

Learning Spring Boot 2 0 Second Edition Simplify The Development Of Lightning Fast Applications Based On Microservices And Reactive Programming

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.

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.

"Spring Boot is the fastest way to get a Spring application up and running with the fewest lines of code and the least configuration. It aims to make development easy so you can create production-grade applications and services. The Spring framework provides a great toolkit for the development of complex applications. In this course, we'll fully leverage Spring Boot's capabilities to create a payment system application and secure it with Spring Security. This course provides a hands-on approach to building a payment system application from scratch using Spring Boot 2.0. You'll begin by setting up Spring Boot together with Spring's most powerful feature: Dependency Injection. Then you'll build a data access layer with Spring data and rework it to be highly performant using Spring data reactive. Next, you'll learn about Spring rest and servlets and use it to expose resources via HTTP endpoints. Later you'll use Spring MVC to build an interface for the payment system. Moving on, you'll expose critical

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business metrics using MicroMeter library and Spring actuator with Prometheus library. Finally, you'll package your application into a Docker container and deploy your application into the cloud."--Resource description page.

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.

Learn how to get started with Spring Boot 2.x, a powerful framework that can help you build web applications quickly, using less code. The Java-based programs you build in Spring Boot "just run": they resolve their own dependencies and create containers for running code in any environment. Learn how to use Spring Boot to build your projects in this course with software architect and Spring developer Frank Moley. Frank shows how to initialize, package, and run Spring Boot web apps and CLI apps, and use the library of common starter projects to fill business-critical needs: data, messaging, security, and more. Plus, find how to extend Spring Boot by creating your own starters and use the Actuator module's HTTP endpoints to monitor and manage your apps. Over 35 recipes to help you build, test, and run Spring applications using Spring Boot About This Book Learn to create different types of Spring Boot applications, configure behavior, and add custom components Become more efficient in testing, deploying, and monitoring Spring Boot based applications This is a practical guide that will help Spring developers to develop and deploy applications using Spring Boot Who This Book Is For

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If you are a Spring Developer who has good knowledge level and understanding of Spring Boot and application development and now want to learn efficient Spring Boot development techniques in order to make the existing development process more efficient, then this book is for you. What You Will Learn Create Spring Boot applications from scratch Configure and tune web applications and containers Create custom Spring Boot auto-configurations and starters Use Spring Boot Test framework with JUnit, Cucumber, and Spock Configure and tune web applications and containers Deploy Spring Boot as self-starting executables and Docker containers Monitor data using DropWizard, Graphite, and Dashing In Detail Spring Boot is Spring's convention-over-configuration solution. This feature makes it easy to create Spring applications and services with absolute minimum fuss. Spring Boot has the great ability to be customized and enhanced, and is specifically designed to simplify development of a new Spring application. This book will provide many detailed insights about the inner workings of Spring Boot, as well as tips and recipes to integrate the third-party frameworks and components needed to build complex enterprise-scale applications. The book starts with an overview of the important and useful Spring Boot starters that are included in the framework, and teaches you to create and add custom Servlet Filters, Interceptors, Converters, Formatters, and PropertyEditors to a Spring Boot web application. Next it will cover configuring custom routing rules and patterns, adding additional static asset paths, and adding and modifying servlet container connectors and other properties such as enabling SSL. Moving on, the book will teach you how to create custom Spring Boot Starters, and explore different techniques to test Spring Boot applications. Next, the book will show you examples of configuring your build to produce Docker images and self-executing binary files for Linux/OSX environments. Finally, the book will teach you how to create custom health indicators, and access monitoring data via HTTP and JMX. Style and approach This book is a cohesive collection of recipes that provide developers with a set of connected guidelines on how to build, configure, and customize their application, starting from the design and development stages, all the way through testing, deployment, and production monitoring.

