

Spring For Apache Kafka

Learn advanced analytical techniques and leverage existing tool kits to make your analytic applications more powerful, precise, and efficient. This book provides the right combination of architecture, design, and implementation information to create analytical systems that go beyond the basics of classification, clustering, and recommendation. Pro Hadoop Data Analytics emphasizes best practices to ensure coherent, efficient development. A complete example system will be developed using standard third-party components that consist of the tool kits, libraries, visualization and reporting code, as well as support glue to provide a working and extensible end-to-end system. The book also highlights the importance of end-to-end, flexible, configurable, high-performance data pipeline systems with analytical components as well as appropriate visualization results. You'll discover the importance of mix-and-match or hybrid systems, using different analytical components in one application. This hybrid approach will be prominent in the examples. What You'll Learn

- Build big data analytic systems with the Hadoop ecosystem
- Use libraries, tool kits, and algorithms to make development easier and more effective
- Apply metrics to measure performance and efficiency of components and systems
- Connect to standard relational databases, noSQL data sources, and more
- Follow case studies with example components to create your own systems

Who This Book Is For Software engineers, architects, and data scientists with an interest in the design and implementation of big data analytical systems using Hadoop, the Hadoop ecosystem, and other associated technologies.

Build a platform using Apache Kafka, Spark, and Storm to generate real-time data insights and view them through Dashboards. KEY FEATURES ? Extensive practical demonstration of Apache Kafka concepts, including producer and consumer examples. ? Includes graphical examples and explanations of implementing Kafka Producer and Kafka Consumer commands and methods. ? Covers integration and implementation of Spark-Kafka and Kafka-Storm architectures. DESCRIPTION Real-Time Streaming with Apache Kafka, Spark, and Storm is a book that provides an overview of the real-time streaming concepts and architectures of Apache Kafka, Storm, and Spark. The readers will learn how to build systems that can process data streams in real time using these technologies. They will be able to process a large amount of real-time data and perform analytics or generate insights as a result of this. The architecture of Kafka and its various components are described in detail. A Kafka Cluster installation and configuration will be demonstrated. The Kafka publisher-subscriber system will be implemented in the Eclipse IDE using the Command Line and Java. The book discusses the architecture of Apache Storm, the concepts of Spout and Bolt, as well as their applications in a Transaction Alert System. It also describes Spark's core concepts, applications, and the use of Spark to implement a microservice. To learn about the process of integrating Kafka and Storm, two approaches to Spark and Kafka integration will be discussed. This book will assist a software engineer to transition to a Big Data engineer and Big Data architect by providing knowledge of big data processing and the architectures of Kafka, Storm, and Spark Streaming. WHAT YOU WILL LEARN ? Creation of Kafka producers, consumers, and brokers using command line. ? End-to-end implementation of Kafka messaging system with Java in Eclipse. ? Perform installation and creation of a Storm Cluster and execute Storm Management commands. ? Implement Spouts, Bolts and a Topology in Storm for Transaction alert application system. ? Perform the implementation of a microservice using Spark in Scala IDE. ? Learn about the various approaches of integrating Kafka and Spark. ? Perform integration of Kafka and Storm using Java in the Eclipse IDE. WHO THIS BOOK IS FOR This book is intended for Software Developers, Data Scientists, and Big Data Architects who want to build software systems to process data streams in real time. To understand the concepts in this book, knowledge of any programming language such as Java, Python, etc. is needed. TABLE OF CONTENTS 1. Chapter Two: Installing Kafka 2. Chapter Three: Kafka Messaging 3. Chapter Four: Kafka Producers 4. Chapter Five: Kafka Consumers 5. Chapter Six: Introduction to Storm 6. Chapter Seven: Installation and Configuration 7. Chapter Eight: Spouts and Bolts 8. Chapter Nine: Introduction to Spark 9. Chapter Ten: Spark Streaming 10. Chapter Eleven: Kafka Integration with Storm 11. Chapter Twelve: Kafka Integration with Spark

Working with unbounded and fast-moving data streams has historically been difficult. But with Kafka Streams and ksqlDB, building stream processing applications is easy and fun. This practical guide shows data engineers how to use these tools to build highly scalable stream processing applications for moving, enriching, and transforming large amounts of data in real time. Mitch Seymour, data services engineer at Mailchimp, explains important stream processing concepts against a backdrop of several interesting business problems. You'll learn the strengths of both Kafka Streams and ksqlDB to help you choose the best tool for each unique stream processing project. Non-Java developers will find the ksqlDB path to be an especially gentle introduction to stream processing. Learn the basics of Kafka and the pub/sub communication pattern Build stateless and stateful stream processing applications using Kafka Streams and ksqlDB Perform advanced stateful operations, including windowed joins and aggregations Understand how stateful processing works under the hood Learn about ksqlDB's data integration features, powered by Kafka Connect Work with different types of collections in ksqlDB and perform push and pull queries Deploy your Kafka Streams and ksqlDB applications to production

Spring Microservices in Action, Second Edition teaches you to build microservice-based applications using Java and Spring. Summary By dividing large applications into separate self-contained units, Microservices are a great step toward reducing complexity and increasing flexibility. Spring Microservices in Action, Second Edition teaches you how to build microservice-based applications using Java and the Spring platform. This second edition is fully updated for the latest version of Spring, with expanded coverage of API routing with Spring Cloud Gateway, logging with the ELK stack, metrics with Prometheus and Grafana, security with the Hashicorp Vault, and modern deployment practices with Kubernetes and Istio. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

About the technology Building and deploying microservices can be easy in Spring! Libraries like Spring Boot, Spring Cloud, and Spring Cloud Gateway reduce the boilerplate code in REST-based services. They provide an effective toolbox to get your microservices up and running on both public and private clouds. About the book Spring Microservices in Action, Second Edition teaches you to build microservice-based applications using Java and Spring. You'll start by creating basic services, then move to efficient logging and monitoring. Learn to refactor Java applications with Spring's intuitive tooling, and master API management with Spring Cloud Gateway. You'll even deploy Spring Cloud applications with AWS and Kubernetes. What's inside Microservice design principles and best practices Configuration with Spring Cloud Config and Hashicorp Vault Client-side resiliency with Resilience4j, and Spring Cloud Load Balancer Metrics monitoring with Prometheus and Grafana Distributed tracing with Spring Cloud Sleuth, Zipkin, and ELK Stack About the reader For experienced Java and Spring developers. About the author John Carnell is a senior cloud engineer with 20 years of Java experience. Illary Huaylupo Sánchez is a software engineer with over 13 years of experience. Table of Contents 1 Welcome to the cloud, Spring 2 Exploring the microservices world with Spring Cloud 3 Building microservices with Spring Boot 4 Welcome to Docker 5 Controlling your configuration with the Spring Cloud Configuration Server 6 On service discovery 7 When bad things happen: Resiliency patterns with Spring Cloud and Resilience4j 8 Service routing with Spring Cloud Gateway 9 Securing your microservices 10 Event-driven architecture with Spring Cloud Stream 11 Distributed tracing with Spring Cloud Sleuth and Zipkin 12 Deploying your microservices

