

hexagonal architecture spring boot

hexagonal architecture spring boot is an innovative design pattern that enhances the modularity and testability of Spring Boot applications. By isolating the core business logic from external dependencies such as databases, user interfaces, and third-party services, this architectural style promotes cleaner, more maintainable code. In the context of Spring Boot, hexagonal architecture allows developers to build resilient and adaptable applications that can evolve with changing requirements. This article explores the fundamental concepts of hexagonal architecture, its benefits when combined with Spring Boot, and practical implementation strategies. Additionally, it covers common challenges and best practices to ensure a robust integration of this architectural pattern. The following sections provide a detailed breakdown of how hexagonal architecture complements Spring Boot development, emphasizing scalability, testability, and separation of concerns.

- Understanding Hexagonal Architecture
- Benefits of Using Hexagonal Architecture with Spring Boot
- Core Components of Hexagonal Architecture in Spring Boot
- Implementing Hexagonal Architecture in a Spring Boot Application
- Best Practices and Common Pitfalls

Understanding Hexagonal Architecture

Hexagonal architecture, also known as the Ports and Adapters pattern, is an architectural style that structures software applications to decouple the core logic from external systems. The main goal is to create a clear separation between the domain logic and peripheral concerns, such as databases, messaging systems, or user interfaces.

Origins and Principles

The concept of hexagonal architecture was introduced to address the limitations of traditional layered architectures. It emphasizes isolating the application's business rules in the center, surrounded by "ports" that define interfaces, and "adapters" that implement these interfaces to connect with external technologies. This design results in a system that is easy to test and modify by simply swapping adapters without impacting the core logic.

Core Concepts

At the heart of hexagonal architecture are several key concepts:

- **Domain Model:** The central part containing business rules and logic.
- **Ports:** Interfaces that define how the application communicates with the outside world.
- **Adapters:** Implementations of ports that connect to external systems like databases, messaging queues, or web services.
- **Isolation:** The business logic is isolated from infrastructure concerns, enabling flexibility and easier testing.

Benefits of Using Hexagonal Architecture with Spring Boot

Integrating hexagonal architecture with Spring Boot enhances the development experience by leveraging Spring Boot's powerful features alongside an architecture that supports maintainability and scalability.

Improved Testability

Since the business logic is decoupled from infrastructure via ports, testing can focus on the core domain without needing to instantiate external systems. This leads to faster and more reliable unit tests.

Increased Modularity and Maintainability

Hexagonal architecture enforces clear boundaries between components, which simplifies maintenance and encourages modular design. Spring Boot's dependency injection complements this by managing component wiring efficiently.

Flexibility in Integration

Adapters can be replaced or extended without modifying the core application logic. Spring Boot's support for various data access and messaging technologies makes it straightforward to implement multiple adapters.

Enhanced Scalability

By isolating domain logic, teams can scale different parts of the application independently. Spring Boot's support for microservices and cloud-native development pairs well with this architecture.

Core Components of Hexagonal Architecture in Spring Boot

Applying hexagonal architecture in Spring Boot involves organizing the project structure and components to reflect the pattern's principles clearly.

Domain Layer

The domain layer contains the business entities, domain services, and business rules. It should remain free of any Spring Boot or external framework dependencies to maintain purity.

Application Layer (Ports)

This layer defines the interfaces (ports) that the domain layer exposes and consumes. It includes service interfaces for input and output operations, representing how the application interacts with external actors.

Adapters Layer

Adapters implement the ports and act as bridges between the domain/application layers and external systems. This includes:

- **Inbound Adapters:** Such as REST controllers or message listeners handling external requests.
- **Outbound Adapters:** Such as repositories or clients interfacing with databases, APIs, or messaging systems.

Configuration Layer

Spring Boot's configuration components wire together the adapters and application layers, managing dependency injection and application context setup.

Implementing Hexagonal Architecture in a Spring Boot Application

To implement hexagonal architecture effectively, developers should follow a systematic approach that respects the separation of concerns and leverages Spring Boot's capabilities.

Step 1: Define the Domain Model

Start by creating domain entities and services that encapsulate the core business logic. Avoid any dependencies on Spring-specific annotations or libraries within this layer.

Step 2: Create Ports as Interfaces

Define input and output interfaces that represent the services the domain requires and exposes. These ports act as contracts for adapters to implement.