Spring Security in Action shows you how to prevent cross-site scripting and request forgery attacks before they do damage. You'll start with the basics, simulating password upgrades and adding multiple types of authorization. As your skills grow, you'll adapt Spring Security to new architectures and create advanced OAuth2 configurations. By the time you're done, you'll have a customized Spring Security configuration that protects against threats both common and extraordinary. Summary While creating secure applications is critically important, it can also be tedious and time-consuming to stitch together the required collection of tools. For Java developers, the powerful Spring Security framework makes it easy for you to bake security into your software from the very beginning. Filled with code samples and practical examples, Spring Security in Action teaches you how to secure your apps from the most common threats, ranging from injection attacks to lackluster monitoring. In it, you'll learn how to manage system users, configure secure endpoints, and use OAuth2 and OpenID Connect for authentication and authorization. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Security is non-negotiable. You rely on Spring applications to transmit data, verify credentials, and prevent attacks. Adopting "secure by design" principles will

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protect your network from data theft and unauthorized intrusions. About the book Spring Security in Action shows you how to prevent cross-site scripting and request forgery attacks before they do damage. You'll start with the basics, simulating password upgrades and adding multiple types of authorization. As your skills grow, you'll adapt Spring Security to new architectures and create advanced OAuth2 configurations. By the time you're done, you'll have a customized Spring Security configuration that protects against threats both common and extraordinary. What's inside Encoding passwords and authenticating users Securing endpoints Automating security testing Setting up a standalone authorization server About the reader For experienced Java and Spring developers. About the author Laurentiu Spilca is a dedicated development lead and trainer at Endava, with over ten years of Java experience. Table of Contents PART 1 - FIRST STEPS 1 Security Today 2 Hello Spring Security PART 2 - IMPLEMENTATION 3 Managing users 4 Dealing with passwords 5 Implementing authentication 6 Hands-on: A small secured web application 7 Configuring authorization: Restricting access 8 Configuring authorization: Applying restrictions 9 Implementing filters 10 Applying CSRF protection and CORS 11 Hands-on: A separation of responsibilities 12 How does OAuth 2 work? 13 OAuth 2: Implementing the authorization server 14 OAuth 2: Implementing the resource server 15 OAuth 2: Using JWT and cryptographic signatures 16 Global method security: Pre- and postauthorizations 17 Global method security: Pre- and postfiltering 18 Hands-on: An OAuth 2 application 19 Spring Security for reactive apps 20 Spring Security testing The Spring developers are always listening to feedback and feature requests. They have responded with Spring 5, a version that's packed with exciting new enhancements. This course gets you up to speed with the latest and greatest in Spring Framework 5.0 and Spring Boot 2.0, including reactive Spring and Spring Actuator. Instructor Frank Moley covers the new support structure for Java 8 and Java EE 7, and explains which packages, classes, and methods have been removed. Next, learn about the changes to Servlet 3 and 4, data binding for immutable objects, and the spring-web-reactive module for reactive programming. Then explore the integration for Junit Jupiter, parallel test execution, and mock environments. Finally, review the changes in Spring Boot, including third-party library upgrades and Spring Boot Actuator for monitoring the health of production 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*

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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.

Take your application development skills to the next level by implementing Spring Boot features effectively

About This Book This collection of effective recipes serves as guidelines for Spring Boot application development

Get up to date with features of the latest version of Spring Boot 2.0 Tips and tricks to improve your efficiency through the stages of software development

Who This Book Is For This book is for Java Developers who have good knowledge and understanding of Spring and Java application development.

What You Will Learn Get to know Spring Boot Starters and create custom auto-configurations Work with custom annotations that enable bean activation Use DevTools to easily develop and debug applications Learn the effective testing techniques by integrating Cucumber and Spock Observe an eternal application configuration using Consul Move your existing Spring Boot applications to the cloud Use Hashicorp Consul and Netflix Eureka for dynamic Service Discovery Understand the various mechanisms that Spring Boot provides to examine an application's health

In Detail The Spring framework provides great flexibility for Java development, which also results in tedious configuration work. Spring Boot addresses the configuration difficulties of Spring and makes it easy to create standalone, production-grade Spring-based applications. This practical guide makes the existing development process more

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efficient. Spring Boot Cookbook 2.0 Second Edition smartly combines all the skills and expertise to efficiently develop, test, deploy, and monitor applications using Spring Boot on premise and in the cloud. We start with an overview of the important Spring Boot features you will learn to create a web application for a RESTful service. Learn to fine-tune the behavior of a web application by learning about custom routes and asset paths and how to modify routing patterns. Address the requirements of a complex enterprise application and cover the creation of custom Spring Boot starters. This book also includes examples of the new and improved facilities available to create various kinds of tests introduced in Spring Boot 1.4 and 2.0, and gain insights into Spring Boot DevTools. Explore the basics of Spring Boot Cloud modules and various Cloud starters to make applications in "Cloud Native" and take advantage of Service Discovery and Circuit Breakers. Style and approach This practical guide follows a recipe-based approach and provides extremely helpful guidelines ...