You can choose several data access frameworks when building Java enterprise applications that work with relational databases. But what about big data? This hands-on introduction shows you how Spring Data makes it relatively easy to build applications across a wide range of new data access technologies such as NoSQL and Hadoop. Through several sample projects, you'll learn how Spring Data provides a consistent programming model that retains NoSQL-specific features and capabilities, and helps you develop Hadoop applications across a wide range of use-cases such as data analysis, event stream processing, and workflow. You'll also discover the features Spring Data adds to Spring's existing JPA and JDBC support for writing RDBMS-based data access layers. Learn about Spring's template helper classes to simplify the use of database-specific functionality Explore Spring Data's repository abstraction and advanced query functionality Use Spring Data with Redis (key/value store), HBase (column-family), MongoDB (document database), and Neo4j (graph database) Discover the GemFire distributed data grid solution Export Spring Data JPA-managed entities to the Web as RESTful web services Simplify the development of HBase applications, using a lightweight object-mapping framework Build example big-data pipelines with Spring Batch and Spring Integration

Apply microservices patterns to build resilient and scalable distributed systems Key Features Understand the challenges of building large-scale microservice landscapes Build cloud-native production-ready microservices with this comprehensive guide Discover how to get the best out of Spring Cloud, Kubernetes, and Istio when used together Book Description Microservices architecture allows developers to build and maintain applications with ease, and enterprises are rapidly adopting it to build software using Spring Boot as their default framework. With this book, you'll learn how to efficiently build and deploy microservices using Spring Boot. This microservices book will take you through tried and tested approaches to building distributed systems and implementing microservices architecture in your organization. Starting with a set of simple cooperating microservices developed using Spring Boot, you'll learn how you can add functionalities such as persistence, make your microservices reactive, and describe their APIs using Swagger/OpenAPI. As you advance, you'll understand how to add different services from Spring Cloud to your microservice system. The book also demonstrates how to deploy your microservices using Kubernetes and manage them with Istio for improved security and traffic management. Finally, you'll explore centralized log management using the EFK stack and monitor microservices using Prometheus and Grafana. By the end of this book, you'll be able to build microservices that are scalable and robust using Spring Boot and Spring Cloud. What you will learn Build reactive microservices using Spring Boot Develop resilient and scalable microservices using Spring Cloud Use OAuth 2.0/OIDC and Spring Security to protect public APIs Implement Docker to bridge the gap between development, testing, and production Deploy and manage microservices using Kubernetes Apply Istio for improved security, observability, and traffic management Who this book is for This book is for Java and Spring developers and architects who want to learn how to break up their existing monoliths into microservices and deploy them either on-premises or in the cloud using Kubernetes as a container orchestrator and Istio as a service Mesh. No familiarity with microservices architecture is required to get started with this book.

Would you like to use a consistent visual notation for drawing integration solutions? "Look inside the front cover." Do you want to harness the power of asynchronous systems without getting caught in the pitfalls? "See "Thinking Asynchronously" in the Introduction." Do you want to know which style of application integration is best for your purposes? "See Chapter 2, Integration Styles." Do you want to learn techniques for processing messages concurrently? "See Chapter 10, Competing Consumers and Message Dispatcher." Do you want to learn how you can track asynchronous messages as they flow across distributed systems? "See Chapter 11, Message History and Message Store." Do you want to understand how a system designed using integration patterns can be implemented using Java Web services, .NET message queuing, and a TIBCO-based publish-subscribe architecture? "See Chapter 9, Interlude: Composed Messaging." Utilizing years of practical experience, seasoned experts Gregor Hohpe and Bobby Woolf show how asynchronous messaging has proven to be the best strategy for enterprise integration success. However, building and deploying messaging solutions presents a number of problems for developers. " Enterprise Integration Patterns " provides an invaluable catalog of sixty-five patterns, with real-world solutions that demonstrate the formidable of messaging and help you to design effective messaging solutions for your enterprise. The authors also include examples covering a variety of different integration technologies, such as JMS, MSMQ, TIBCO ActiveEnterprise, Microsoft BizTalk,

SOAP, and XSL. A case study describing a bond trading system illustrates the patterns in practice, and the book offers a look at emerging standards, as well as insights into what the future of enterprise integration might hold. This book provides a consistent vocabulary and visual notation framework to describe large-scale integration solutions across many technologies. It also explores in detail the advantages and limitations of asynchronous messaging architectures. The authors present practical advice on designing code that connects an application to a messaging system, and provide extensive information to help you determine when to send a message, how to route it to the proper destination, and how to monitor the health of a messaging system. If you want to know how to manage, monitor, and maintain a messaging system once it is in use, get this book. 0321200683B09122003

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.

Quickly master the massive Spring ecosystem with this focused, hands-on guide that teaches you exactly what you need to know. In Spring Start Here, you will learn how to: Build web applications with Spring Manage application objects with Spring context Implement data persistence using data sources and transactions Implement data exchange between applications using REST services Utilize Spring Boot's convention-over-configuration approach Write unit and integration tests for apps implemented with Spring Minimize work when building any kind of app Persisting data in a Spring application using the latest approach Spring Start Here introduces you to Java development with Spring by concentrating on the core concepts you'll use in every application you build. You'll learn how to refactor an existing application to Spring, how to use Spring tools to make SQL database requests and REST calls, and how to secure your projects with Spring Security. There's always more to learn, and this book will make your next steps much easier. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology For Java developers, Spring is the must-learn framework. This incredible development tool powers everything from small business ecommerce applications to enterprise-scale microservices. Mastering Spring is a long journey. Taking your first step is easy! Start here. About the book Spring Start Here teaches Java developers how to build applications using Spring framework. Informative graphics, relevant examples, and author Laurentiu Spilca's clear and lively writing make it easy to pick up the skills you need. You'll discover how to plan, write, and test applications. And by concentrating on the most important features, this no-nonsense book gives you a firm foundation for exploring Spring's rich ecosystem. What's inside Build web applications with Spring Minimize repetition and manual work Persisting data in a Spring application HTTP and REST-based web services Testing your Spring implementations About the reader For readers with beginning to intermediate Java skills. About the author Lauren?iu Spilca is a skilled Java and Spring developer and an experienced technology instructor. Table of Contents PART 1 FUNDAMENTALS 1 Spring in the real world 2 The Spring context: Defining beans 3 The Spring context: Wiring beans 4 The Spring context: Using abstractions 5 The Spring context: Bean scopes and life cycle 6 Using aspects with Spring AOP PART 2 IMPLEMENTATION 7 Understanding Spring Boot and Spring MVC 8 Implementing web apps with Spring Boot and Spring MVC 9 Using the Spring web scopes 10 Implementing REST services 11 Consuming REST endpoints 12 Using data sources in Spring apps 13 Using transactions in Spring apps 14 Implementing data persistence with Spring Data 15 Testing your Spring app Quickly and productively develop complex Spring applications and microservices out of the box, with minimal concern over things like configurations. This revised book will show you how to fully leverage the Spring Boot 2 technology and how to apply it to create enterprise ready applications that just work. It will also cover what's been added to the new Spring Boot 2 release, including Spring Framework 5 features like WebFlux, Security, Actuator and the new way to expose Metrics through Micrometer framework, and more. This book is your authoritative hands-on practical guide for increasing your enterprise Java and cloud application productivity while decreasing development time. It's a no nonsense guide with case studies of increasing complexity throughout the book. The author, a senior solutions architect and Principal Technical instructor with Pivotal, the company behind the Spring Framework, shares his experience, insights and first-hand knowledge about how Spring Boot technology works and best practices. Pro Spring Boot 2 is an essential

