications. It allows you to create efficient code, enabling a more sustainable way of writing software made of only one language across the full stack, along with extreme levels of reusability, pragmatism, simplicity, and collaboration. Node.js is revolutionizing the web and the way people and companies create their software. In this book, we will take you on a journey across various ideas and components, and the challenges you would commonly encounter while designing and developing software using the Node.js platform. You will also discover the "Node.js way" of dealing with design and coding decisions. The book kicks off by exploring the basics of Node.js describing its asynchronous single-threaded architecture and the main design patterns. It then shows you how to master the asynchronous control flow patterns, and the stream component and it culminates into a detailed list of Node.js implementations of the most common design patterns as well as some specific design patterns that are exclusive to the Node.js world. Lastly, it dives into more advanced concepts such as Universal Javascript, and scalability' and it's meant to conclude the journey by giving the reader all

the necessary concepts to be able to build an enterprise grade application using Node.js. Style and approach This book takes its intended readers through a comprehensive explanation to create a scalable and efficient real-time server-side apps.

System Engineering Analysis, Design, and Development - Charles S. Wasson 2015-11-16

Praise for the first edition: "This excellent text will be useful to every system engineer (SE) regardless of the domain. It covers ALL relevant SE material and does so in a very clear, methodical fashion. The breadth and depth of the author's presentation of SE principles and practices is outstanding." -Philip Allen This textbook presents a comprehensive, step-by-step guide to System Engineering analysis, design, and development via an integrated set of concepts, principles, practices, and methodologies. The methods presented in this text apply to any type of human system -- small, medium, and large organizational systems and system development projects delivering engineered systems or services across multiple business sectors such as medical, transportation, financial, educational, governmental, aerospace and defense, utilities, political, and charity, among others. Provides a common focal point for "bridging the gap" between and unifying System Users, System Acquirers, multi-discipline System Engineering, and Project, Functional, and Executive Management education, knowledge, and decision-making for developing systems, products, or services Each chapter provides definitions of key terms, guiding principles, examples, author's notes, real-world examples, and exercises, which highlight and reinforce key SE&D concepts and practices Addresses concepts employed in Model-Based Systems Engineering (MBSE), Model-Driven Design (MDD), Unified Modeling Language (UMLTM) / Systems Modeling Language (SysMLTM), and Agile/Spiral/V-Model Development such as user needs, stories, and use cases analysis; specification development; system architecture development; User-Centric System Design (UCSD); interface definition & control; system integration & test; and Verification & Validation (V&V) Highlights/introduces a new 21st Century Systems Engineering & Development (SE&D) paradigm that is easy

to understand and implement. Provides practices that are critical staging points for technical decision making such as Technical Strategy Development; Life Cycle requirements; Phases, Modes, & States; SE Process; Requirements Derivation; System Architecture Development, User-Centric System Design (UCSD); Engineering Standards, Coordinate Systems, and Conventions; et al. Thoroughly illustrated, with end-of-chapter exercises and numerous case studies and examples, Systems Engineering Analysis, Design, and Development, Second Edition is a primary textbook for multi-discipline, engineering, system analysis, and project management undergraduate/graduate level students and a valuable reference for professionals.

Java 9: Building Robust Modular Applications - Dr. Edward Lavieri
2018-04-13

Mastering advanced features of Java and implement them to build amazing projects Key Features Take advantage of Java's new modularity features to write real-world applications that solve a variety of problems Explore the major concepts introduced with Java 9, including modular programming, HTTP 2.0, API changes, and more Get to grips with tools, techniques and best practices to enhance application development Book Description Java 9 and its new features add to the richness of the language; Java is one of the languages most used by developers to build robust software applications. Java 9 comes with a special emphasis on modularity with its integration with Jigsaw. This course is your one-stop guide to mastering the language. You'll be provided with an overview and explanation of the new features introduced in Java 9 and the importance of the new APIs and enhancements. Some new features of Java 9 are ground-breaking; if you are an experienced programmer, you will be able to make your enterprise applications leaner by learning these new features. You'll be provided with practical guidance in applying your newly acquired knowledge of Java 9 and further information on future developments of the Java platform. This course will improve your productivity, making your applications faster. Next, you'll go on to implement everything you've learned by building 10 cool

projects. You will learn to build an email filter that separates spam messages from all your inboxes, a social media aggregator app that will help you efficiently track various feeds, and a microservice for a client/server note application, to name just a few. By the end of this course, you will be well acquainted with Java 9 features and able to build your own applications and projects. This Learning Path contains the best content from the following two recently published Packt products:

- **Mastering Java 9** • **Java 9 Programming Blueprints** What you will learn Package Java applications as modules using the Java Platform Module System Implement process management in Java using the all-new process handling API Integrate your applications with third-party services in the cloud Interact with mail servers, using JavaMail to build an application that filters spam messages Use JavaFX to build rich GUI-based applications, which are an essential element of application development Leverage the possibilities provided by the newly introduced Java shell Test your application's effectiveness with the JVM harness See how Java 9 provides support for the HTTP 2.0 standard Who this book is for This learning path is for Java developers who are looking to move a level up and learn how to build robust applications in the latest version of Java.

Java 9 Programming By Example - Peter Verhas 2017-04-26

Get the steps you need to discover the world of Java 9 programming using real-world examples About This Book We bridge the gap between "learning" and "doing" by providing real-world examples that will improve your software development Our example-based approach will get you started quickly with software programming, get you up-to-speed with Java 9, and improve your Java skills This book will show you the best practices of Java coding and improve your productivity Who This Book Is For This book is for anyone who wants to learn the Java programming language. You are expected to have some prior programming experience with another language, such as JavaScript or Python, but no knowledge of earlier versions of Java is assumed. What You Will Learn Compile, package and run a trivial program using a build management tool Get to know the principles of test-driven development and dependency

management Separate the wiring of multiple modules from the application logic into an application using dependency injection
Benchmark Java execution using Java 9 microbenchmarking See the workings of the Spring framework and use Java annotations for the configuration Master the scripting API built into the Java language and use the built-in JavaScript interpreter Understand static versus dynamic implementation of code and high-order reactive programming in Java In Detail This book gets you started with essential software development easily and quickly, guiding you through Java's different facets. By adopting this approach, you can bridge the gap between learning and doing immediately. You will learn the new features of Java 9 quickly and experience a simple and powerful approach to software development. You will be able to use the Java runtime tools, understand the Java environment, and create Java programs. We then cover more simple examples to build your foundation before diving to some complex data structure problems that will solidify your Java 9 skills. With a special focus on modularity and HTTP 2.0, this book will guide you to get employed as a top notch Java developer. By the end of the book, you will have a firm foundation to continue your journey towards becoming a professional Java developer. Style and approach Throughout this book, our aim is to build Java programs. We will be building multiple applications ranging from simpler ones to more complex ones. Learning by doing has its advantages as you will immediately see the concepts explained in action.

IBM IMS Solutions for Automating Database Management - Paolo Bruni
2014-12-09

Over the last few years, IBM® IMSTM and IMS tools have been modernizing the interfaces to IMS and the IMS tools to bring them more in line with the current interface designs. As the mainframe software products are becoming more integrated with the Windows and mobile environments, a common approach to interfaces is becoming more relevant. The traditional 3270 interface with ISPF as the main interface is no longer the only way to do some of these processes. There is also a need to provide more of a common looking interface so the tools do not

have a product-specific interface. This allows more cross product integration. Eclipse and web-based interfaces being used in a development environment, tooling using those environments provides productivity improvements in that the interfaces are common and familiar. IMS and IMS tools developers are making use of those environments to provide tooling that will perform some of the standard DBA functions. This book will take some selected processes and show how this new tooling can be used. This will provide some productivity improvements and also provide a more familiar environment for new generations DBAs. Some of the functions normally done by DBA or console operators can now be done in this eclipse-based environment by the application developers. This means that the need to request these services from others can be eliminated. This IBM Redbooks® publication examines specific IMS DBA processes and highlights the new IMS and IMS tools features, which show an alternative way to accomplish those processes. Each chapter highlights a different area of the DBA processes like: PSB creation Starting/stopping a database in an IMS system Recovering a database Cloning a set of databases

Learning Concurrent Programming in Scala - Aleksandar Prokopec
2014-11-28

This book is a must-have tutorial for software developers aiming to write concurrent programs in Scala, or broaden their existing knowledge of concurrency. This book is intended for Scala programmers that have no prior knowledge about concurrent programming, as well as those seeking to broaden their existing knowledge about concurrency. Basic knowledge of the Scala programming language will be helpful. Readers with a solid knowledge in another programming language, such as Java, should find this book easily accessible.

