Getting Started Spring Framework Hands

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.

Enterprise Integration PatternsDesigning, Building, and Deploying Messaging SolutionsAddison-Wesley

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.

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 fraemworks suh 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.

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

Spring 5.0 brings major advancements in the rich APIs provided by the Spring framework and thus creates a need for developers to master its tools and techniques to achieve high-performing applications. This book will help you improve the speed of your code and optimize the performance of your apps.

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.

Secure your Java applications by integrating the Spring Security framework in your code Key Features Provide authentication, authorization and other security features for Java applications. Learn how to secure microservices, cloud, and serverless applications easily Understand the code behind the implementation of various security features Book Description Security is one of the most vital concerns for any organization. The complexity of an application is compounded when you need to integrate security with existing code, new technology, and other frameworks. This book will show you how to effectively write Java code that is robust and easy to maintain. Hands-On Spring Security 5 for Reactive Applications starts with the essential concepts of reactive programming, Spring Framework, and Spring Security. You will then learn about a variety of authentication mechanisms and how to integrate them easily with the Spring MVC application. You will also understand how to achieve authorization in a Spring WebFlux application using Spring Security.You will be able to explore the security confgurations required to achieve OAuth2 for securing REST APIs and integrate security in microservices and serverless applications. This book will guide you in integrating add-ons that will add value to any Spring Security module. By the end of the book, you will be proficient at integrating Spring Security in your Java applications What you will learn Understand how Spring Framework and Reactive application

programming are connected Implement easy security confgurations with Spring Security expressions Discover the relationship between OAuth2 and OpenID Connect Secure microservices and serverless applications with Spring Integrate add-ons, such as HDIV, Crypto Module, and CORS support Apply Spring Security 5 features to enhance your Java reactive applications Who this book is for If you are a Java developer who wants to improve application security, then this book is for you. A basic understanding of Spring, Spring Security framework, and reactive applications is required to make the most of the book.

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

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 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

Don't simply show your data—tell a story with it! Storytelling with Data teaches you the fundamentals of data visualization and how to communicate effectively with data. You'll discover the power of storytelling and the way to make data a pivotal point in your story. The lessons in this illuminative text are grounded in theory, but made accessible through numerous real-world examples—ready for immediate application to your next graph or presentation. Storytelling is not an inherent skill, especially when it comes to data visualization, and the tools at our disposal don't make it any easier. This book demonstrates how to go beyond conventional tools to reach the root of your data, and how to use your data to create an engaging, informative, compelling story. Specifically, you'll learn how to: Understand the importance of context and audience Determine the appropriate type of graph for your situation Recognize and eliminate the clutter clouding your information Direct your audience's attention to the most important parts of your data Think like a designer and utilize concepts of design in data visualization Leverage the power of storytelling to help your message resonate with your audience Together, the lessons in this book will help you turn your data into high impact visual stories that stick with your audience. Rid your world of ineffective graphs, one exploding 3D pie chart at a time. There is a story in your data—Storytelling with Data will give you the skills and power to tell it!

Getting started with Spring Framework is a hands-on guide to begin developing applications using Spring Framework. This book is meant for Java developers with little or no knowledge of Spring Framework. Getting started with Spring Framework, Third Edition has been updated to reflect changes in Spring 4.3 and also includes new chapters on Java-based configuration and Spring Data (covers Spring Data JPA and Spring Data MongoDB projects). The existing chapters have been revised to include information on Java-based configuration. The book also includes some new information on bean definition profiles, importing application context XML files, lazy autowiring, creating custom qualifier annotations, JSR 349 annotations, spring-messaging module, Java 8's Optional type, and more. The examples that accompany this book are based on Spring 4.3 and Java 8. You can download the examples (consisting of 74 sample projects) described in this book from the following GitHub project: https: //github.com/getting-started-with-spring/3rdEdition Chapter 1 - Introduction to Spring Framework Chapter 2 - Spring Framework basics Chapter 3 - Configuring beans Chapter 4 - Dependency injection Chapter 5 - Customizing beans and bean definitions