book for your Spring learning and reference library. What You Will Learn Configure and use Spring Boot Use non-functional requirements with Spring Boot Actuator Carry out web development with Spring Boot Persistence with JDBC, JPA and NoSQL Databases Messaging with JMS, RabbitMQ and WebSockets Test and deploy with Spring Boot A quick look at the Spring Cloud projects Microservices and deployment to the Cloud Extend Spring Boot by creating your own Spring Boot Starter and @Enable feature Who This Book Is For Experienced Spring and Java developers seeking increased productivity gains and decreased complexity and development time in their applications and software services. Master over 60 recipes to help you deliver complete, scalable, microservice-based solutions and see the improved business results immediately About This Book Adopt microservices-based architecture and deploy it at scale Build your complete microservice architecture using different recipes for different solutions Identify specific tools for specific scenarios and deliver immediate business results, correlate use cases, and adopt them in your team and organization Who This Book Is For This book is for developers, ops, and DevOps professionals who would like to put microservices to work and improve products, services, and operations. Those looking to build and deploy microservices will find this book useful, as well as managers and people at CXO level looking to adopt microservices in their organization. Prior knowledge of Java is expected. No prior knowledge of microservices is assumed. What You Will Learn Build microservices using Spring Boot, Wildfly Swarm, Dropwizard, and SparkJava Containerize your microservice using Docker Deploy microservices using Mesos/Marathon and Kubernetes Implement service discovery and load balancing using Zookeeper, Consul, and Nginx Monitor microservices using Graphite and Grafana Write stream programs with Kafka Streams and Spark Aggregate and manage logs using Kafka Get introduced to DC/OS, Docker Swarm, and YARN In Detail This book will help any team or organization understand, deploy, and manage microservices at scale. It is driven by a sample application, helping you gradually build a complete microservice-based ecosystem. Rather than just focusing on writing a microservice, this book addresses various other microservice-related solutions: deployments, clustering, load balancing, logging, streaming, and monitoring. The initial chapters offer insights into how web and enterprise apps can be migrated to scalable microservices. Moving on, you'll see how to Dockerize your application so that it is ready to be shipped and deployed. We will look at how to deploy microservices on Mesos and Marathon and will also deploy microservices on Kubernetes. Next, you will implement service discovery and load balancing for your microservices. We'll also show you how to build asynchronous streaming systems using Kafka Streams and Apache Spark. Finally, we wind up by aggregating your logs in Kafka, creating your own metrics, and monitoring the metrics for the microservice. Style and approach This book follows a recipe-driven approach and shows you how to plug and play with all the various pieces, putting them together to build a complete scalable microservice ecosystem. You do not need to study the chapters in order, as you can directly refer to the content you need for your situation.

Develop diverse real-life projects including most aspects of Spring Boot Key Features Run production-grade based applications using the Spring WebFlux framework Learn to develop high performance, asynchronous applications with Spring Boot Create robust microservice-based applications with Kotlin using Spring Boot Book Description Spring is one of the best tools available on the market for developing web, enterprise, and cloud-ready software. The goal of Spring Boot is to provide a set of tools for quickly building Spring applications that are easy to configure, and that make it easy to create and run production-grade Spring-based applications. Spring Boot 2.0 Projects will get you acquainted with important features of the latest version of this application-building tool and will cover basic, as well as advanced topics. The book starts off by teaching you how to create a web application using Spring Boot, followed by creating a Spring Boot-based simple blog management system that uses Elasticsearch as the data store. As you make your way through the chapters, you'll build a RESTful web services application using Kotlin and the Spring WebFlux framework. Spring WebFlux is a new framework that helps in creating a reactive application in a functional way. Toward the end of the book, you will build a taxi-hailing API with reactive microservices using Spring Boot and a Twitter clone with a Spring Boot backend. Finally, you'll learn how to build an asynchronous email formatter. What you will learn Learn the fundamental features of Spring Boot 2.0 Customize Spring Boot 2.0 applications Build a basic web application Use Redis to build a taxi-hailing API Create a simple blog management system and a Twitter clone Develop a reactive RESTful web service with Kotlin using Spring Boot Who this book is for This book is for competent Spring developers who wish to understand how to develop complex yet scalable applications with Spring Boot. You must have a good knowledge of Java programming and be familiar with the basics of Spring.

Summary Spring Integration in Action is a hands-on guide to Spring-based messaging and integration. After addressing the core messaging patterns, such as those used in transformation and routing, the book turns to the adapters that enable integration with external systems. Readers will explore real-world enterprise integration scenarios using JMS, Web Services, file systems, and email. They will also learn about Spring Integration's support for working with XML. The book concludes with a practical guide to advanced topics such as concurrency, performance, system-management, and monitoring. The book features a foreword by Rod Johnson, Founder of the Spring Network. About the Technology Spring Integration extends the Spring Framework to support the patterns described in Gregor Hohpe and Bobby Woolf's Enterprise Integration Patterns. Like the Spring Framework itself, it focuses on developer productivity, making it easier to build, test, and maintain enterprise integration solutions. About the Book Spring Integration in Action is an introduction and guide to enterprise integration and messaging using the Spring Integration framework. The book starts off by reviewing core messaging patterns, such as those used in transformation and routing. It then drills down into real-world enterprise integration scenarios using JMS, Web Services, filesystems, email, and more. You'll find an emphasis on testing, along with practical coverage of topics like concurrency, scheduling, system management, and monitoring. This book is accessible to developers who know Java. Experience with Spring and EIP is helpful but not assumed. 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 Realistic examples Expert advice from Spring Integration creators Detailed coverage of Spring Integration 2 features About the Authors Mark Fisher is the Spring Integration founder and project lead. Jonas Partner, Marius Bogoevici, and Iwein Fuld have all been project committers and are recognized experts on Spring and Spring Integration. Table of Contents PART 1 BACKGROUND Introduction to Spring Integration Enterprise integration fundamentals 24 PART 2 MESSAGING Messages and channels Message Endpoints Getting down to business Go beyond sequential processing: routing and filtering Splitting and aggregating messages PART 3 INTEGRATING SYSTEMS Handling messages with XML payloads Spring Integration and the Java Message Service Email-based integration Filesystem integration Spring Integration and web services Chatting and tweeting PART 4 ADVANCED TOPICS Monitoring and management Managing scheduling and concurrency Batch applications and enterprise integration Scaling messaging applications with OSGi Testing

With over 75 million downloads per month, Spring Boot is the most widely used Java framework available. Its ease and power have revolutionized application development from monoliths to microservices. Yet Spring Boot's simplicity can also be confounding. How do developers learn enough to be productive immediately? This practical book shows you how to use this framework to write successful mission-critical applications. Mark Heckler from VMware, the company behind Spring, guides you through Spring Boot's architecture and approach, covering topics such as debugging, testing, and deployment. If you want to develop cloud native Java or Kotlin applications with Spring Boot rapidly and effectively--using reactive programming, building APIs, and creating database access of all kinds--this book is for you. Learn how Spring Boot simplifies cloud native application development and deployment Build reactive applications and extend communication across the network boundary to create distributed systems Understand how Spring Boot's architecture and approach increase developer productivity and application portability Deploy Spring Boot applications for production workloads rapidly and reliably Monitor application and system health for optimal performance and reliability Debug, test, and secure cloud-based applications painlessly