Java 9 Modularity - Sander Mak 2017-09-07

The upcoming Java 9 module system will affect existing applications and offer new ways of creating modular and maintainable applications. With this hands-on book, Java developers will learn not only about the joys of modularity, but also about the patterns needed to create truly modular and reliable applications. Authors Sander Mak and Paul Bakker teach

you the concepts behind the Java 9 module system, along with the new tools it offers. You'll also learn how to modularize existing code and how to build new Java applications in a modular way. Understand Java 9 module system concepts Master the patterns and practices for building truly modular applications Migrate existing applications and libraries to Java 9 modules Use JDK 9 tools for modular development and migration
Learning Reactive Programming with Java 8 - Nikolay Tsvetinov
2015-06-24

Whether you are a Java expert or at a beginner level, you'll benefit from this book, because it will teach you a brand new way of coding and thinking. The book starts with an explanation of what reactive programming is, why it is so appealing, and how we can integrate it in to Java. It continues by introducing the new Java 8 syntax features, such as lambdas and function references, and some functional programming basics. From this point on, the book focuses on RxJava in depth. It goes through creating Observables, transforming, filtering, and combining them, and concurrency and testing to finish with extending the library itself. This book is a definite tutorial in RxJava filled with a lot of well-described examples. It explains reactive programming concepts in plain and readable language, without scientific formulas and terms.

Learning RxJava - Second Edition - Nick Samoylov 2020-02-28

Data Mining - Ian H. Witten 2000

This book offers a thorough grounding in machine learning concepts combined with practical advice on applying machine learning tools and techniques in real-world data mining situations. Clearly written and effectively illustrated, this book is ideal for anyone involved at any level in the work of extracting usable knowledge from large collections of data. Complementing the book's instruction is fully functional machine learning software.

Modern Java in Action - Raoul-Gabriel Urma 2018-09-26

Summary Manning's bestselling Java 8 book has been revised for Java 9! In *Modern Java in Action*, you'll build on your existing Java language skills with the newest features and techniques. Purchase of the print

book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Modern applications take advantage of innovative designs, including microservices, reactive architectures, and streaming data. Modern Java features like lambdas, streams, and the long-awaited Java Module System make implementing these designs significantly easier. It's time to upgrade your skills and meet these challenges head on! About the Book *Modern Java in Action* connects new features of the Java language with their practical applications. Using crystal-clear examples and careful attention to detail, this book respects your time. It will help you expand your existing knowledge of core Java as you master modern additions like the Streams API and the Java Module System, explore new approaches to concurrency, and learn how functional concepts can help you write code that's easier to read and maintain. What's inside Thoroughly revised edition of Manning's bestselling *Java 8 in Action* New features in Java 8, Java 9, and beyond Streaming data and reactive programming The Java Module System About the Reader Written for developers familiar with core Java features. About the Author Raoul-Gabriel Urma is CEO of Cambridge Spark. Mario Fusco is a senior software engineer at Red Hat. Alan Mycroft is a University of Cambridge computer science professor; he cofounded the Raspberry Pi Foundation. Table of Contents PART 1 - FUNDAMENTALS Java 8, 9, 10, and 11: what's happening? Passing code with behavior parameterization Lambda expressions PART 2 - FUNCTIONAL-STYLE DATA PROCESSING WITH STREAMS Introducing streams Working with streams Collecting data with streams Parallel data processing and performance PART 3 - EFFECTIVE PROGRAMMING WITH STREAMS AND LAMBIDAS Collection API enhancements Refactoring, testing, and debugging Domain-specific languages using lambdas PART 4 - EVERYDAY JAVA Using Optional as a better alternative to null New Date and Time API Default methods The Java Module System PART 5 - ENHANCED JAVA CONCURRENCY Concepts behind CompletableFuture and reactive programming CompletableFuture: composable asynchronous programming Reactive programming PART 6 - FUNCTIONAL PROGRAMMING AND FUTURE JAVA EVOLUTION