Spring Boot 2.0 auto-configuration, Spring CLI, Actuator, Spring Cloud, Spring Cloud Netflix, Service Discovery, Spring Boot RESTful, Netflix Zuul, API, Feign, HTTP API, Hystrix, Turbine.

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. With an actionable and hands-on approach, this custom tailored resource gives you a head start in learning how to build microservices with Spring Boot by leading you, step-by-step, through the process. --

Learn Spring Boot and how to build Java-based enterprise, web, and microservice applications with it. In this book, you'll see how to work with relational and NoSQL databases, build your first microservice, enterprise, or web application, and enhance that application with REST APIs. You'll also learn how to build reactive web applications using Spring Boot along with Spring Web Reactive. Then you'll secure your Spring Boot-created application or service before testing and deploying it. After reading and

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learning with Beginning Spring Boot 2, you'll have the skills and techniques to start building your first Spring Boot applications and microservices with confidence to take the next steps in your career journey. What You'll Learn Use Spring Boot autoconfiguration Work with relational and NoSQL databases Build web applications with Spring Boot Apply REST APIs using Spring Boot Create reactive web applications using Spring Web Reactive Secure your Spring Boot applications or web services Test and deploy your Spring Boot applications Who This Book Is For Experienced Java and Spring Framework developers who are new to the new Spring Boot micro-framework. Develop efficient and modern full-stack applications using Spring Boot and React 16 Key Features Develop resourceful backends using Spring Boot and faultless frontends using React. Explore the techniques involved in creating a full-stack app by going through a methodical approach. Learn to add CRUD functionalities and use Material UI in the user interface to make it more user-friendly. Book Description Apart from knowing how to write frontend and backend code, a full-stack engineer has to tackle all the problems that are encountered in the application development life cycle, starting from a simple idea to UI design, the technical design, and all the way to implementing, testing, production, deployment, and monitoring. This book covers the full set of technologies that you need to know to become a full-stack web developer with Spring Boot for the backend and React for the frontend. This comprehensive guide demonstrates how to build a modern full-stack application in practice. This book will teach you how to build RESTful API endpoints and work with the data access Layer of Spring, using Hibernate as the ORM. As we move ahead, you will be introduced to the other components of Spring, such as Spring Security, which will teach you how to secure the backend. Then, we will move on to the frontend, where you will be introduced to React, a modern JavaScript library for building fast and reliable user interfaces, and its app development environment and components. You will also create a Docker container for your application. Finally, the book will lay out the best practices that underpin professional full-stack web development. What you will learn Create a RESTful web service with Spring Boot Understand how to use React for frontend programming Gain knowledge of how to create unit tests using JUnit Discover the techniques that go into securing the backend using Spring Security Learn how to use Material UI in the user interface to make it more user-friendly Create a React app by using the Create React App starter kit made by Facebook Who this book is for Java developers who are familiar with Spring, but have not yet built full-stack applications

Starting your first project with Spring Boot can be a bit daunting given the vast options that it provides. This book will guide you step-by-step along the way to be a Spring Boot hero in no time. The book covers: * Setup of your project * Security and user management for your application * Writing REST endpoints * Connecting with a database from your application * Unit and integration testing for all aspects * Writing documentation for your REST endpoints * Support file upload from your REST API 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,

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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.

A pragmatic guide for Java developers to help build Microservices and Cloud Apps using Spring Boot. KEY FEATURES ? Develops microservices from start to finish using the Spring Boot Framework. ? Creates cloud-native applications using Spring Boot's production-ready features. ? Covers the API gateway, unit testing, cloud deployments, and managing high-traffic applications.