Learn to develop, test, and deploy your Spring Boot distributed application and explore various best practices. Key Features Build and deploy your microservices architecture in the cloud Build event-driven resilient systems using Hystrix and Turbine Explore API management tools such as KONG and API documentation tools such as Swagger Book Description Spring is one of the best frameworks on the market for developing web, enterprise, and cloud ready software. Spring Boot simplifies the building of complex software dramatically by reducing the amount of boilerplate code, and by providing production-ready features and a simple deployment model. This book will address the challenges related to power that come with Spring Boot's great configurability and flexibility. You will understand how Spring Boot configuration works under the hood, how to overwrite default configurations, and how to use advanced techniques to prepare Spring Boot applications to work in production. This book will also introduce readers to a relatively new topic in the Spring ecosystem – cloud native patterns, reactive programming, and applications. Get up to speed with microservices with Spring Boot and Spring Cloud. Each chapter aims to solve a specific problem or teach you a useful skillset. By the end of this book, you will be proficient in building and deploying your Spring Boot application. What you will learn Build logically structured and highly maintainable Spring Boot applications Configure RESTful microservices using Spring Boot Make the application production and operation-friendly with Spring Actuator Build modern, high-performance distributed applications using cloud patterns Manage and deploy your Spring Boot application to the cloud (AWS) Monitor distributed applications using log aggregation and ELK Who this book is for The book is targeted at experienced Spring and Java developers who have a basic knowledge of working with Spring Boot. The reader should be familiar with Spring Boot basics, and aware of its benefits over traditional Spring Framework-based applications.

An end-to-end software development guide for the Java eco-system using the most advanced frameworks: Spring and Spring Boot. Learn the complete workflow by building projects and solving problems. About This Book Learn reactive programming by implementing a reactive application with Spring WebFlux Create a robust and scalable messaging application with Spring messaging support Get up-to-date with the defining characteristics of Spring Boot 2.0 in Spring Framework 5 Learn about developer tools, AMQP messaging, WebSockets, security, MongoDB data access, REST, and more This collection of effective recipes serves as guidelines for Spring Boot application development Who This Book Is For Java developers wanting to build production-grade applications using the newest popular Spring tools for a rich end-to-end application development experience. What You Will Learn Get to know the Spring Boot and understand how it makes creating robust applications extremely simple Understand how Spring Data helps us add persistence in MongoDB and SQL databases Implement a websocket to add interactive behaviors in your applications Create powerful, production-grade applications and services with minimal fuss Use custom metrics to track the number of messages published and consumed Build anything from lightweight unit tests to fully running embedded web container integration tests Learn effective testing techniques by integrating Cucumber and Spock Use Hashicorp Consul and Netflix Eureka for dynamic Service Discovery In Detail Spring Framework has become the most popular framework for Java development. It not only simplifies software development but also improves developer productivity. This book covers effective ways to develop robust applications in Java using Spring. The course is up made of three modules, each one having a take-away relating to building end-to-end java applications. The first module takes the approach of learning Spring frameworks by building applications. You will learn to build APIs and integrate them with popular frameworks such as AngularJS, Spring WebFlux, and Spring Data. You will also learn to build microservices using Spring's support for Kotlin. You will learn about the Reactive paradigm in the Spring architecture using Project Reactor. In the second module, after getting hands-on with Spring, you will learn about the most popular tool in the Spring ecosystem-Spring Boot. You will learn to build applications with Spring Boot, bundle them, and deploy them on the cloud. After learning to build applications with Spring Boot, you will be able to use various tests that are an important part of application development. We also cover the

important developer tools such as AMQP messaging, websockets, security, and more. This will give you a good functional understanding of scalable development in the Spring ecosystem with Spring Boot. In the third and final module, you will tackle the most important challenges in Java application development with Spring Boot using practical recipes. Including recipes for testing, deployment, monitoring, and securing your applications. This module will also address the functional and technical requirements for building enterprise applications. By the end of the course you will be comfortable with using Spring and Spring Boot to develop Java applications and will have mastered the intricacies of production-grade applications. Style and approach A simple step-by-step guide with practical examples to help you develop and deploy Spring and Spring Boot applications in the real-world.

Discover the real power of Spring Framework 5.0 and learn to create powerful applications in its newest version Key Features Learn reactive programming by implementing a reactive application with Spring Webflux Create a robust and scalable messaging application with Spring messaging support Apply your knowledge to build three real-world projects in Spring Book Description With growing demands, organizations are looking for systems that are robust and scalable. Therefore, the Spring Framework has become the most popular framework for Java development. It not only simplifies software development but also improves developer productivity. This book covers effective ways to develop robust applications in Java using Spring. The book has three parts, where each one covers the building of a comprehensive project in Java and Spring. In the first part, you will construct a CMS Portal using Spring's support for building REST APIs. You will also learn to integrate these APIs with AngularJS and later develop this application in a reactive fashion using Project Reactor, Spring WebFlux, and Spring Data. In the second part, you'll understand how to build a messaging application, which will consume the Twitter API and perform filtering and transformations. Here, you will also learn about server-sent events and explore Spring's support for Kotlin, which makes application development quick and efficient. In the last part, you will build a real microservice application using the most important techniques and patterns such as service discovery, circuit breakers, security, data streams, monitoring, and a lot more from this architectural style. By the end of the book, you will be confident about using Spring to build your applications. What you will learn Implement REST APIs with Spring REST support Introduce the Spring Boot and understand how it makes creating robust applications extremely simple Understand how Spring Data helps us add persistence in MongoDB and SQL databases Introduce Reactive Programming and use this with Spring Webflux Implement a Reactive REST client and learn how it can create asynchronous applications Create a robust, scalable, and fault tolerant application with Spring Messaging Implement a websocket to add interactive behaviors in your applications Introduce the Spring Cloud projects Who this book is for If you're a developer starting out with Spring, then this book will help you learn about the new Spring 5.0 framework concepts followed by their implementation in Java and Kotlin. The book will also help experienced Spring developers gain insights into the new features added in Spring 5.0.

Build messaging applications using the power of Spring Boot; use Spring application events over the Web; use WebSocket, SockJS, and STOMP messaging with Spring MVC; and use Spring JMS, Redis Pub/Sub and Spring AMQP for reliable messaging solutions. This book covers all the Spring Messaging APIs using Spring Boot. Written by a Pivotal engineer, Spring Boot Messaging is an authoritative guide to the many messaging APIs and how to use these for creating enterprise and integration solutions. You will learn and integrate these messaging APIs with more complex enterprise and cloud applications: for example, you will see how to use Spring Cloud Stream for creating message-driven and cloud native microservices. In addition, you'll discover the new Spring Integration DSL and use it with Spring Cloud Stream to build integration solutions using every enterprise integration pattern. Finally, you'll see Spring Reactor and Spring Cloud to take your application to the next level. After reading this book, you will come away with a case study application walk-through and will be able to use it as a template for building your own Spring messaging applications or messaging features within your enterprise or cloud application. What You'll Learn Use the main Spring messaging APIs with Spring Framework 5 Build messaging applications over the Web Use WebSocket, SockJS, and STOMP messaging Integrate Spring JMS and Spring AMQP into your applications Work with Spring Cloud Stream and microservices Who This Book Is For Enterprise Java developers who have at least some previous experience with the Spring Framework and/or the Spring platform.