Thinking functionally Functional programming techniques Blending OOP and FP: Comparing Java and Scala Conclusions and where next for Java

Reactive Programming with Java 9 - Tejaswini Mandar Jog 2017-09-20

This book will teach you how to build robust asynchronous and event-driven applications with ease. About This Book* Learn about Java 9's Flow API, Reactive programming along with Kafka and Mockito, and how these aspects are utilized by RxJava* Build fast and concurrent applications with ease, without the complexity of Java's concurrent API and shared states, with the help of Spring* Explore a wide variety of code examples to easily get used to all the features and tools provided by RxJava Who This Book Is For This book targets existing Java developers who want to understand Reactive programming and build responsive and resilient asynchronous applications using Reactive stream implementations. What You Will Learn* Understand the Reactive Manifesto* Grasp the Reactive Streams types introduced in Java 9 in the form of the Flow API* Use RxJava, a Reactive Streams implementation, to build asynchronous applications* Build responsiveness and resilience into applications using RxJava operators* Demonstrate the usage of Hystrix, a latency and fault tolerance library from Netflix that uses RxJava* Implement Reactive web applications using Spring Framework 5 and RxJava In Detail Reactive programming is an asynchronous programming model that helps you tackle the essential complexity that comes with writing such applications. Using Reactive programming to start building applications is not immediately intuitive to a developer who has been writing programs in the imperative paradigm. To tackle the essential complexity, Reactive programming uses declarative and functional paradigms to build programs. This book sets out to make the paradigm shift easy. This book begins by explaining what Reactive programming is, the Reactive manifesto, and the Reactive Streams specification. It uses Java 9 to introduce the declarative and functional paradigm, which is necessary to write programs in the Reactive style. It explains Java 9's Flow API, an adoption of the Reactive Streams specification. From this point on, it focuses on RxJava 2.0, covering topics such as creating, transforming, filtering, combining, and testing Observables.

It discusses how to use Java's popular framework, Spring, to build event-driven, Reactive applications. You will also learn how to implement resiliency patterns using Hystrix. By the end, you will be fully equipped with the tools and techniques needed to implement robust, event-driven, Reactive applications. Style and approach This book is a tutorial about Reactive programming in Java using APIs as well as the RxJava library. Packed with a lot of well-described examples, it explains Reactive programming concepts in plain and readable language.

Learning SAS by Example - Ron Cody 2018-07-03

Learn to program SAS by example! *Learning SAS by Example, A Programmer's Guide, Second Edition*, teaches SAS programming from very basic concepts to more advanced topics. Because most programmers prefer examples rather than reference-type syntax, this book uses short examples to explain each topic. The second edition has brought this classic book on SAS programming up to the latest SAS version, with new chapters that cover topics such as PROC SGPLOT and Perl regular expressions. This book belongs on the shelf (or e-book reader) of anyone who programs in SAS, from those with little programming experience who want to learn SAS to intermediate and even advanced SAS programmers who want to learn new techniques or identify new ways to accomplish existing tasks. In an instructive and conversational tone, author Ron Cody clearly explains each programming technique and then illustrates it with one or more real-life examples, followed by a detailed description of how the program works. The text is divided into four major sections: Getting Started, DATA Step Processing, Presenting and Summarizing Your Data, and Advanced Topics. Subjects addressed include Reading data from external sources Learning details of DATA step programming Subsetting and combining SAS data sets Understanding SAS functions and working with arrays Creating reports with PROC REPORT and PROC TABULATE Getting started with the SAS macro language Leveraging PROC SQL Generating high-quality graphics Using advanced features of user-defined formats and informats Restructuring SAS data sets Working with multiple observations per subject Getting started with Perl regular expressions You can test your

knowledge and hone your skills by solving the problems at the end of each chapter.