Step 3: Develop Adapters

Build inbound adapters such as REST controllers annotated with Spring MVC annotations (`@RestController`, `@RequestMapping`). For outbound adapters, implement repositories or clients using Spring Data or `RestTemplate/WebClient`.

Step 4: Configure Dependency Injection

Use Spring Boot's `@Configuration` classes or component scanning to wire adapters with the application layer. This setup ensures that the core domain interacts only with ports, not concrete adapter implementations.

Step 5: Testing

Create unit tests for the domain and application layers independently using mocks for ports. Integration tests can focus on adapter implementations and their integration with external systems.

1. Define pure domain entities and services.
2. Declare ports as interfaces for input/output.

3. Implement adapters for external communication.
4. Configure Spring Boot to wire components.
5. Test domain logic independently from infrastructure.

Best Practices and Common Pitfalls

Adopting hexagonal architecture with Spring Boot requires attention to certain best practices to maximize its benefits and avoid common challenges.

Best Practices

- **Keep Domain Pure:** Avoid framework dependencies in the domain model to ensure longevity and portability.
- **Use Interfaces for Ports:** Clearly define contracts between layers to enforce decoupling.
- **Leverage Spring Profiles:** Manage different adapter implementations for various environments effectively.
- **Isolate Infrastructure:** Place adapters in separate packages or modules to maintain clear boundaries.
- **Automate Testing:** Implement thorough unit and integration tests to verify isolation and adapter behavior.

Common Pitfalls

- **Leaking Infrastructure into Domain:** Introducing dependencies on Spring or external systems in the domain layer defeats the purpose of hexagonal architecture.
- **Overcomplicating Simple Applications:** Applying hexagonal architecture unnecessarily in small projects can lead to complexity without benefit.
- **Neglecting Testing Isolation:** Insufficient separation between domain tests and adapter tests reduces test effectiveness.

- **Poor Package Organization:** Mixing domain, application, and adapter code can make the system harder to maintain.

Frequently Asked Questions

What is Hexagonal Architecture in the context of Spring Boot?

Hexagonal Architecture, also known as Ports and Adapters, is a design pattern that emphasizes separating the core domain logic from external concerns such as databases, user interfaces, and other systems. In Spring Boot, this pattern helps create maintainable, testable, and loosely coupled applications by clearly defining interfaces (ports) and their implementations (adapters).

How does Hexagonal Architecture improve testability in Spring Boot applications?

Hexagonal Architecture isolates the core business logic from external dependencies by using ports and adapters. This separation allows developers to write unit tests for the domain logic without involving infrastructure concerns like databases or web frameworks, making tests faster, more reliable, and easier to maintain.

What are the main components of Hexagonal Architecture in a Spring Boot project?

The main components are: 1) Domain Model - the core business logic; 2) Ports - interfaces defining inputs and outputs; 3) Adapters - implementations of ports interacting with external systems like databases, REST APIs, or user interfaces; and 4) Application Services - orchestrate domain logic and coordinate between ports and adapters.

How can I implement Ports and Adapters in Spring Boot?

In Spring Boot, you define ports as interfaces within your domain or application layer. Adapters are implemented as Spring components or beans that realize these interfaces, such as repositories for database access or controllers for REST endpoints. Dependency injection helps wire adapters to ports, enabling loose coupling.

Can Hexagonal Architecture be combined with Spring Boot's layered

architecture?

Yes, Hexagonal Architecture can complement Spring Boot's layered architecture by providing a clear separation of concerns. While layered architecture organizes code by technical responsibility (controller, service, repository), hexagonal architecture organizes by business capabilities and interactions with external systems, improving modularity and flexibility.

What are the benefits of using Hexagonal Architecture with Spring Boot?

Benefits include improved separation of concerns, enhanced testability, easier maintenance, flexibility to switch or add external systems without impacting core logic, and better alignment with Domain-Driven Design principles, all of which contribute to building robust and scalable Spring Boot applications.

How do I handle database interactions in Hexagonal Architecture with Spring Boot?

Database interactions are handled via outbound ports defined as interfaces in the domain or application layer. The adapters, typically Spring Data JPA repositories or custom implementations, implement these ports. This abstracts the database technology away from core logic, allowing easier swapping or mocking for tests.

Is it necessary to use Hexagonal Architecture for all Spring Boot projects?

No, Hexagonal Architecture is especially beneficial for complex applications requiring high maintainability and testability. For simple projects, it might introduce unnecessary complexity. The choice depends on project needs, team familiarity, and long-term maintenance considerations.