Every enterprise application creates data, whether it's log messages, metrics, user activity, outgoing messages, or something else. And how to move all of this data becomes nearly as important as the data itself. If you're an application architect, developer, or production engineer new to Apache Kafka, this practical guide shows you how to use this open source streaming platform to handle real-time data feeds. Engineers from Confluent and LinkedIn who are responsible for developing Kafka explain how to deploy production Kafka clusters, write reliable event-driven microservices, and build scalable stream-processing applications with this platform. Through detailed examples, you'll learn Kafka's design principles, reliability guarantees, key APIs, and architecture details, including the replication protocol, the controller, and the storage layer. Understand publish-subscribe messaging and how it fits in the big data ecosystem. Explore Kafka producers and consumers for writing and reading messages Understand Kafka patterns and use-case requirements to ensure reliable data delivery Get best practices for building data pipelines and applications with Kafka Manage Kafka in production, and learn to perform monitoring, tuning, and maintenance tasks Learn the most critical metrics among Kafka's operational measurements Explore how Kafka's stream delivery capabilities make it a perfect source for stream processing systems

Build and deploy scalable cloud native microservices using the Spring framework and Kubernetes. KEY FEATURES ? Complete coverage on how to design, build, run, and deploy modern cloud native microservices. ? Includes numerous sample code exercises on microservices, Spring and Kubernetes. ? Develop a stronghold on Kubernetes, Spring, and the microservices architecture. ? Complete guide of application containerization on Kubernetes containers. ? Coverage on managing modern applications and infrastructure using observability tools. DESCRIPTION The main objective of this book is to give an overview of cloud native microservices, their architecture, design patterns, best practices, real use cases and practical coverage of modern applications. This book covers a strong understanding of the fundamentals of microservices, API first approach, Testing, observability, API Gateway, Service Mesh and Kubernetes alternatives of Spring Cloud. This book covers the implementation of various design patterns of developing cloud native microservices using Spring framework docker and Kubernetes libraries. It covers containerization concepts and hands-on lab exercises like how to build, run and manage microservices applications using Kubernetes. After reading this book, the readers will have a holistic understanding of building, running, and managing cloud native microservices applications on Kubernetes containers. WHAT YOU WILL LEARN ? Learn fundamentals of microservice and design

patterns. ? Learn microservices development using Spring Boot and Kubernetes. ? Learn to develop reactive, event-driven, and batch microservices. ? Perform end-to-end microservices testing using Cucumber. ? Implement API gateway, authentication & authorization, load balancing, caching, rate limiting. ? Learn observability and monitoring techniques of microservices. WHO THIS BOOK IS FOR This book is for the Spring Developers, Microservice Developers, Cloud Engineers, DevOps Consultants, Technical Architect and Solution Architects, who have some familiarity with application development, Docker and Kubernetes containers. TABLE OF CONTENTS 1. Overview of Cloud Native microservices 2. Microservice design patterns 3. API first approach 4. Build microservices using the Spring Framework 5. Batch microservices 6. Build reactive and event-driven microservices 7. The API gateway, security, and distributed caching with Redis 8. Microservices testing and API mocking 9. Microservices observability 10. Containers and Kubernetes overview and architecture 11. Run microservices on Kubernetes 12. Service Mesh and Kubernetes alternatives of Spring Cloud

Spring 5.0 By Example Grasp the fundamentals of Spring 5.0 to build modern, robust, and scalable Java applications Packt Publishing Ltd

What separates the traditional enterprise from the likes of Amazon, Netflix, and Etsy? Those companies have refined the art of cloud native development to maintain their competitive edge and stay well ahead of the competition. This practical guide shows Java/JVM developers how to build better software, faster, using Spring Boot, Spring Cloud, and Cloud Foundry. Many organizations have already waded into cloud computing, test-driven development, microservices, and continuous integration and delivery. Authors Josh Long and Kenny Bastani fully immerse you in the tools and methodologies that will help you transform your legacy application into one that is genuinely cloud native. In four sections, this book takes you through: The Basics: learn the motivations behind cloud native thinking; configure and test a Spring Boot application; and move your legacy application to the cloud Web Services: build HTTP and RESTful services with Spring; route requests in your distributed system; and build edge services closer to the data Data Integration: manage your data with Spring Data, and integrate distributed services with Spring's support for event-driven, messaging-centric architectures Production: make your system observable; use service brokers to connect stateful services; and understand the big ideas behind continuous delivery

Quickly gain the insight necessary to address a multitude of Java-based Spring Framework and Spring Boot coding challenges using this succinct reference guide. Short, focused code examples will help you master many of the Spring elements such as AOP, data access, MVC for web development, security, web services/REST for microservices development, Batch for large data sets, and more. You'll also get a rundown of the increasingly popular Spring Boot microframework as well. You won't find any technical jargon, bloated samples, drawn out history lessons, or witty stories in this book. What you will find is a language reference that is concise, to the point, and highly accessible. The book is packed with useful information and is a must-have for any Java programmer. What You Will Learn Discover the Spring Framework and its many sub-projects Work with the Spring Boot microframework Program with the Spring Boot framework to build Java-based microservices, native cloud applications, and more Use some of the lesser-known but still important frameworks and tools such as REST Docs, HATEOAS, Cloud, and more Leverage these Spring frameworks and tools for building your next Java-based cloud application Who This Book Is For Those with prior experience with Java who want a quick and handy reference to using Spring. /div

Design and administer fast, reliable enterprise messaging systems with Apache Kafka About This Book Build efficient real-time streaming applications in Apache Kafka to process data streams of data Master the core Kafka APIs to set up Apache Kafka clusters and start writing message producers and consumers A comprehensive guide to help you get a solid grasp of the Apache Kafka concepts in Apache Kafka with practical examples Who This Book Is For If you want to learn how to use Apache Kafka and the different tools in the Kafka ecosystem in the easiest possible manner, this book is for you. Some programming experience with Java is required to get the most out of this book What You Will Learn Learn the basics of Apache Kafka from scratch Use the basic building blocks of a streaming application Design effective streaming applications with Kafka using Spark, Storm &, and Heron Understand the importance of a low-latency, high-throughput, and fault-tolerant messaging system Make effective capacity planning while deploying your Kafka Application Understand and implement the best security practices In Detail Apache Kafka is a popular distributed streaming platform that acts as a messaging queue or an enterprise messaging system. It lets you publish and subscribe to a stream of records, and process them in a fault-tolerant way as they occur. This book is a comprehensive guide to designing and architecting enterprise-grade streaming applications using Apache Kafka and other big data tools. It includes best practices for building such applications, and tackles some common challenges such as how to use Kafka efficiently and handle high data volumes with ease. This book first takes you through understanding the type messaging system and then provides a thorough introduction to Apache Kafka and its internal details. The second part of the book takes you through designing streaming application using various frameworks and tools such as Apache Spark, Apache Storm, and more. Once you grasp the basics, we will take you through more advanced concepts in Apache Kafka such as capacity planning and security. By the end of this book, you will have all the information you need to be comfortable with using Apache Kafka, and to design efficient streaming data applications with it. Style and approach A step-by-step, comprehensive guide filled with practical and real-world examples