Chapter 6 - Annotation-driven development with Spring Chapter 7 - Java-based container configuration (New) Chapter 8 - Database interaction using Spring Chapter 9 - Spring Data (New) Chapter 10 - Messaging, emailing, asynchronous method execution, and caching using Spring Chapter 11 - Aspect-oriented programming Chapter 12 - Spring Web MVC basics Chapter 13 - Validation and data binding in Spring Web MVC Chapter 14 - Developing RESTful web services using Spring Web MVC Chapter 15 - More Spring Web MVC - internationalization, file upload and asynchronous request processing Chapter 16 - Securing applications using Spring Security You can post your questions and feedback on the following Google group: https: //groups.google.com/forum/#!forum/getting-started-with-spring-framework The practice of enterprise application development has benefited from the emergence of many new enabling technologies. Multi-tiered object-oriented platforms, such as Java and .NET, have become commonplace. These new tools and technologies are capable of building powerful applications, but they are not easily implemented. Common failures in enterprise applications often occur because their developers do not understand the architectural lessons that experienced object developers have learned. Patterns of Enterprise Application Architecture is written in direct response to the stiff challenges that face enterprise application developers. The author, noted object-oriented designer Martin Fowler, noticed that despite changes in technology--from Smalltalk to CORBA to Java to .NET--the same basic design ideas can be adapted and applied to solve common problems. With the help of an expert group of contributors, Martin distills over forty recurring solutions into patterns. The result is an indispensable handbook of solutions that are applicable to any enterprise application platform. This book is actually two books in one. The first section is a short tutorial on developing enterprise applications, which you can read from start to finish to understand the scope of the book's lessons. The next section, the bulk of the book, is a detailed reference to the patterns themselves. Each pattern provides usage and implementation information, as well as detailed code examples in Java or C#. The entire book is also richly illustrated with UML diagrams to further explain the concepts. Armed with this book, you will have the knowledge necessary to make important architectural decisions about building an enterprise application and the proven patterns for use when building them. The topics covered include · Dividing an enterprise application into layers · The major approaches to organizing business logic · An in-depth treatment of mapping between objects and relational databases · Using Model-View-Controller to organize a Web presentation · Handling concurrency for data that spans multiple transactions · Designing distributed object interfaces

Chapter 1 of this book is now available online: bit.ly/2z8ErGg 4th Edition reflects changes to Spring 5, and includes new chapters on Functional and Reactive application development. Reactive application development chapters cover Reactive Streams specification, RxJava 2, Reactor, Spring WebFlux, and reactive support in Spring Data and Spring Security. The examples (consisting of 88 sample projects) that accompany this book are based on Spring 5.0.1 and Java 9. You can download the examples described in this book from the following GitHub project: github.com/getting-started-with-spring/4thEdition This book covers: - Spring Framework basics - Aspect-oriented programming - Database interaction using Spring and Hibernate/JPA - Spring Data JPA - Spring Data MongoDB - Messaging, emailing and caching support - Spring Web MVC - Developing RESTful web services using Spring Web MVC - Functional programming using lambdas and method references - Stream API - Reactive programming using RxJava 2 and Reactor - Spring WebFlux - Reactive support in Spring Data MongoDB and Spring Security - Developing reactive RESTful web services using Spring WebFlux, Spring Security and Spring Data MongoDB

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.

Learn various design patterns and best practices in Spring 5 and use them to solve common design problems. About This Book Explore best practices for designing an application Manage your code easily with Spring's Dependency Injection pattern Understand the benefits that the right design patterns can offer your toolkit Who This Book Is For This book is for developers who would like to use design patterns to address common problems while designing an app using the Spring Framework and Reactive Programming approach. A basic knowledge of the Spring Framework and Java is assumed. What You Will Learn Develop applications using dependency injection patterns Learn best practices to design enterprise applications Explore Aspect-Oriented Programming relating to transactions, security, and caching. Build web applications using traditional Spring MVC patterns Learn to configure Spring using XML, annotations, and Java. Implement caching to improve application performance. Understand concurrency and handle multiple connections inside a web server. Utilizing Reactive Programming Pattern to build Reactive web applications. In Detail Design patterns help speed up the development process by offering well tested and proven solutions to common problems. These patterns coupled with the Spring framework offer tremendous improvements in the development process. The book begins with an overview of Spring Framework 5.0 and design patterns. You will understand the Dependency Injection pattern, which is the main principle behind the decoupling process that Spring performs, thus making it easier to manage your code. You will learn how GoF patterns can be used in Application Design. You will then learn to use Proxy patterns in Aspect Oriented Programming and remoting. Moving on, you will understand the JDBC template patterns and their use in abstracting database access. Then, you will be introduced to MVC patterns to build Reactive web applications. Finally, you will move on to more advanced topics such as Reactive streams and Concurrency. At the end of this book, you will be well equipped to develop efficient enterprise applications using Spring 5 with common design patterns Style and approach The book takes a pragmatic approach, showing various design patterns and best-practice considerations, including the Reactive programming approach with the Spring 5 Framework and ways to solve common development and design problems for enterprise applications.