Are there any popular libraries or tools that support Hexagonal Architecture in Spring Boot?

While there is no specific library exclusively for Hexagonal Architecture, Spring Boot's features like Spring Data, Spring MVC, and dependency injection naturally support its implementation. Additionally, tools like MapStruct for mapping and testing frameworks like JUnit and Mockito facilitate building and testing the architecture.

Additional Resources

1. Hexagonal Architecture with Spring Boot: A Practical Guide

This book offers a comprehensive introduction to implementing hexagonal architecture in Spring Boot applications. It covers core principles, patterns, and best practices to design maintainable and testable software. Readers will find hands-on examples and real-world scenarios to apply the concepts effectively.

2. Mastering Hexagonal Architecture in Java and Spring Boot

Focused on Java developers, this title dives deep into the hexagonal architecture pattern and its integration with Spring Boot. It provides advanced techniques for structuring applications, decoupling business logic from external systems, and enhancing modularity. The book also explores testing strategies and deployment considerations.

3. Building Scalable Microservices with Hexagonal Architecture and Spring Boot

This book details how to leverage hexagonal architecture principles to create scalable and resilient microservices using Spring Boot. It emphasizes separation of concerns and dependency inversion to facilitate easier maintenance and evolution of microservices. Practical examples guide readers through designing, developing, and deploying microservices.

4. Hands-On Hexagonal Architecture with Spring Boot and DDD

Combining Domain-Driven Design (DDD) with hexagonal architecture, this book helps developers create domain-centric applications using Spring Boot. It explains how to model complex business domains and implement clean boundaries between domain and infrastructure layers. The book includes case studies and coding exercises to reinforce learning.

5. Test-Driven Development in Hexagonal Architecture with Spring Boot

This title focuses on applying Test-Driven Development (TDD) principles within the context of hexagonal architecture using Spring Boot. It demonstrates how to write effective unit and integration tests for ports and adapters, ensuring robust and maintainable codebases. The book also discusses testing strategies for different layers of the application.

6. Design Patterns for Hexagonal Architecture in Spring Boot Applications

This book explores common design patterns that complement hexagonal architecture in Spring Boot projects. It covers patterns such as adapters, ports, dependency injection, and event-driven design. Readers will learn how to apply these patterns to solve architectural challenges and improve code quality.

7. Spring Boot and Hexagonal Architecture: From Monolith to Modular System

A practical guide to refactoring monolithic Spring Boot applications into modular systems using hexagonal architecture principles. The book outlines step-by-step approaches to incrementally introduce boundaries and improve system flexibility. It also discusses migration strategies and performance considerations.

8. Effective API Design with Hexagonal Architecture and Spring Boot

This book delves into designing clean and maintainable APIs by leveraging hexagonal architecture in Spring Boot applications. It highlights how to isolate API logic from business rules and infrastructure concerns. Readers will gain insights into versioning, security, and documentation best practices.

9. Reactive Hexagonal Architecture with Spring Boot and WebFlux

Focusing on reactive programming, this book illustrates how to implement hexagonal architecture using Spring Boot's WebFlux framework. It covers reactive streams, non-blocking I/O, and how to design adapters and ports in a reactive context. The book is ideal for developers aiming to build high-performance,

scalable reactive applications.

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hexagonal architecture spring boot: *Java Microservices and Containers in the Cloud* Binildas A. Christudas, 2024-09-28 Spring Boot helps developers create applications that simply run. When minimal configuration is required to start up an application, even novice Java developers are ready to start. But this simplicity shouldn't constrain developers in addressing more complex enterprise requirements where microservice architecture is concerned. With the need to rapidly deploy, patch, or scale applications, containers provide solutions which can accelerate development, testing as well as production cycles. The cloud helps companies to scale and adapt at speed, accelerate innovation