Quickly and productively develop complex Spring applications and microservices - out of the box - with minimal fuss on things like configurations. This book will show you how to fully leverage the Spring Boot productivity suite of tools and how to apply them through the use of case studies. Pro Spring Boot is your authoritative hands-on practical guide for increasing your Spring Framework-based enterprise Java and cloud application productivity while decreasing development time using the Spring Boot productivity suite of tools. It's a no-nonsense guide with case studies of increasing complexity throughout the book. This book is written by Felipe Gutierrez, a Spring expert consultant who works with Pivotal, the company behind the popular Spring Framework. What You Will Learn Write your first Spring Boot application Configure Spring Boot Use the Spring Boot Actuator Carry out web development with Spring Boot Build microservices with Spring Boot Handle databases and messaging with Spring Boot Test and deploy with Spring Boot Extend Spring Boot and its available plug-ins Who This Book Is For Experienced Spring and Java developers seeking increased productivity gains and decreased complexity and development time in their applications and software services.

Master Spring basics and core topics, and share the authors' insights and real-world experiences with remoting, Hibernate, and EJB. Beyond the basics, you'll learn how to leverage the Spring Framework to build the various tiers and parts of an enterprise Java application: transactions, web and presentation tiers, deployment, and much more. A full sample application allows you to apply many of the technologies and techniques covered in Pro Spring 5 and see how they work together. This book updates the perennial bestseller with the latest that the new Spring Framework 5 has to offer. Now in its fifth edition, this popular title is by far the most comprehensive and definitive treatment of

Spring available. It covers the new functional web framework and interoperability with Java 9. After reading this definitive book, you'll be armed with the power of Spring to build complex Spring applications, top to bottom. The agile, lightweight, open-source Spring Framework continues to be the de facto leading enterprise Java application development framework for today's Java programmers and developers. It works with other leading open-source, agile, and lightweight Java technologies such as Hibernate, Groovy, MyBatis, and more. Spring now works with Java EE and JPA 2 as well. What You'll Learn Discover what's new in Spring Framework 5 Use the Spring Framework with Java 9 Master data access and transactions Work with the new functional web framework Create microservices and other web services Who This Book Is For Experienced Java and enterprise Java developers and programmers. Some experience with Spring highly recommended. Discover the latest features of Spring framework by building robust, fast, and reactive web applications Key Features Take advantage of all the features of Spring 5.0 with third party tools to build a robust back end Secure Spring based web application using Spring Security framework with LDAP and OAuth protocol Develop robust and scalable microservice based applications on Spring Cloud, using Spring Boot Book Description Spring makes it easy to create RESTful applications, merge with social services, communicate with modern databases, secure your system, and make your code modular and easy to test. With the arrival of Spring Boot, developers can really focus on the code and deliver great value, with minimal contour. This book will show you how to build various projects in Spring 5.0, using its features and third party tools. We'll start by creating a web application using Spring MVC, Spring Data, the World Bank API for some statistics on different countries, and MySQL database. Moving ahead, you'll build a RESTful web services application using Spring WebFlux framework. You'll be then taken through creating a Spring Boot-based simple blog management system, which uses Elasticsearch as the data store. Then, you'll use Spring Security with the LDAP libraries for authenticating users and create a central authentication and authorization server using OAuth 2 protocol. Further, you'll understand how to create Spring Boot-based monolithic application using JHipster. Toward the end, we'll create an online book store with microservice architecture using Spring Cloud and Netflix OSS components, and a task management system using Spring and Kotlin. By the end of the book, you'll be able to create coherent and flexible real-time web applications using Spring Framework. What you will learn Build Spring based application using Bootstrap template and JQuery Understand the Spring WebFlux framework and how it uses Reactor library Interact with Elasticsearch for indexing, querying, and aggregating data Create a simple monolithic application using JHipster Use Spring Security and Spring Security LDAP and OAuth libraries for Authentication Develop a microservice-based application with Spring Cloud and Netflix Work on Spring Framework with Kotlin Who this book is for This book is for competent Spring developers who wish to understand how to develop complex yet flexible applications with Spring. You must have a good knowledge of Java programming and be familiar with the basics of Spring.

Summary Kafka Streams in Action teaches you everything you need to know to implement stream processing on data flowing into your Kafka platform, allowing you to focus on getting more from your data without sacrificing time or effort. Foreword by Neha Narkhede, Cocreator of Apache Kafka Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Not all stream-based applications require a dedicated processing cluster. The lightweight Kafka Streams library provides exactly the power and simplicity you need for message handling in microservices and real-time event processing. With the Kafka Streams API, you filter and transform data streams with just Kafka and your application. About the Book Kafka Streams in Action teaches you to implement stream processing within the Kafka platform. In this easy-to-follow book, you'll explore real-world examples to collect, transform, and aggregate data, work with multiple processors, and handle real-time events. You'll even dive into streaming SQL with KSQL! Practical to the very end, it finishes with testing and operational aspects, such as monitoring and debugging. What's inside Using the KStreams API Filtering, transforming, and splitting data Working with the Processor API Integrating with external systems About the Reader Assumes some experience with distributed systems. No knowledge of Kafka or streaming applications required. About the Author Bill Bejeck is a Kafka Streams contributor and Confluent engineer with over 15 years of software development experience. Table of Contents PART 1 - GETTING STARTED WITH KAFKA STREAMS Welcome to Kafka Streams Kafka quicklyPART 2 - KAFKA STREAMS DEVELOPMENT Developing Kafka Streams Streams and state The KTable API The Processor APIPART 3 - ADMINISTERING KAFKA STREAMS Monitoring and performance Testing a Kafka Streams applicationPART 4 - ADVANCED CONCEPTS WITH KAFKA STREAMS Advanced applications with Kafka StreamsAPPENDIXES Appendix A - Additional configuration information Appendix B - Exactly once semantics