Mastering Concurrency Programming with Java 9 - Javier Fernandez Gonzalez 2017-07-17

Master the principles to make applications robust, scalable and responsive About This Book Implement concurrent applications using the Java 9 Concurrency API and its new components Improve the performance of your applications and process more data at the same time, taking advantage of all of your resources Construct real-world examples related to machine learning, data mining, natural language processing, and more Who This Book Is For This book is for competent Java developers who have basic understanding of concurrency, but knowledge of effective implementation of concurrent programs or usage of streams for making processes more efficient is not required What You Will Learn Master the principles that every concurrent application must follow See how to parallelize a sequential algorithm to obtain better performance without data inconsistencies and deadlocks Get the most from the Java Concurrency API components Separate the thread management from the rest of the application with the Executor component Execute phased-based tasks in an efficient way with the Phaser components Solve problems using a parallelized version of the divide and conquer paradigm with the Fork / Join framework Find out how to use parallel Streams and Reactive Streams Implement the “map and reduce” and “map and collect” programming models Control the concurrent data structures and synchronization mechanisms provided by the Java Concurrency API Implement efficient solutions for some actual problems such as data mining, machine learning, and more In Detail Concurrency programming allows several large tasks to be divided into smaller sub-tasks, which are further processed as individual tasks that run in parallel. Java 9 includes a comprehensive API with lots of ready-to-use components for easily implementing powerful concurrency applications, but with high flexibility so you can adapt these components to your needs. The book starts with a full description of the design principles of concurrent applications and explains how to parallelize a

sequential algorithm. You will then be introduced to Threads and Runnable, which are an integral part of Java 9's concurrency API. You will see how to use all the components of the Java concurrency API, from the basics to the most advanced techniques, and will implement them in powerful real-world concurrency applications. The book ends with a detailed description of the tools and techniques you can use to test a concurrent Java application, along with a brief insight into other concurrency mechanisms in JVM. Style and approach This is a complete guide that implements real-world examples of algorithms related to machine learning, data mining, and natural language processing in client/server environments. All the examples are explained using a step-by-step approach.

Mastering Java 11 - Edward Lavieri 2018-09-27

Update your Java knowledge with the latest features of Java 11, such as the low-Overhead Garbage Collector, Local-Variable Syntax for Lambda Parameters, and Dynamic Class-File Constants Key Features Explore the latest features in Java 9, Java 10, and Java 11 Enhance your Java application development and migration approaches Full coverage of modular Java applications, G1 Garbage Collector, JMH Book Description Java 11 is a long-term release and its new features add to the richness of the language. It emphasizes variable-type inference, performance improvements, along with simplified multithreading. The Java platform has a special emphasis on modularity, making this the programming platform of choice for millions of developers. The modern Java platform can be used to build robust software applications, including enterprise-level and mobile applications. Fully updated for Java 11, this book stands to help any Java developer enjoy the richness of the Java programming language. Mastering Java 11 is your one-stop guide to fully understanding recent Java platform updates. It contains detailed explanations of the recent features introduced in Java 9, Java 10, and Java 11 along with obtaining practical guidance on how to apply the new features. As you make your way through the chapters, you'll discover further information on the developments of the Java platform and learn about the changes introduced by the variable handles and Project Coin,

along with several enhancements in relation to import statements processing. In the concluding chapters, you'll learn to improve your development productivity, making your applications more efficient. You'll also be able to get to grips with the command-line flags with respect to various utilities and the command-line utility changes featured in the current Java platform. By the end of the book, you'll have obtained an advanced level understanding of the Java platform and its recent changes. What you will learn

- Write modular Java applications
- Migrate existing Java applications to modular ones
- Understand how the default G1 garbage collector works
- Leverage the possibilities provided by the newly introduced Java Shell
- Performance test your application effectively with the JVM harness
- Learn how Java supports the HTTP 2.0 standard
- Find out how to use the new Process API
- Explore the additional enhancements and features of Java 9, 10, and 11

Who this book is for

Mastering Java 11 is for experienced Java developers with a solid understanding of the Java language and want to progress to an advanced level.