Summary A developer-focused guide to writing applications using Spring Boot. You'll learn how to bypass the tedious configuration steps so that you can concentrate on your application's behavior. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The Spring Framework simplifies enterprise Java development, but it does require lots of tedious configuration work. Spring Boot radically streamlines spinning up a Spring application. You get automatic configuration and a model with established conventions for build-time and runtime dependencies. You also get a handy command-line interface you can use to write

scripts in Groovy. Developers who use Spring Boot often say that they can't imagine going back to hand configuring their applications. About the Book Spring Boot in Action is a developer-focused guide to writing applications using Spring Boot. In it, you'll learn how to bypass configuration steps so you can focus on your application's behavior. Spring expert Craig Walls uses interesting and practical examples to teach you both how to use the default settings effectively and how to override and customize Spring Boot for your unique environment. Along the way, you'll pick up insights from Craig's years of Spring development experience. What's Inside Develop Spring apps more efficiently Minimal to no configuration Runtime metrics with the Actuator Covers Spring Boot 1.3 About the Reader Written for readers familiar with the Spring Framework. About the Author Craig Walls is a software developer, author of the popular book Spring in Action, Fourth Edition, and a frequent speaker at conferences. Table of Contents Bootstarting Spring Developing your first Spring Boot application Customizing configuration Testing with Spring Boot Getting Groovy with the Spring Boot CLI Applying Grails in Spring Boot Taking a peek inside with the Actuator Deploying Spring Boot applications APPENDIXES Spring Boot developer tools Spring Boot starters Configuration properties Spring Boot dependencies

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.

Getting started with Spring Framework (4th Edition) is a hands-on guide to begin developing applications using Spring Framework 5. The examples (consisting of 88 sample projects) that accompany this book are based on Spring 5.0.1 and Java 9. You can download the examples described in this book from the following GitHub project: github.com/getting-started-with-spring/4thEdition This book covers: - Spring Framework basics - Aspect-oriented programming - Database interaction using Spring and Hibernate/JPA - Spring Data JPA - Spring Data MongoDB - Messaging, emailing and caching support - Spring Web MVC - Developing RESTful web services using Spring Web MVC - Functional programming using lambdas and method references - Stream API - Reactive programming using RxJava 2 and Reactor - Spring WebFlux - Reactive support in Spring Data MongoDB and Spring Security - Developing reactive RESTful web services using Spring WebFlux, Spring Security and Spring Data MongoDB

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.

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 Microserivces 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 Introducing Spring Framework is your hands-on guide to learning to build applications using the Spring Framework. The book uses a simple My Documents application that you will develop incrementally over the course of the book and covers: • How to programmatically configure the Spring container and beans • How to use annotations for dependency injection • How to use collections and custom types • How to customize and configure bean properties and bean lifecycle interfaces • How to handle metadata using XML, annotations, and the Groovy bean reader • How to use the new Spring Boot and Spring XD After reading this book, you will have all you need to start using the Spring Framework effectively.