Quickly learn and employ practical methods for developing microservices Key Features Get to grips with microservice architecture to build enterprise-ready applications Adopt the best practices to find solutions to specific problems Monitor and manage your services in production Book Description Microservices have become a popular way to build distributed systems that power modern web and mobile apps. Deploying your application as a suite of independently deployable, modular, and scalable services has many benefits. In this book, you'll learn to employ microservices in order to make your application more fault-tolerant and easier to scale and change. Using an example-driven approach, Microservice Development Cookbook introduces you to the microservice architectural style. You'll learn how to transition from a traditional monolithic application to a suite of small services that interact to provide smooth functionality to your client applications. You'll also learn about the patterns used to organize services, so you can optimize request handling and processing and see how to handle service-to-service interactions. You'll then move on to understanding how to secure microservices and add monitoring in order to debug problems. This book also covers fault-tolerance and reliability patterns that help you use microservices to isolate failures in your applications. By the end of the book, you'll be able to work with a team to break a large, monolithic codebase into independently deployable and scalable microservices. You'll also study how to efficiently and effortlessly manage a microservice-based architecture. What you will learn Learn how to design microservice-based systems Create services that fail without impacting users Monitor your services to perform debugging and create observable systems Manage the security of your services Create fast and reliable deployment pipelines Manage multiple environments for your services Simplify the local development of microservice-based systems Who this book is for Microservice Development Cookbook is for developers who would like to build effective and scalable microservices. Basic knowledge of the microservices architecture is assumed. Spring Boot 2.3 is the hottest ticket in town... ..when it comes to Java development. Learn the latest features that can scale your apps including: * Web and Data access * Developer tools and test support * Operational features * Docker container baking * Bottleneck discovery with BlockHound * Messaging * Security * More! Written cover-to-cover using Project Reactor, your apps will scale like never before. Grab your copy today and learn to build top-notch, scalable solutions with modern tactics. Greg L. Turnquist works on the Spring team as a principal developer at VMware. He is a committer to Spring HATEOAS, Spring Data, Spring Boot, R2DBC, and Spring Session for MongoDB. He also wrote Packt's best-selling title, Learning Spring Boot 2.0 2nd Edition. He co-founded the Nashville Java User Group in 2010 and hasn't met a Java app (yet) that he doesn't like. Follow him on Twitter @gregturn and subscribe for all his Spring Boot videos at YouTube.com/GregTurnquist.

Summary Spring in Action, 5th Edition is the fully updated revision of Manning's bestselling Spring in Action. This new edition includes all Spring 5.0 updates, along with new examples on reactive programming, Spring WebFlux, and microservices. You'll also find the latest Spring best practices, including Spring Boot for application setup and configuration. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Spring Framework makes life easier for Java developers. New features in Spring 5 bring its productivity-focused approach to microservices, reactive development, and other modern application designs. With Spring Boot now fully integrated, you can start even complex projects with minimal configuration code. And the upgraded WebFlux framework supports reactive apps right out of the box! About the Book Spring in Action, 5th Edition guides you through Spring's core features, explained

in Craig Walls' famously clear style. You'll roll up your sleeves and build a secure database-backed web app step by step. Along the way, you'll explore reactive programming, microservices, service discovery, RESTful APIs, deployment, and expert best practices. Whether you're just discovering Spring or leveling up to Spring 5.0, this Manning classic is your ticket! What's inside Building reactive applications Spring MVC for web apps and RESTful web services Securing applications with Spring Security Covers Spring 5.0 Over 100,000 copies sold! About the Reader For intermediate Java developers. About the Author Craig Walls is a principal software engineer at Pivotal, a popular author, an enthusiastic supporter of Spring Framework, and a frequent conference speaker. Table of Contents PART 1 - FOUNDATIONAL SPRING Getting started with Spring Developing web applications Working with data Securing Spring Working with configuration properties PART 2 - INTEGRATED SPRING Creating REST services Consuming REST services Sending messages asynchronously Integrating Spring PART 3 - REACTIVE SPRING Introducing Reactor Developing reactive APIs Persisting data reactively PART 4 CLOUD-NATIVE SPRING Discovering services Managing configuration Handling failure and latency PART 5 - DEPLOYED SPRING Working with Spring Boot Actuator Administering Spring Monitoring Spring with JMX Deploying Spring

Explore the reactive system and create efficient microservices with Spring Boot 2.1 and Spring Cloud Key Features Understand the kind of system modern businesses require with Spring Gain deeper insights into reactive programming with Reactor and Spring Cloud Get in-depth knowledge on asynchronous and nonblocking communication with Spring 5 WebFlux Book Description These days, businesses need a new type of system that can remain responsive at all times. This is achievable with reactive programming; however, the development of these kinds of systems is a complex task, requiring a deep understanding of the domain. In order to develop highly responsive systems, the developers of the Spring Framework came up with Project Reactor. Hands-On Reactive Programming in Spring 5 begins with the fundamentals of Spring Reactive programming. You'll explore the endless possibilities of building efficient reactive systems with the Spring 5 Framework along with other tools such as WebFlux and Spring Boot. Further on, you'll study reactive programming techniques and apply them to databases and cross-server communication. You will advance your skills in scaling up Spring Cloud Streams and run independent, high-performant reactive microservices. By the end of the book, you will be able to put your skills to use and get on board with the reactive revolution in Spring 5.1! What you will learn Discover the difference between a reactive system and reactive programming Explore the benefits of a reactive system and understand its applications Get to grips with using reactive programming in Spring 5 Gain an understanding of Project Reactor Build a reactive system using Spring 5 and Project Reactor Create a highly efficient reactive microservice with Spring Cloud Test, monitor, and release reactive applications Who this book is for This book is for Java developers who use Spring to develop their applications and want to build robust and reactive applications that can scale in the cloud. Basic knowledge of distributed systems and asynchronous programming will help you understand the concepts covered in this book.

"Today, organizations have a difficult time working with huge numbers of datasets. In addition, data processing and analyzing need to be done in real time to gain insights. This is where data streaming comes in. As big data is no longer a niche topic, having the skill set to architect and develop robust data streaming pipelines is a must for all developers. In addition, they also need to think of the entire pipeline, including the trade-offs for every tier. This course starts by explaining the blueprint architecture for developing a completely functional data streaming pipeline and installing the technologies used. With the help of live coding sessions, you will get hands-on with architecting every tier of the pipeline. You will also handle specific issues encountered working with streaming data. You will input a live data stream of Meetup RSVPs that will be analyzed and displayed via Google Maps. By the end of the course, you will have built an efficient data streaming pipeline and will be able to analyze its various tiers, ensuring a continuous flow of data."--Resource description page.

Learn how to build, test, secure, deploy, and efficiently consume services across distributed systems. Key Features - Explore the wealth of options provided by Spring Cloud for wiring service dependencies in microservice systems. - Create microservices utilizing Spring Cloud's Netflix OSS - Architect your cloud-native data using Spring Cloud. Book Description Developing, deploying, and operating cloud applications should be as easy as local applications. This should be the governing principle behind any cloud platform, library, or tool. Spring Cloud—an open-source library—makes it easy to develop JVM applications for the cloud. In this book, you will be introduced to Spring Cloud and will master its features from the application developer's point of view. This book begins by introducing you to microservices for Spring and the available feature set in Spring Cloud. You will learn to configure the Spring Cloud server and run the Eureka server to enable service registration and discovery. Then you will learn about techniques related to load balancing and circuit breaking and utilize all features of the Feign client. The book now delves into advanced topics where you will learn to implement distributed tracing solutions for Spring Cloud and build message-driven microservice architectures. Before running an application on Docker containers, you will master testing and securing techniques with Spring Cloud. What you will learn - Abstract Spring Cloud's feature set - Create microservices utilizing Spring Cloud's Netflix OSS - Create synchronous API microservices based on a message-driven architecture. - Explore advanced topics such as distributed tracing, security, and contract testing. - Manage and deploy applications on the production environment Who this book is for This book appeals to developers keen to take advantage of Spring cloud, an open source library which helps developers quickly build distributed systems. Knowledge of Java and Spring Framework will be helpful, but no prior exposure to Spring Cloud is required.