and drive business agility, without heavy upfront IT investment. What if we can equip even a novice developer with all that is required to help enterprises achieve all of this, this book does this and more. Java Microservices and Containers in the Cloud offers a comprehensive guide to both architecture and programming aspects to Java microservices development, providing a fully hands-on experience. We not only describe various architecture patterns but also provide practical implementations of each pattern through code examples. Despite the focus on architecture, this book is designed to be accessible to novice developers with only basic programming skills, such as writing a Hello World program and using Maven to compile and run Java code. It ensures that even such readers can easily comprehend, deploy, and execute the code samples provided in the book. Regardless of your current knowledge or lack thereof in Docker, Kubernetes, and Cloud technologies, this book will empower you to develop programming skills in these areas. There is no restriction on beginners attempting to understand serious and non-trivial architecture constraints. While mastering concurrency and scalability techniques often requires years of experience, this book promises to empower you to write microservices, as well as how to containerize and deploy them in the cloud. If you are a non-programming manager who is not afraid to read code snippets, this book will empower you to navigate the challenges posed by seasoned architects. It will equip you with the necessary understanding of specialized jargon, enabling you to engage in more meaningful discussions and break through barriers when collaborating with programmers, architects and engineers across the table. The code examples provided in the book are intentionally designed to be simple and accessible to all, regardless of your programming background. Even if you are a C# or Python programmer and not familiar with Java, you will find the code examples easy to follow and understand. You will Acquire proficiency in both RPC-style and Messaging-style inter-microservice communication Construct microservices utilizing a combination of SQL (PostgreSQL) and NoSQL (MongoDB) databases Leverage Liquibase, a database schema version control tool, and administer UI in conjunction with PostgreSQL Leverage both GraphQL and conventional REST approaches side by side Gain practical experience in implementing Hexagonal and Onion Architectures through hands-on exercises Integrate asynchronous processing into your Java applications using powerful APIs such as DeferredResult and CompletableFuture Who it's for: Developers, programmers and Architects who want to level up their Java Micoservices and Archtecture knowledge as well as managers who want to brush up on their technical knowledge around the topic.

hexagonal architecture spring boot: Building Applications with Spring 5 and Vue.js 2

James J. Ye, 2018-10-26 Become efficient in both frontend and backend web development with Spring and Vue Key FeaturesConnect application's frontend and backend with Vue, Vuex, and Spring BootLeverage the latest web standards to enhance code performance, readability, and cross-compatibilityBuild secure full-stack web applications with Spring SecurityBook Description Building Applications with Spring 5 and Vue.js 2, with its practical approach, helps you become a full-stack web developer. As well as knowing how to write frontend and backend code, a developer has to tackle all problems encountered in the application development life cycle – starting from the simple idea of an application, to the UI and technical designs, and all the way to implementation, testing, production deployment, and monitoring. With the help of this book, you'll get to grips with Spring 5 and Vue.js 2 as you learn how to develop a web application. From the initial structuring to full deployment, you'll be guided at every step of developing a web application from scratch with Vue.js 2 and Spring 5. You'll learn how to create different components of your application as you progress through each chapter, followed by exploring different tools in these frameworks to expedite your development cycle. By the end of this book, you'll have gained a complete understanding of the key design patterns and best practices that underpin professional full-stack web development. What you will learnAnalyze requirements and design data modelsDevelop a single-page application using Vue.js 2 and Spring 5Practice concept, logical, and physical data modelingDesign, implement, secure, and test RESTful API Add test cases to improve reliability of an applicationMonitor and deploy your application to productionWho this book is for Building Applications with Spring 5.0 and

Vue.js 2.0 is for you if you are developer who is new to Vue.js or Spring. It is assumed that you have some knowledge of HTML, CSS, and Java.

hexagonal architecture spring boot: Building Microservices with Spring Dinesh Rajput, Rajesh R V, 2018-12-21 Learn and use the design patterns and best practices in Spring to solve common design problems and build user-friendly microservices Key Features Study the benefits of using the right design pattern in your toolkit Manage your code easily with Spring's dependency injection pattern Explore the features of Docker and Mesos to build successful microservices Book Description Getting Started with Spring Microservices begins with an overview of the Spring Framework 5.0, its design patterns, and its guidelines that enable you to implement responsive microservices at scale. You will learn how to use GoF patterns in application design. You will understand the dependency injection pattern, which is the main principle behind the decoupling process of the Spring Framework and makes it easier to manage your code. Then, you will learn how 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. After understanding the basics, you will move on to more advanced topics, such as reactive streams and concurrency. Written to the latest specifications of Spring that focuses on Reactive Programming, the Learning Path teaches you how to build modern, internet-scale Java applications in no time. Next, you will understand how Spring Boot is used to deploying serverless autonomous services by removing the need to have a heavyweight application server. You'll also explore ways to deploy your microservices to Docker and managing them with Mesos. By the end of this Learning Path, you will have the clarity and confidence for implementing microservices using Spring Framework. This Learning Path includes content from the following Packt products: Spring 5 Microservices by Rajesh R V Spring 5 Design Patterns by Dinesh Rajput What you will learn Develop applications using dependency injection patterns Build web applications using traditional Spring MVC patterns Utilize the reactive programming pattern to build reactive web apps Learn concurrency and handle multiple connections inside a web server Use Spring Boot and Spring Cloud to develop microservices Leverage reactive programming to build cloud-native applications Who this book is for Getting Started with Spring Microservices is ideal for Spring developers who want to use design patterns to solve common design problems and build cloud-ready, Internet-scale applications, and simple RESTful services.