Summary Portlets in Action is a comprehensive, hands-on guide to building portlet-driven applications in Java. Covers Portlet 2.0, Spring 3.0 Portlet MVC, WSRP 2.0, Portlet Bridges, Ajax, Comet, Liferay, GateIn, Spring JDBC, and Hibernate. About the Technology Portlets are the small Java applications that run within a portal. Good portlets work independently and also communicate fluently with the portal, other portlets, as well as outside servers and information sources. Using Java's Portlet 2.0 API and portal servers like Liferay, you can build flexible, stable business portals without the design overhead required by other application styles. About the Book Portlets in Action is a comprehensive guide to building portlet-driven applications in Java. It teaches portlet development hands-on as you develop a portal that incorporates most key features of the Portlet 2.0 API. And because portals and portlets are so flexible, the accompanying source code can be easily adapted and reused. Along the way, you'll learn how to work with key web frameworks like Spring 3.0 Portlet MVC and DWR. Written for Java developers. No prior experience with portlets required 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 Complete coverage of the Portlet 2.0 API Spring 3.0 Portlet MVC and the Liferay portal server Portal design best practices Reusable source code ================================= Table of Contents PART 1 GETTING STARTED WITH PORTLET DEVELOPMENT Introducing portals and portlets The portlet lifecycle Portlet 2.0 API - portlet objects and container-runtime options Portlet 2.0 API - caching, security, and localization Building your own portal Using the portlet tag library PART 2 DEVELOPING PORTLETS USING SPRING AND HIBERNATE Getting started with Spring Portlet MVC Annotation-driven development with Spring Integrating portlets with databases PART 3 ADVANCED PORTLET DEVELOPMENT Personalizing portlets Communicating with other portlets Ajaxing portlets Reusable logic with portlet filters Portlet bridges Web Services for Remote Portlets (WSRP)

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

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.

Over 60 recipes to help you speed up the development of your Java web applications using the Spring Roo development tool. Getting started with Spring Framework is a hands-on guide to begin developing applications using Spring Framework. This book is meant for Java developers with little or no knowledge of Spring Framework. All the examples shown in this book use Spring 3.2. You can download the examples (consisting of 40 sample projects) described in this book from the following Google Code project: code.google.com/p/getting-started-with-spring-framework/ Chapter 1 - Spring Framework basics Chapter 2 - Configuring beans Chapter 3 - Dependency injection Chapter 4 - Customizing beans and bean definitions Chapter 5 - Annotation-driven development with Spring Chapter 6 - Database interaction using Spring Chapter 7 - Messaging, emailing, asynchronous method execution, and caching using Spring Chapter 8 - Aspect-oriented programming This book covers: - Specifying configuration metadata using XML and annotations - Programmatically configuring Spring container and beans - Configuring different types of bean properties - Bean lifecycle interfaces - Customizing beans using BeanPostProcessors and BeanFactoryPostProcessors - Bean definition inheritance - JSR 250's and 330's annotations for dependency injection - Validation using JSR 303 (Bean Validation API) annotations and Spring's Validator interface - SpEL (Spring Expression Language) - Caching using Spring's cache abstraction - Sending and receiving JMS messages using Spring - Aspect-oriented programming support in Spring - Sending emails using Spring - Asynchronously executing methods using Spring - Task scheduling - Database interaction using JDBC and Hibernate - Programmatic and declarative transaction management The book shows a simple internet banking application that is developed incrementally in each chapter of the book and covers the topics mentioned above. You can post your feedback and questions to the authors in the following Google Groups forum: groups.google.com/forum/#!forum/getting-started-with-spring-framework

Since development first began on Spring in 2003, there's been a constant buzz about it in Java development publications and corporate IT departments. The reason is clear: Spring is a lightweight Java framework in a world of complex heavyweight architectures that take forever to implement. Spring is like a breath of fresh air to overworked developers.In Spring, you can make an object secure, remote, or transactional, with a couple of lines of configuration instead of embedded code. The resulting application is simple and clean. In Spring, you can work less and go home early, because you can strip away a whole lot of the redundant code that you tend to see in most J2EE applications. You won't be nearly as burdened with meaningless detail. In Spring, you can change your mind without the consequences bleeding through your entire application. You'll adapt much more quickly than you ever could before.Spring: A Developer's Notebook offers a quick dive into the new Spring framework, designed to let you get hands-on as quickly as you like. If you don't want to bother with a lot of theory, this book is definitely for you. You'll work through one example after another. Along the way, you'll discover the energy and promise of the Spring framework.This practical guide features ten code-intensive labs that'll rapidly get you up to speed. You'll learn how to do the following, and more: install the Spring Framework set up the development environment use Spring with other open source Java tools such as Tomcat, Struts, and Hibernate master AOP and transactions utilize ORM solutions As with all titles in the Developer's Notebook series, this no-nonsense book skips all the boring prose and cuts right to the chase. It's an approach that forces you to get your hands dirty by working through one instructional example after another-examples that speak to you instead of at you.