DESCRIPTION Spring is an excellent framework for developing both web and cloud-native applications. This book on application development using Spring Boot simplifies the process of writing boilerplate code for complex software. It allows developers to concentrate on the application's concept rather than on the internal Java configuration. This book will guide you on how to make the best use of the strength that Spring Boot provides. You'll gain an understanding of how Spring Boot configuration works in conjunction with application development, including auto-configuration and overriding default configurations. You will learn to develop scalable, dependable microservices to accelerate the development lifecycle of a cloud-based application. Each chapter will walk you through the features of Spring Boot as a Software Development Framework, such as performing Create, Read, Update, and Delete (CRUD) operations on a database and securing web services with appropriate logging. By the end of this book, you will develop, test, and deploy applications ready for production and how to establish them as cloud-based applications. The readers will also gain the expertise of writing unit and integration test cases. WHAT YOU WILL LEARN ? Get to know Spring Boot and all its capabilities. ? Build start-to-end production-ready applications. ? Explore the API Gateway and practice how to run request routing. ? Learn API doc tools like Swagger and host your apps on Cloud. ? Practice how to balance the application's load when the system is under high traffic. ? Learn to write unit tests and integration tests for bug-free coding. WHO THIS BOOK IS FOR This book is for Java developers who want to quickly develop, test, and deploy production-ready applications. This book will also appeal to cloud-native application developers and cloud engineers. No prior Spring Boot knowledge is required as the basics are covered in the book. TABLE OF CONTENTS 1. Getting Started with Spring Boot 2. Developing Your First Spring Boot Application 3. Spring Boot Starter Dependencies and Auto-Configuration 4. Spring Boot Annotations 5. Working with Spring Data JPA and Caching 6. Building RESTful Microservices 7. Securing a Web Application 8. Building Resilient System 9. Logging 10. Working with the Swagger API Management Tool 11. Testing a Spring Boot Application 12. Deploying a Spring

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Boot Application

"Spring Boot is the fastest way to get a Spring application up-and-running with the fewest lines of code and the least configuration. It aims to make development easy so you can create production-grade applications and services. You will learn to do this in 7 days and create stand-alone Java applications or traditional web application resource deployments. This course is your perfect guide to rapidly developing enterprise-grade applications with Spring Boot. It will kick-start the task of achieving your business goals with Spring Boot. You will spend more time understanding your customers' needs and less time building applications to address them. You will be amazed how much you have learned about Spring Boot 2.0 and its applications in just a week."--Resource description page.

Microservices are the next big thing in designing scalable, easy-to-maintain applications. This latest edition of Mastering Microservices with Java, works on Java 11. It covers a wide range of exciting, new developments in the world of microservices such as microservices patterns, interprocess communication with gRPC, and service orchestration.

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

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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

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Learn the core fundamentals of Spring Boot 2.0 framework to fast-track your development process About This Video Practical, real-world examples, giving you the skills to create amazing applications with the Spring Boot 2 framework Explore and learn the tools and techniques needed to create reliable applications with the core functionalities of Spring Boot Learn Spring Boot in a way that will advance your career and fast-track your development process In Detail As a developer, a key aim is to simplify your Java application development process. Spring Boot provides some impressive features to simplify writing your code, and do so with minimal effort. This course begins by helping you configure Spring Boot, then shows you a practical implementation of its various features. You'll learn techniques to write more efficient code and enable enhanced security. You'll learn to use Spring Initializr, CLI, Actuators, and Spring's Developer Tools with ease using the new features version 2.0. This course will save you time and effort learning about new tools and technologies to achieve your business goals. By the end of the course, you'll be confident with the fundamentals and features of Spring Boot 2 to save time developing applications and facilitate additional focus on the business needs of your customers. Downloading the example code for this course: You can download the example code files for this course on GitHub at the following link: <https://github.com/PacktPublishing/Getting-Started-with-Spring-Boot-2.0> . If you require support please email: customer-care@packt.com.

Build a microservices architecture with Spring Boot, by evolving an application from a small monolith to an event-driven architecture composed of several services. This book follows an incremental approach to teach microservice structure, test-driven development, Eureka, Ribbon, Zuul, and end-to-end tests with Cucumber. Author Moises Macero follows a very pragmatic approach to explain the benefits of using this type of software architecture, instead of keeping you distracted with theoretical concepts. He covers some of the state-of-the-art techniques in computer programming, from a practical point of view. You'll focus on what's important, starting with the minimum viable product but keeping the flexibility to evolve it. What You'll Learn Build microservices with Spring Boot Use event-driven architecture and messaging with RabbitMQ Create RESTful services with Spring Master service discovery with Eureka and load balancing

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with Ribbon Route requests with Zuul as your API gateway Write end-to-end tests for an event-driven architecture using Cucumber Carry out continuous integration and deployment Who This Book Is For Those with at least some prior experience with Java programming. Some prior exposure to Spring Boot recommended but not required.