hexagonal architecture spring boot: Java Real World Projects Davi Vieira, 2024-12-23 DESCRIPTION Java continues to be a key technology for building powerful applications in today's fast-changing tech world. This book helps you connect theory with practice, teaching you the skills to create real-world Java projects. With a clear learning path, you will learn the tools and techniques needed to tackle complex software development challenges with confidence. This book, inspired by real-world Java projects, starts with Java fundamentals, covering core APIs, modern features, database handling, and automated testing. It explores frameworks like Spring Boot, Quarkus, and Jakarta EE for enterprise cloud-native applications. Employ container technologies like Docker and Kubernetes for scalable deployments. To tackle production challenges, the book will look deeply into monitoring and observability, helping developers understand application performance under unexpected conditions. It concludes with maintainability issues, introducing architectural concepts like domain-driven design (DDD), layered architecture, and hexagonal architecture, offering a roadmap for creating scalable and maintainable Java applications. By the end of this book, you will feel confident as a Java developer, ready to handle real-world challenges and work on modern software projects. You will have a strong understanding of Java basics, modern tools, and best practices, preparing you for a successful career in Java development. KEY FEATURES ● Learn software development approaches used in real Java projects. ● Acquire cloud-native and enterprise software development skills. ● Develop modern Java systems with cutting-edge frameworks. WHAT YOU WILL LEARN ● Efficient application of core Java API capabilities. ● Modern Java development with features like virtual threads, sealed classes, and records. ● Understanding of the Spring Boot, Quarkus, and Jakarta EE frameworks. ● Monitoring and observability with Prometheus, Grafana, and Elasticsearch. ● Using DDD, layered architecture, and hexagonal architecture to improve

maintainability. WHO THIS BOOK IS FOR This book is ideal for aspiring and intermediate Java developers, including students, software engineers, and anyone seeking to enhance their Java skills. Prior experience with basic programming concepts and a foundational understanding of Java are recommended. TABLE OF CONTENTS 1. Revisiting the Java API 2. Exploring Modern Java Features 3. Handling Relational Databases with Java 4. Preventing Unexpected Behaviors with Tests 5. Building Production-Grade Systems with Spring Boot 6. Improving Developer Experience with Quarkus 7. Building Enterprise Applications with Jakarta EE and MicroProfile 8. Running Your Application in Cloud-Native Environments 9. Learning Monitoring and Observability Fundamentals 10. Implementing Application Metrics with Micrometer 11. Creating Useful Dashboards with Prometheus and Grafana 12. Solving problems with Domain-driven Design 13. Fast Application Development with Layered Architecture 14. Building Applications with Hexagonal Architecture

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hexagonal architecture spring boot: *Enterprise Microservices with Java and Spring Boot: Architecture, Deployment, and Real-World Patterns* 2025 AUTHOR:1- Rajeev Kumar Sharma AUTHOR:1- Prof. Dr. Vishwadeepak Singh Baghela, PREFACE Over the past decade, enterprise software has undergone a seismic shift. Immense monoliths that once sat at the heart of corporate data-centers are being replaced by fleets of independently deployable, cloud-native services. Java—fortified by the Spring ecosystem—has emerged as one of the most dependable platforms for building these systems, while Kubernetes, GitOps and progressive-delivery tooling have rewritten the rules for shipping them at speed and scale. Enterprise Microservices with Java and Spring Boot is our field guide to this new landscape. It is the book we wished we had when we were first asked to untangle ageing JEE applications, introduce continuous delivery, or harden mission-critical APIs against unpredictable traffic and failure scenarios. Inside, we move deliberately from first principles to battle-tested practices: · Architecture - We lay out modern domain-driven patterns, polyglot persistence strategies, and the realities of eventual consistency, sagas, and CQRS. You will see where theory collides with organizational structure, Conway's Law, and the demands of regulatory