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.

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

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

Implement JPA repositories and harness the performance of Redis in your applications.

Spring in Action introduces you to the ideas behind Spring and then quickly launches into a hands-on exploration of the framework. Combining short code snippets and an ongoing example developed throughout the book, it shows you how to build simple and efficient J2EE applications. You will see how to solve persistence problems using the leading open-source tools, and also how to integrate your application with the most popular web frameworks. You will learn how to use Spring to manage the bulk of your infrastructure code so you can focus on what really matters your critical business needs. Spring in Action has been completely updated to cover the exciting new features of Spring 2.0. The book begins by introducing you to the core concepts of Spring and then quickly launches into a hands-on exploration of the framework.Part 1 - Spring EssentialsPart 2 - Spring in the Business LayerPart 3 - Spring in the Web Layer

Chapter 1 of this book is now available online: bit.ly/2k3dSK6Chapter 8 of this book is now available online: bit.ly/2jxrv4F Getting started with Java programming language is a hands-on guide to begin developing programs using Java. This book is meant for students and professionals with little or no knowledge of Java. The examples that accompany this book are based on Java 8. You can download the examples (consisting of 30 sample projects) discussed in this book from the following Google Drive location: https://drive.google.com/open?id=0B1IwsLB5TOglZXYxWW9JMndUX3M. Chapter 1 – Hello World! Chapter 2 – Variables, data types and operators Chapter 3 – Control flow statements Chapter 4 – Objects, classes and methods Chapter 5 – Packages, access modifiers, static and this keywords Chapter 6 – Object-oriented programming concepts Chapter 7 – Abstract classes and interfaces Chapter 8 – Exception handling Chapter 9 – Arrays, immutability, recursive methods and wrapper classes

A complete guide to build robust and scalable web applications with Spring and Angular. About This Book This hands on guide will teach you how to build an end-to-end modern web application using Spring and Angular. It is easy to read and will benefit Java developers who have been used to develop the back-end part of web application while front-end (UI) has been left for UI developers. Learn the core aspects involved in developing the backend and the UI, right from designing to integrating and deploying. Who This Book Is For This book is targeted towards Java Web Developers with a basic knowledge of Spring who want to build complete web applications in a fast and effective way. They will want to gain a stronghold on both frontend and backend development to advance in their careers. What You Will Learn Set up development environment for Spring Web App and Angular app. Process web request and response and build REST API endpoints. Create data access components using Spring Web MVC framework and Hibernate Use Junit 5 to test your application Learn the fundamental concepts around building Angular Configure and use Routes and Components. Protect Angular app content from common web vulnerabilities and attacks. Integrate Angular apps with Spring Boot Web API endpoints Deploy the web application based on CI and CD using Jenkins and Docker containers In Detail Spring is the most popular application development framework being adopted by millions of developers around the world to create high performing, easily testable, reusable code. Its lightweight nature and extensibility helps you write robust and highly-scalable server-side web applications. Coupled with the power and efficiency of Angular, creating web applications has never been easier. If you want build end-to-end modern web application using Spring and Angular, then this book is for you. The book directly heads to show you how to create the backend with Spring, showing you how to configure the Spring MVC and handle Web requests. It will take you through the key aspects such as building REST API endpoints, using Hibernate, working with Junit 5 etc. Once you have secured and tested the backend, we will go ahead and start working on the front end with Angular. You will learn about fundamentals of Angular and Typescript and create an SPA using components, routing etc. Finally, you will see how to integrate both the applications with REST protocol and deploy the application using tools such as Jenkins and Docker. Style and approach This is a straightforward guide that shows how to build a complete web application in Angular and Spring.