Mastering Java 9 - Martin Toshev 2017-02-28

Your road to becoming a Java Ninja begins here! About This Book* Build highly scalable, fast, and secure applications* This book covers the major concepts introduced with the new version of Java 9, which includes modular programming, HTTP 2.0, API changes, and more* New concepts, commands, and terminology are explained in plain language and a step-by-step manner, making it easy to understand Who This Book Is For This book is for enterprise developers and existing Java developers. Basic knowledge of Java would help. What You Will Learn* Write modular Java applications in terms of the newly introduced module system* Migrate existing Java applications to modular ones* Understand how to use the G1 garbage collector in order to leverage the performance of your applications* Leverage the possibilities provided the newly introduced Java shell* Test your application's effectiveness with the JVM harness* See how Java 9 provides support for the http 2.0 standard* Use the new process API* Discover additional enhancements and features provided by Java 9 In Detail Java 9 and its new features add to the

richness of the language, one of the languages most used by developers to build robust software applications. Java 9 comes with a special emphasis on modularity with its integration with Jigsaw. This is your one-stop guide to mastering the language. You'll be provided with an overview and explanation of the new features introduced in Java 9 and the importance of the new APIs and enhancements. Some of the new features of Java 9 are ground-breaking and if you are an experienced programmer, you will be able to make your enterprise application leaner by learning these new features. You'll be provided with practical guidance in applying the newly acquired knowledge in regards to Java 9 and further information on future developments of the Java platform. This book will improve your productivity, making your application faster. By learning the best practices in Java, you'll become the "go-to" person in your organization. By the end of the book, you'll not only know the important concepts of Java 9, but you'll also have a nuanced understanding of the important aspects of programming with this great language.

The Java Module System - Nicolai Parlog 2019-06-26

Summary Java's much-awaited "Project Jigsaw" is finally here! Java 11 includes a built-in modularity framework, and The Java Module System is your guide to discovering it. In this new book, you'll learn how the module system improves reliability and maintainability, and how it can be used to reduce tight coupling of system components. Foreword by Kevlin Henney. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. You'll find registration instructions inside the print book. About the Technology Packaging code into neat, well-defined units makes it easier to deliver safe and reliable applications. The Java Platform Module System is a language standard for creating these units. With modules, you can closely control how JARs interact and easily identify any missing dependencies at startup. This shift in design is so fundamental that starting with Java 9, all core Java APIs are distributed as modules, and libraries, frameworks, and applications will benefit from doing the same. About the Book The Java Module System is your in-depth guide to

creating and using Java modules. With detailed examples and easy-to-understand diagrams, you'll learn the anatomy of a modular Java application. Along the way, you'll master best practices for designing with modules, debugging your modular app, and deploying to production. What's inside The anatomy of a modular Java app Building modules from source to JAR Migrating to modular Java Decoupling dependencies and refining APIs Handling reflection and versioning Customizing runtime images Updated for Java 11 About the Reader Perfect for developers with some Java experience. About the Author Nicolai Parlog is a developer, author, speaker, and trainer. His home is codefx.org. Table of Contents PART 1 - Hello, modules First piece of the puzzle Anatomy of a modular application Defining modules and their properties Building modules from source to JAR Running and debugging modular applications PART 2 - Adapting real-world projects Compatibility challenges when moving to Java 9 or later Recurring challenges when running on Java 9 or later Incremental modularization of existing projects Migration and modularization strategies PART 3 - Advanced module system features Using services to decouple modules Refining dependencies and APIs Reflection in a modular world Module versions: What's possible and what's not Customizing runtime images with jlink Putting the pieces together