This two-volume set LNCS 10924 and 10925 constitute the refereed proceedings of the 5th International Conference on Learning and Collaboration Technologies, LCT 2018, held as part of the 20th International Conference on Human-Computer Interaction, HCII 2018, in Las Vegas, NV, USA in July 2018. The 1171 papers presented at HCII 2018 conferences were carefully reviewed and selected from 4346 submissions. The papers cover the entire field of human-computer interaction, addressing major advances in knowledge and effective use of computers in a variety of applications areas. The papers in this volume are organized in the following topical sections: designing and evaluating systems and applications, technological innovation in education, learning and collaboration, learners, engagement, motivation, and skills, games and gamification of learning, technology-enhanced teaching and assessment, computing and engineering education.?

Use Spring Boot to build lightning-fast apps About This Book Get up to date with the defining characteristics of Spring Boot 2.0 in Spring Framework 5 Learn to perform Reactive programming with SpringBoot Learn about developer tools, AMQP messaging, WebSockets, security, MongoDB data access, REST, and more Who This Book Is For This book is designed for both novices and experienced Spring developers. It will teach you how to override Spring Boot's opinions and frees you from the need to define complicated configurations. What You Will Learn Create powerful, production-grade applications and services with minimal fuss Support multiple environments with one artifact, and add production-grade support with features Find out how to tweak your apps through different properties Use custom metrics to track the number of messages published and consumed Enhance the security model of your apps Make use of reactive programming in Spring Boot Build anything from lightweight unit tests to fully running embedded web container integration tests In Detail Spring Boot provides a variety of features that address today's business needs along with today's scalable requirements. In this book, you will learn how to leverage powerful databases and Spring Boot's state-of-the-art WebFlux framework. This practical guide will help you get up and running with all the latest features of Spring Boot, especially the new Reactor-based toolkit. The book starts off by helping you build a simple app, then shows you how to bundle and deploy it to the cloud. From here, we take you through reactive programming, showing you how to interact with controllers and templates and handle data access. Once you're done, you can start writing unit tests, slice tests, embedded container tests, and even autoconfiguration tests. We go into detail about developer tools, AMQP messaging, WebSockets, security, and deployment. You will learn how to secure your application using both routes and method-based rules. By the end of the book, you'll have built a social media platform from which to apply the lessons you have learned to any problem. If you want a good understanding of building scalable applications using the core functionality of Spring Boot, this is the book for you. Style and approach This book takes a tutorial-based approach to teach you all you need to know to get up and running with the latest version of Spring Boot. Filled with examples, you will gain hands-on experience of every area that Spring tackles.

Spring is the de facto framework for Java SE development and it has been widely used for building web and enterprise grade applications. Last year, Pivotal provided complete support for Kotlin as a language that Spring can compile to, making it an even stronger framework in terms of android development. To make things simpler, Pivotal has ...

Develop diverse real-life projects including most aspects of Spring Boot Key Features Run

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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.

A comprehensive guide to building full stack applications covering frontend and server-side programming, data management, and web security Key Features Unleash the power of React Hooks to build interactive and complex user interfaces Build scalable full stack applications designed to meet demands of modern users Understand how the Axios library simplifies CRUD operations Book Description React Hooks have changed the way React components are coded. They enable you to write components in a more intuitive way without using classes, which makes your code easier to read and maintain. Building on from the previous edition, this book is updated with React Hooks and the latest changes introduced in create-react-app and Spring Boot 2.1. This book starts with a brief introduction to Spring Boot. You'll understand how to use dependency injection and work with the data access layer of Spring using Hibernate as the ORM tool. You'll then learn how to build your own RESTful API endpoints for web applications. As you advance, the book introduces you to other Spring components, such as Spring Security to help you secure the backend. Moving on, you'll explore React and its app development environment and components for building your frontend. Finally, you'll create a Docker container for your application by implementing the best practices that underpin professional full stack web development. By the end of this book, you'll be equipped with all the knowledge you need to build modern full stack applications with Spring Boot for the backend and React for the frontend. What you will learn Create a RESTful web service with Spring Boot Grasp the fundamentals of dependency injection and how to use it for backend development Discover techniques for securing the backend using Spring Security Understand how to use React for frontend programming Benefit from the Heroku cloud server by deploying your application to it Delve into the techniques for creating unit tests using JUnit Explore the Material UI component library to make more user-friendly user interfaces Who this book is for If you are a Java developer familiar with Spring, but are new to building full stack applications, this is the book for you.