Get a concise introduction to Spring, the popular open source framework for building lightweight enterprise applications on the Java platform. This example-driven book for Java developers delves into the framework's basic features, as well as complex concepts such as containers. You'll learn how Spring makes Java Messaging Service easier to work with, and how its support for Hibernate helps you work with data persistence and retrieval. In this revised edition of Just Spring, you'll get your hands deep into sample code, beginning with a problem that illustrates Spring's core principle: dependency injection. In the chapters that follow, author Madhusudhan Konda walks you through features that underlie the solution. Dive into the new chapter on advanced concepts, such as bean scopes and property editors Learn dependency injection through a simple object coupling problem Tackle the framework's core fundamentals, including beans and bean factories Discover how Spring makes the Java Messaging Service API easier to use Learn how Spring has revolutionized data access with Java DataBase Connectivity (JDBC) Use Spring with the Hibernate framework to manipulate data as objects

This is a tutorial on Spring MVC, a module in the Spring Framework for rapidly developing web applications. The MVC in

Spring MVC stands for Model-View-Controller, a design pattern widely used in Graphical User Interface (GUI) development. This pattern is not only common in web development, but is also used in desktop technology like Java Swing. Sometimes called Spring Web MVC, Spring MVC is one of the most popular web frameworks today and a most sought-after skill. This book is for anyone wishing to learn to develop Java-based web applications with Spring MVC. Sample applications come as Spring Tool Suite and Eclipse projects.

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

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.

This book provides a coherent methodology for Model-Driven Requirements Engineering which stresses the systematic treatment of requirements within the realm of modelling and model transformations. The underlying basic assumption is that detailed requirements models are used as first-class artefacts playing a direct role in constructing software. To this end, the book presents the Requirements Specification Language (RSL) that allows precision and formality, which eventually permits automation of the process of turning requirements into a working system by applying model transformations and code generation to RSL. The book is structured in eight chapters. The first two chapters present the main concepts and give an introduction to requirements modelling in RSL. The next two chapters concentrate on presenting RSL in a formal way, suitable for automated processing. Subsequently, chapters 5 and 6 concentrate on model transformations with the emphasis on those involving RSL and UML. Finally, chapters 7 and 8 provide a summary in the form of a systematic methodology with a comprehensive case study. Presenting technical details of requirements modelling and model transformations for requirements, this book is of interest to researchers, graduate students and advanced practitioners from industry. While researchers will benefit from the latest results and possible research directions in MDRE, students and practitioners can exploit the presented information and practical techniques in several areas, including requirements engineering, architectural design, software language construction and model transformation. Together with a tool suite available online, the book supplies the reader with what it promises: the means to get from requirements to code "in a snap".

A hands-on guide to building an enterprise-grade, scalable RESTful web service using the Spring Framework About This Book Follow best practices and explore techniques such as clustering and caching to achieve a scalable web service Leverage the Spring Framework to quickly implement RESTful endpoints Learn to implement a client library for a RESTful web service using the Spring Framework Who This Book Is For This book is intended for those who want to learn to build RESTful web services with the Spring Framework. To make best use of the code samples included in the book, you should have a basic knowledge of the Java language. Previous experience with the Spring Framework would also help you get up and running quickly. What You Will Learn Deep dive into the principles behind REST Expose CRUD operations through RESTful endpoints with the Spring Framework Devise response formats and error handling strategies, offering a consistent and flexible structure to simplify integration for service consumers Follow the best approaches for dealing with a service's evolution while maintaining backward compatibility Understand techniques to secure web services Comply with the best ways to test RESTful web services, including tips for load testing Optimise and scale web services using techniques such as caching and clustering In Detail REST is an architectural style that tackles the challenges of building scalable web services. In today's connected world, APIs have taken a central role on the web. APIs provide the fabric through which systems interact, and REST has become synonymous with APIs. The depth, breadth, and ease of use of Spring makes it one of the most attractive frameworks in the Java ecosystem. Marrying the two technologies is therefore a very natural choice. This book takes you through the design of RESTful web services and leverages the Spring Framework to implement these services. Starting from the basics of the philosophy behind REST, you'll go through the steps of designing and implementing an enterprise-grade RESTful web service. Taking a practical approach, each chapter provides code samples that you can apply to your own circumstances. This book goes beyond

the use of Spring and explores approaches to tackle resilience, security, and scalability concerns. You'll learn techniques to deal with security in Spring and discover how to implement unit and integration test strategies. Finally, the book ends by walking you through building a Java client for your RESTful web service, along with some scaling techniques for it. Style and approach This book is a step-by-step, hands-on guide to designing and building RESTful web services. The book follows the natural cycle of developing these services and includes multiple code samples to help you.

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