compliance. · Deployment – Containers, Helm, GitOps and service meshes form the backbone of today's delivery pipelines. We walk through multi-stage Docker builds, cluster-wide security, automated SCA/SAST gates and cost-aware autoscaling—always with running code and YAML you can lift into production. · Real-World Patterns – Circuit breakers, bulkheads, graceful degradation, observability, and chaos testing are explored through Resilience4j, Micrometer, Open Telemetry and Litmus Chaos, complete with metrics, dashboards and alert rules that have saved our teams at 3 a.m. Our perspective is intentionally pragmatic. Rajeev's years architecting high-throughput fintech platforms and Vishwadeepak's research and teaching on distributed systems converge here. Every chapter concludes with war stories—successful experiments, painful missteps, and the lessons behind both that readers can accelerate past pitfalls and focus on what matters: delivering reliable, evolvable business value. This book targets senior developers, solution architects and DevOps engineers who already know Java and Spring Boot but need a cohesive playbook for building and operating microservices at enterprise scale. If you are stepping into green-field cloud work, modernising a brown-field monolith, or mentoring a team on their platform journey, we hope these pages provide both inspiration and an uncompromisingly practical toolkit. Software never stands still; neither should we. May the patterns and principles captured here help you design systems that endure, empower teams that thrive, and delight the users who rely on them every day. Authors Rajeev Kumar Sharma, Prof. Dr. Vishwadeepak Singh Baghela

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hexagonal architecture spring boot: Get Your Hands Dirty on Clean Architecture Tom Hombergs, 2023-07-14 Gain insight into how Hexagonal Architecture can help to increase maintainability. Key Features Explore ways to make your software flexible, extensible, and adaptable Learn new concepts that you can easily blend with your own software development style Develop the mindset of making conscious architecture decisions Book Description Building for maintainability is key to keep development costs low (and developers happy). The second edition of Get Your Hands Dirty on Clean Architecture is here to equip you with the essential skills and knowledge to build maintainable software. Building upon the success of the first edition, this comprehensive guide

explores the drawbacks of conventional layered architecture and highlights the advantages of domain-centric styles such as Robert C. Martin's Clean Architecture and Alistair Cockburn's Hexagonal Architecture. Then, the book dives into hands-on chapters that show you how to manifest a Hexagonal Architecture in actual code. You'll learn in detail about different mapping strategies between the layers of a Hexagonal Architecture and see how to assemble the architecture elements into an application. The later chapters demonstrate how to enforce architecture boundaries, what shortcuts produce what types of technical debt, and how, sometimes, it is a good idea to willingly take on those debts. By the end of this second edition, you'll be armed with a deep understanding of the Hexagonal Architecture style and be ready to create maintainable web applications that save money and time. Whether you're a seasoned developer or a newcomer to the field, *Get Your Hands Dirty on Clean Architecture* will empower you to take your software architecture skills to new heights and build applications that stand the test of time.

What you will learn

- Identify potential shortcomings of using a layered architecture
- Apply varied methods to enforce architectural boundaries
- Discover how potential shortcuts can affect the software architecture
- Produce arguments for using different styles of architecture
- Structure your code according to the architecture
- Run various tests to check each element of the architecture

Who this book is for

This book is for you if you care about the architecture of the software you are building. To get the most out of this book, you must have some experience with web development. The code examples in this book are in Java. If you are not a Java programmer but can read object-oriented code in other languages, you will be fine. In the few places where Java or framework specifics are needed, they are thoroughly explained.

hexagonal architecture spring boot: Cloud Native Spring in Action Thomas Vitale, 2023-02-14

Build and deliver production-grade cloud-native apps with Spring framework and Kubernetes. In *Cloud Native Spring in Action* you'll learn:

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Do you want to learn how to build scalable, resilient, and observable Spring applications that take full advantage of the cloud computing model? If so, *Cloud Native Spring in Action* is the book for you! It will teach you the essential techniques and practices you need to build efficient Spring Boot applications ready for production in the cloud.

About the book

In *Cloud Native Spring in Action*, you'll learn how to containerize your Spring Boot applications with Cloud Native Buildpacks and deploy them on Kubernetes. This practical guide delivers unique insights into hosting microservices, serverless applications, and other modern architectures on cloud platforms. You'll learn how to use Spring-based methodologies, practices, and patterns that you won't find anywhere else.

What's inside

- Implement cloud native patterns with Spring
- Handle security, resilience, and scalability
- Build and test imperative and reactive applications
- Configuration and observability on Kubernetes
- Adopt continuous delivery and GitOps

About the reader

For intermediate Java developers.

About the author

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