Spring Boot 2.4 is what everyone turns to build top-of-the line systems... ...when it comes to Java application development. Learn the latest features that can make your apps rock solid including: Web and Data access Developer tools and test support Operational features Docker

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container baking li>GraalVM production support Messaging Security More! Written cover-to-cover using Java's de facto toolkit, Spring, your apps will perform like never before. Grab your copy today and learn to build top notch, powerful 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 has written Hacking with Spring Boot 2.3: Reactive Edition as well as 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. Be sure to subscribe to Spring Boot Learning, the YouTube channel where you learn about Spring Boot and have fun doing it at [YouTube.com/GregTurnquis](https://www.youtube.com/GregTurnquis)

Take your application development skills to the next level by implementing Spring Boot features effectively

Key Features

This collection of effective recipes serves as guidelines for Spring Boot application development. Get up to date with features of the latest version of Spring Boot 2.0. Tips and tricks to improve your efficiency through the stages of software development.

Book Description

The Spring framework provides great flexibility for Java development, which also results in tedious configuration work. Spring Boot addresses the configuration difficulties of Spring and makes it easy to create standalone, production-grade Spring-based applications. This practical guide makes the existing development process more efficient. Spring Boot Cookbook 2.0 Second Edition smartly combines all the skills and expertise to efficiently develop, test, deploy, and monitor applications using Spring Boot on premise and in the cloud. We start with an overview of the important Spring Boot features you will learn to create a web application for a RESTful service. Learn to fine-tune the behavior of a web application by learning about custom routes and asset paths and how to modify routing patterns. Address the requirements of a complex enterprise application and cover the creation of custom Spring Boot starters. This book also includes examples of the new and improved facilities available to create various kinds of tests introduced in Spring Boot 1.4 and 2.0, and gain insights into Spring Boot DevTools. Explore the basics of Spring Boot Cloud modules and various Cloud starters to make applications in "Cloud Native" and take advantage of Service Discovery and Circuit Breakers. What you will learn

Get to know Spring Boot Starters and create custom auto-configurations

Work with custom annotations that enable bean activation. Use DevTools to easily develop and debug applications. Learn the effective testing techniques by integrating Cucumber and Spock. Observe an external application configuration using Consul. Move your existing Spring Boot applications to the cloud. Use Hashicorp Consul and Netflix Eureka for dynamic Service Discovery. Understand the various mechanisms that Spring Boot provides to examine an application's health.

Who this book is for

This book is for Java Developers who have good knowledge and understanding of Spring and Java application development.

A step-by-step guide to creating and deploying production-quality microservices-based applications

Key Features:

- Build cloud-native production-ready microservices with this comprehensively updated guide
- Understand the challenges of building large-scale microservice architectures
- Learn how to get the best out of Spring Cloud, Kubernetes, and Istio in combination

Book Description:

With this book, you'll learn how to efficiently build and deploy microservices. This new edition has been updated for the most recent versions of Spring, Java, Kubernetes, and Istio, demonstrating faster and simpler handling of Spring Boot, local Kubernetes clusters, and Istio installation. The expanded scope includes native compilation of Spring-based microservices, support for Windows & Mac, and an introduction to Helm 3 for packaging and deployment. A revamped security chapter now follows the OAuth 2.1 specification and makes use of the newly launched Spring Authorization Server from the Spring team. Starting with a set of simple cooperating microservices, you'll add persistence and resilience, make your microservices reactive, and document their APIs using

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Swagger/OpenAPI. You'll understand how fundamental design patterns are applied to add important functionality, such as service discovery with Netflix Eureka and edge servers with Spring Cloud Gateway. You'll learn how to deploy your microservices using Kubernetes and adopt Istio. You'll explore centralized log management using the Elasticsearch, Fluentd, and Kibana (EFK) stack and monitor microservices using Prometheus and Grafana. By the end of this book, you'll be confident in building 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 2.1/OIDC and Spring Security to protect public APIs Implement Docker to bridge the gap between development, testing, and production Deploy and manage microservices with Kubernetes Apply Istio for improved security, observability, and traffic management Write and run manual and automated microservice tests with JUnit, testcontainers, Gradle, and bash Who this book is for: This book is intended for Java and Spring developers and architects who want to learn how to build microservice landscapes from the ground up 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.