[Building Microservices with Micronaut®](#) - Nirmal Singh 2021-09-30 Explore different aspects of building modular microservices such as development, testing, maintenance, and deployment using the Micronaut framework Key Features Learn how to build scalable, fast, and resilient microservices with this concise guide Explore the many advantages of using reflection-free, compile-time dependency injections and aspect-oriented programming Build cloud-native applications easily with the Micronaut framework Book Description The open source Micronaut® framework is a JVM-based toolkit designed to create microservices quickly and easily. This book will help full-stack and Java developers build modular, high-performing, and reactive microservice-based apps using the Micronaut framework. You'll start by building microservices and learning about the core components, such as ahead-of-time

compilation, reflection-less dependency injection, and reactive baked-in HTTP clients and servers. Next, you will work on a real-time microservice application and learn how to integrate Micronaut projects with different kinds of relational and non-relational databases. You'll also learn how to employ different security mechanisms to safeguard your microservices and integrate microservices using event-driven architecture in the Apache Kafka ecosystem. As you advance, you'll get to grips with automated testing and popular testing tools. The book will help you understand how you can easily handle microservice concerns in Micronaut projects, such as service discovery, API documentation, distributed configuration management, fallbacks, and circuit breakers. Finally, you'll explore the deployment and maintenance aspects of microservices and get up to speed with the Internet of Things (IoT) using the Framework. By the end of this book, you'll be able to build, test, deploy, and maintain your own microservice apps using the framework. What you will learn Understand why the Micronaut framework is best suited for building microservices Build web endpoints and services in the Micronaut framework Safeguard microservices using Session, JWT, and OAuth in Micronaut projects Get to grips with event-driven architecture in Micronaut applications Discover how to automate testing at various levels using built-in tools and testing frameworks Deploy your microservices to containers and cloud platforms Become well-versed with distributed logging, tracing, and monitoring in Micronaut projects Get hands-on with the IoT using Alexa and the Micronaut framework Who this book is for This book is for developers who have been building microservices on traditional frameworks such as Spring Boot and are looking for a faster alternative. Intermediate-level knowledge of Java programming and implementing web services development in Java is required.

[Mastering Shiny](#) - Hadley Wickham 2021-04-29 Master the Shiny web framework—and take your R skills to a whole new level. By letting you move beyond static reports, Shiny helps you create fully interactive web apps for data analyses. Users will be able to jump between datasets, explore different subsets or facets of the data, run

models with parameter values of their choosing, customize visualizations, and much more. Hadley Wickham from RStudio shows data scientists, data analysts, statisticians, and scientific researchers with no knowledge of HTML, CSS, or JavaScript how to create rich web apps from R. This in-depth guide provides a learning path that you can follow with confidence, as you go from a Shiny beginner to an expert developer who can write large, complex apps that are maintainable and performant. Get started: Discover how the major pieces of a Shiny app fit together Put Shiny in action: Explore Shiny functionality with a focus on code samples, example apps, and useful techniques Master reactivity: Go deep into the theory and practice of reactive programming and examine reactive graph components Apply best practices: Examine useful techniques for making your Shiny apps work well in production

Hands-On Reactive Programming with Reactor - Rahul Sharma

2018-09-29

Discover how project Reactor enhances the reactive programming paradigm and allows you to build scalable asynchronous applications Key Features Use reactive APIs, Flux, and Mono to implement reactive extensions Create concurrent applications without the complexity of Java's concurrent API Understand techniques to implement event-driven and reactive applications Book Description Reactor is an implementation of the Java 9 Reactive Streams specification, an API for asynchronous data processing. This specification is based on a reactive programming paradigm, enabling developers to build enterprise-grade, robust applications with reduced complexity and in less time. Hands-On Reactive Programming with Reactor shows you how Reactor works, as well as how to use it to develop reactive applications in Java. The book begins with the fundamentals of Reactor and the role it plays in building effective applications. You will learn how to build fully non-blocking applications and will later be guided by the Publisher and Subscriber APIs. You will gain an understanding how to use two reactive composable APIs, Flux and Mono, which are used extensively to implement Reactive Extensions. All of these components are combined using various operations to build a complete solution. In addition to this, you will get to

grips with the Flow API and understand backpressure in order to control overruns. You will also study the use of Spring WebFlux, an extension of the Reactor framework for building microservices. By the end of the book, you will have gained enough confidence to build reactive and scalable microservices. What you will learn Explore benefits of the Reactive paradigm and the Reactive Streams API Discover the impact of Flux and Mono implications in Reactor Expand and repeat data in stream processing Get to grips with various types of processors and choose the best one Understand how to map errors to make corrections easier Create robust tests using testing utilities offered by Reactor Find the best way to schedule the execution of code Who this book is for If you're looking to develop event- and data-driven applications easily with Reactor, this book is for you. Sound knowledge of Java fundamentals is necessary to understand the concepts covered in the book.