Learn to build a full-fledged application in Spring and Kotlin taking a reactive, microservice-based approach for scalability and robustness in the cloud Key Features Build a full-fledged application in Spring and Kotlin Architect your application to take a microservice-based approach in the cloud Integrate your application with a variety of Spring components Book Description Kotlin is being used widely by developers because of its light weight, built-in null safety, and functional and reactive programming aspects. Kotlin shares the same pragmatic, innovative and opinionated mindset as Spring, so they work well together. Spring when combined with Kotlin helps you to reach a new level of productivity. This combination has helped developers to create Functional Applications using both the tools together. This book will teach you how to take advantage of these developments and build robust, scalable and reactive applications with ease. In this book, you will begin with an introduction to Spring and its setup with Kotlin. You will then dive into assessing the design considerations of your application. Then you will learn to use Spring (with Spring Boot) along with Kotlin to build a robust backend in a microservice architecture with a REST based collaboration, and leverage Project Reactor in your application. You'll then learn how to integrate Spring Data and Spring Cloud to manage configurations for database

interaction and cloud deployment. You'll also learn to use Spring Security to beef up security of your application before testing it with the JUnit framework and then deploying it on a cloud platform like AWS. What you will learn Explore Spring 5 concepts with Kotlin Learn both dependency injections and complex configurations Utilize Spring Data, Spring Cloud, and Spring Security in your applications Create efficient reactive systems with Project Reactor Write unit tests for your Spring/Kotlin applications Deploy applications on cloud platforms like AWS Who this book is for Developers comfortable using Spring who have basic knowledge of Kotlin and want to take their development skills to the next level and build enterprise-grade applications will benefit from this book.

Solve all your Spring 5 problems using complete and real-world code examples. When you start a new project, you'll be able to copy the code and configuration files from this book, and then modify them for your needs. This can save you a great deal of work over creating a project from scratch. The recipes in Spring 5 Recipes cover Spring fundamentals such as Spring IoC container, Spring AOP/ AspectJ, and more. Other recipes include Spring enterprise solutions for topics such as Spring Java EE integration, Spring Integration, Spring Batch, Spring Remoting, messaging, transactions, and working with big data and the cloud using Hadoop and MongoDB. Finally, Spring web recipes cover Spring MVC, other dynamic scripting, integration with the popular Grails Framework (and Groovy), REST/web services, and more. You'll also see recipes on new topics such as Spring Framework 5, reactive Spring, Spring 5 microservices, the functional web framework and much more. This book builds upon the best-selling success of the previous editions and focuses on the latest Spring Framework features for building enterprise Java applications. What You'll Learn Get re-usable code recipes and snippets for core Spring, annotations and other development tools Access Spring MVC for web development Work with Spring REST and microservices for web services development and integration into your enterprise Java applications Use Spring Batch, NoSQL and big data for building and integrating various cloud computing services and resources Integrate Java Enterprise Edition and other Java APIs for use in Spring Use Grails code and much more Who This Book Is For Experienced Java and Spring programmers.

Summary Spring Microservices in Action teaches you how to build microservice-based applications using Java and the Spring platform. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Microservices break up your code into small, distributed, and independent services that require careful forethought and design. Fortunately, Spring Boot and Spring Cloud simplify your microservice applications, just as the Spring Framework simplifies enterprise Java development. Spring Boot removes the boilerplate code involved with writing a REST-based service. Spring Cloud provides a suite of tools for the discovery, routing, and deployment of microservices to the enterprise and the cloud. About the Book Spring Microservices in Action teaches you how to build microservice-based applications using Java and the Spring platform. You'll learn to do microservice design as you build and deploy your first Spring Cloud application. Throughout the book, carefully selected real-life examples expose microservice-based patterns for configuring, routing, scaling, and deploying your services. You'll see how Spring's intuitive tooling can help augment and refactor existing applications with micro services. What's Inside Core microservice design principles Managing configuration with Spring Cloud Config Client-side resiliency with Spring, Hystrix, and Ribbon Intelligent routing using Netflix Zuul Deploying Spring Cloud applications About the Reader This book is written for developers with Java and Spring experience. About the Author John Carnell is a senior cloud engineer with twenty years of experience in Java. Table of contents Welcome to the cloud, Spring Building microservices with Spring Boot Controlling your configuration with Spring Cloud configuration server On service discovery When bad things happen: client resiliency patterns with Spring Cloud and Netflix Hystrix Service routing with Spring Cloud and Zuul Securing your microservices Event-driven architecture with Spring Cloud Stream Distributed tracing with Spring Cloud Sleuth and Zipkin Deploying your microservices

This book takes you through tried and tested approaches to building distributed systems and implementing microservices architecture. It follows a single real-world project from start to finish, using Spring Boot, Spring Cloud, and a full suite of related tools and frameworks for development, security, testing, and deployment.

Kafka in Action is a practical, hands-on guide to building Kafka-based data pipelines. Filled with real-world use cases and scenarios, this book probes Kafka's most common use cases, ranging from simple logging through managing streaming data systems for message routing, analytics, and more. In systems that handle big data, streaming data, or fast data, it's important to get your data pipelines right. Apache Kafka is a wicked-fast distributed streaming platform that operates as more than just a persistent log or a flexible message queue. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Develop cloud native applications with microservices using Spring Boot, Spring Cloud, and Spring Cloud Data Flow About This Book Explore the new features and components in Spring Evolve towards micro services and cloud native applications Gain powerful insights into advanced concepts of Spring and Spring Boot to develop applications more effectively Understand the basics of Kotlin and use it to develop a quick service with Spring Boot Who This Book Is For This book is for an experienced Java developer who knows the basics of Spring, and wants to learn how to use Spring Boot to build applications and deploy them to the cloud. What You Will Learn Explore the new features in Spring Framework 5.0 Build microservices with Spring Boot Get to know the advanced features of Spring Boot in order to effectively develop and monitor applications Use Spring Cloud to deploy and manage applications on the Cloud Understand Spring Data and Spring Cloud Data Flow Understand the basics of reactive programming Get to know the best practices when developing applications with the Spring Framework Create a new project using Kotlin and implement a couple of basic services with unit and integration testing In Detail Spring 5.0 is due to arrive with a myriad of new and exciting features that will change the way we've used the framework so far. This book will show you this evolution—from solving the problems of testable applications to building distributed applications on the cloud. The book begins with an

insight into the new features in Spring 5.0 and shows you how to build an application using Spring MVC. You will realize how application architectures have evolved from monoliths to those built around microservices. You will then get a thorough understanding of how to build and extend microservices using Spring Boot. You will also understand how to build and deploy Cloud-Native microservices with Spring Cloud. The advanced features of Spring Boot will be illustrated through powerful examples. We will be introduced to a JVM language that's quickly gaining popularity - Kotlin. Also, we will discuss how to set up a Kotlin project in Eclipse. By the end of the book, you will be equipped with the knowledge and best practices required to develop microservices with the Spring Framework. Style and approach This book follows an end-to-end tutorial approach with lots of examples and sample applications, covering the major building blocks of the Spring framework.

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