A practical, comprehensive, and user-friendly approach to building microservices in Spring About This Book Update existing applications to integrate reactive streams released as a part of Spring 5.0 Learn how to use Docker and Mesos to push the boundaries and build successful microservices Upgrade the capability model to implement scalable microservices Who This Book Is For This book is ideal for Spring developers who want to build cloud-ready, Internet-scale applications, and simple RESTful services to meet modern business demands. What You Will Learn Familiarize yourself with the microservices architecture and its benefits Find out how to avoid common challenges and pitfalls while developing microservices Use Spring Boot and Spring Cloud to develop microservices Handle logging and monitoring microservices Leverage Reactive Programming in Spring 5.0 to build modern cloud native applications Manage internet-scale microservices using Docker, Mesos, and Marathon Gain insights into the latest inclusion of Reactive Streams in Spring and make applications more resilient and scalable In Detail The Spring Framework is an application framework and inversion of the control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions to build web applications on top of the Java EE platform. This book will help you implement the microservice architecture in Spring Framework, Spring Boot, and Spring Cloud. Written to the latest specifications of Spring that focuses on Reactive Programming, you'll be able to build modern, internet-scale Java applications in no time. The book starts off with guidelines to implement responsive microservices at scale. Next, you will understand how Spring Boot is used to deploy serverless autonomous services by removing the need to have a heavyweight application server. Later, you'll learn how to go further by deploying your microservices to Docker and managing them with Mesos. By the end of the book, you will have gained more clarity on the implementation of microservices using Spring Framework and will be able to use them in internet-scale deployments through real-world examples. Style and approach The book takes a step-by-step approach on developing microservices using Spring Framework, Spring Boot, and a set of Spring Cloud components that will help you scale your applications.

This book is a beginners guide to Spring Boot 2.0. The purpose of this book is to give users step by step instructions on how to implement fundamental web development techniques in Spring Boot 2.0. This book covers several topics individually so that it is much easier to grasp and use in real-life projects. Who this book for This book is for anyone interested in developing applications using the Spring Framework, and specifically, Spring Boot 2. The readers may have prior experience of Spring Boot, but it isn't required, as even beginners can benefit from the content of this book.

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Build smart, efficient, and fast enterprise-grade web implementation of the microservices architecture that can be easily scaled. Key Features Write easy-to-maintain lean and clean code with Kotlin for developing better microservices Scale your Microservices in your own cloud with Docker and Docker Swarm Explore Spring 5 functional reactive web programming with Spring WebFlux Book Description With Google's inclusion of first-class support for Kotlin in their Android ecosystem, Kotlin's future as a mainstream language is assured. Microservices help design scalable, easy-to-maintain web applications; Kotlin allows us to take advantage of modern idioms to simplify our development and create high-quality services. With 100% interoperability with the JVM, Kotlin makes working with existing Java code easier. Well-known Java systems such as Spring, Jackson, and Reactor have included Kotlin modules to exploit its language features. This book guides the reader in designing and implementing services, and producing production-ready, testable, lean code that's shorter and simpler than a traditional Java implementation. Reap the benefits of using the reactive paradigm and take advantage of non-blocking techniques to take your services to the next level in terms of industry standards. You will consume NoSQL databases reactively to allow you to create high-throughput microservices. Create cloud-native microservices that can run on a wide range of cloud providers, and monitor them. You will create Docker containers for your microservices and scale them. Finally, you will deploy your microservices in OpenShift Online. What you will learn Understand microservice architectures and principles Build microservices in Kotlin using Spring Boot 2.0 and Spring Framework 5.0 Create reactive microservices that perform non-blocking operations with Spring WebFlux Use Spring Data to get data reactively from MongoDB Test effectively with JUnit and Kotlin Create cloud-native microservices with Spring Cloud Build and publish Docker images of your microservices Scaling microservices with Docker Swarm Monitor microservices with JMX Deploy microservices in OpenShift Online Who this book is for If you are a Kotlin developer with a basic knowledge of microservice architectures and now want to effectively implement these services on enterprise-level web applications, then this book is for you