Java 9 High Performance - Mayur Ramgir 2017-11-01

Best practices to adapt and bottlenecks to avoid About This Book Tackle all kinds of performance-related issues and streamline your development Master the new features and new APIs of Java 9 to implement highly efficient and reliable codes Gain an in-depth knowledge of Java application performance and obtain best results from performance testing Who This Book Is For This book is for Java developers who would like to build reliable and high-performance applications. Prior Java programming knowledge is assumed. What You Will Learn Work with JIT compilers Understand the usage of profiling tools Generate JSON with code examples Leverage the command-line tools to speed up application development Build microservices in Java 9 Explore the use of APIs to improve application code Speed up your application with reactive programming and concurrency In Detail Finally, a book that focuses on the practicalities rather than theory of Java application performance tuning. This book will be your one-stop guide to optimize the performance of your Java applications. We will begin by understanding the new features and APIs of Java 9. You will then be taught the practicalities of Java application performance tuning, how to make the best use of garbage collector, and find out how to optimize code with

microbenchmarking. Moving ahead, you will be introduced to multithreading and learning about concurrent programming with Java 9 to build highly concurrent and efficient applications. You will learn how to fine tune your Java code for best results. You will discover techniques on how to benchmark performance and reduce various bottlenecks in your applications. We'll also cover best practices of Java programming that will help you improve the quality of your codebase. By the end of the book, you will be armed with the knowledge to build and deploy efficient, scalable, and concurrent applications in Java. Style and approach This step-by-step guide provides real-world examples to give you a hands-on experience.

Java 9 Concurrency Cookbook - Javier Fernández Gonzalez 2017-04-25
Master the art of fast, effective Java development with the power of concurrent and parallel programming
About This Book Get detailed coverage of important recipes on multi-threading and parallel programming
This book takes a close look at the Java 9 APIs and their impact on concurrency
See practical examples on thread safety, high-performance classes, safe sharing, and a whole lot more
Who This Book Is For The book is for Java developers and programmers at an intermediate to advanced level. It will be especially useful for developers who want to take advantage of task-based recipes using Java 9's concurrent API to program thread-safe solutions.
What You Will Learn
Find out to manage the basic components of the Java Concurrency API
Use synchronization mechanisms to avoid data race conditions and other problems of concurrent applications
Separate the thread management from the rest of the application with the Executor framework
Solve problems using a parallelized version of the divide and conquer paradigm

with the Fork / Join framework
Process massive data sets in an optimized way using streams and reactive streams
See which data structures we can use in concurrent applications and how to use them
Practice efficient techniques to test concurrent applications
Get to know tips and tricks to design concurrent applications
In Detail Writing concurrent and parallel programming applications is an integral skill for any Java programmer.
Java 9 comes with a host of fantastic features, including significant performance improvements and new APIs. This book will take you through all the new APIs, showing you how to build parallel and multi-threaded applications. The book covers all the elements of the Java Concurrency API, with essential recipes that will help you take advantage of the exciting new capabilities. You will learn how to use parallel and reactive streams to process massive data sets. Next, you will move on to create streams and use all their intermediate and terminal operations to process big collections of data in a parallel and functional way. Further, you'll discover a whole range of recipes for almost everything, such as thread management, synchronization, executors, parallel and reactive streams, and many more. At the end of the book, you will learn how to obtain information about the status of some of the most useful components of the Java Concurrency API and how to test concurrent applications using different tools. Style and approach This recipe-based book will allow you to explore the exciting capabilities of concurrency in Java. After reading this book, you will be able to comfortably build parallel applications in Java 9.

No Logo - Naomi Klein 2000-01-15
An analysis of the invasion of our personal lives by logo-promoting, powerful corporations combines muckraking journalism with contemporary memoir to discuss current consumer culture