Let us full stack development with Spring Boot and React JS. Key features This book has a very specific goal to make developing REST applications easier and focusing on common challenges of the design of the application with best practices. This book is providing practical code examples from real-world experiences. This book is not only about Spring Boot 2.2 and React JS overview but also has an in-depth discussion about adopted REST Architectural pattern and its constraints to create the REST APIs. The book can act as a tool for learning Spring Boot 2.2 and React JS for the first time as well as a guide and reference for those wanting to dig deeper into specific features. This book is also providing deeper information about the Spring Security and JWT token-based authentication for your REST applications. This does not only provide information about to design an application using Spring Boot and React JS but also providing how to deploy your application to the cloud platform (PaaS). Containerization using Docker is another key feature of this book, how to create a Docker image and how to run it. Description Designing Application with Spring Boot 2 & React JS is divided into three parts. The first part introduces you to the essentials of the Spring Boot 2.2 Framework and you will learn how to create REST APIs and how to secure REST APIs. Part 2 steps behind the front end application development with React JS and discuss React features and its advantages toward the front end application development. Part 3 expands on that by showing how to deploy backend and frontend application the PaaS platform and also will discuss how to deploy application container technologies such as Docker. What will you learn Exploring Spring Boot 2.2 new features and essential key components such as Starters, Autoconfiguration, CLI, Actuator. Develop a REST application using Spring Boot 2.2 and DevTools. Exploring Spring Boot Auto Configuration and Customization. Creating application profiles based on the environments. Learn to configure backend data using JDBC and Spring

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Data JPA. Learn to configure a DataSource for H2 DB, and also for Maria DB. Learn best practices for designing a REST architecture based application. Creating a REST application using HATEOAS. Consuming REST APIs endpoints with RestTemplate, Traverson, and WebClient. Exploring JWT web token for the RESTful APIs and explores how to secure REST APIs using OAuth2 and Spring security. Creating TESTING module of the Spring Boot application and Unit & Integration testing. Discuss React JS and its components and also discuss React KS features and its advantages and disadvantage. Exploring how to create ReactJS components and how to manage ReactJS component lifecycle. Taking a quick overview of consuming the REST API using the React application. Deploying the application to the Cloud platform (PaaS). Containerization and Deploy using Docker containers Who this book is for Designing Application with Spring Boot 2.2 & React JS is for all Java developers who want to learn Spring Boot 2.2 and React JS as in the enterprise application. Therefore, enterprise Java developers will find it particularly useful in the understanding of Spring Boot 2.2 and React JS and how to develop a backend RESTful application using the Spring Boot 2.2 and frontend application using React JS framework. They will most fully appreciate the examples presented in this book. Before reading this book, readers should have basic knowledge of core java, spring, servlet, filter, XML, and JavaScript. Table of contents

1. Getting Started with Spring Boot 2.2
2. Customizing Auto-Configuration
3. Configuring Data and CRUD operations
4. Creating REST APIs with Spring Boot 2.2
5. Securing REST APIs
6. Testing Spring Boot Application
7. Getting Started with React
8. Creating and Styling React Components
9. Consuming the REST API with React JS
10. Deploying and Containerizing Application

About the author Dinesh Rajput is a founder of <https://www.dineshonjava.com>, a blog for Spring and Java techies. He is a Spring enthusiast and a Pivotal Certified Spring Professional. He has written many software design & development books, some of the bestselling books on Amazon. Dinesh's title Spring 5 Design Patterns and Mastering Spring Boot 2.0 are the Amazon #1 best-selling books on Java. He has more than 10 years of experience with various aspects of Spring and cloud-native development, such as REST APIs and microservice architecture. He is currently working as an architect at a leading company. He has worked as a tech lead at Bennett, Coleman & Co. Ltd, and Paytm. He has a master's degree in computer engineering from JSS Academy of Technical Education, Noida, and lives in Noida with his family. His Website: <https://www.dineshonjava.com> His Blog: <https://www.dineshonjava.com> & <https://www.dineshrajput.com> His LinkedIn Profile: <https://www.linkedin.com/in/rajputdinesh/>

Learn what's new in Spring 5.0 and Spring Boot 2.0, including reactive Spring and Spring Actuator.

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"Spring has been solving Java developers' problems for years, helping them build enterprise-grade applications. In the pursuit of building great applications, they face some roadblocks. This course provides the tools and techniques you'll need to debug a Spring Boot application. You will start off by working with the Spring Boot Actuator to debug and troubleshoot your application. You will be using the Log4j framework to keep a log of your application's health and performance as you perform different operations. Logs can reveal a whole lot about your application has and have been traditionally used to debug software applications. You will explore debugging scenarios while building Spring Boot applications using Maven and Gradle. You will be working with debuggers, available with popular IDEs, to fix some common problems in your application. Finally, you'll learn exception handling techniques in a Spring application and how to use them to troubleshoot when using Spring Boot. By the end of the course, you'll have troubleshooted your applications efficiently and made them production-ready."--Resource description page.

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