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Building Applications with Spring 5 and Vue.js 2 Aug 09 2021 Become efficient in both frontend and backend web development with Spring and Vue Key Features Connect application's frontend and backend with Vue, Vuex, and Spring Boot Leverage the latest web standards to enhance code performance, readability, and cross-compatibility Build secure full-stack web applications with Spring Security Book 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 learn Analyze requirements and design data models Develop a single-page application using Vue.js 2 and Spring 5 Practice concept, logical, and physical data modeling Design, implement, secure, and test RESTful API Add test cases to improve reliability of an application Monitor and deploy your application to production Who 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.

Software Architecture with Spring 5.0 Aug 21 2022 Discover how different software architectural models can help you solve problems, and learn best practices for the software development cycle Key Features Learn concepts related to software architecture and embrace them using the latest features of Spring 5 Discover architectural models and learn when to apply them Gain knowledge of architectural principles and how they can be used to provide accountability and rationale for architectural decisions Book Description Spring 5 and its ecosystem can be used to build robust architectures effectively. Software architecture is the underlying piece that helps us accomplish our business goals whilst supporting the features that a product demands. This book explains in detail how to choose the right architecture and apply best practices during your software development cycle to avoid technical debt and support every business requirement. Choosing the right architecture model to support your business requirements is one of the key decisions you need to take when a new product is being created from scratch or is being refactored to support new business demands. This book gives you insights into the most common architectural models and guides you when and where they can be used. During this journey, you'll see cutting-edge technologies surrounding the Spring products, and understand how to use agile techniques such as DevOps and continuous delivery to take your software to production effectively. By the end of this book, you'll not only know the ins and outs of Spring, but also be able to make critical design decisions that surpass your clients' expectations. What you will learn Understand the key principles of software architecture Uncover the most common architectural models available Analyze scenarios where an architecture model should be used Implement agile techniques to take your software to production Secure the products you are working on Master tricks that will help you build high-performant applications Use cutting-edge technologies to build products Who this book is for If you're an experienced Spring developer aspiring to become an architect of enterprise-grade applications, this book is for you. It's also ideal for software architects who want to leverage Spring to create effective application blueprints.

Design Patterns and Best Practices in Java Jan 26 2023 Create various design patterns to master the art of solving problems using Java Key Features This book demonstrates the shift from OOP to functional programming and covers reactive and functional patterns in a clear and step-by-step manner All the design patterns come with a practical use case as part of the explanation, which will improve your productivity Tackle all kinds of performance-related issues and streamline your development Book Description Having a knowledge of design patterns enables you, as a developer, to improve your code base, promote code reuse, and make the architecture more robust. As languages evolve, new features take time to fully understand before they are adopted en masse. The mission of this book is to ease the adoption of the latest trends and provide good practices for programmers. We focus on showing you the practical aspects of smarter coding in Java. We'll start off by going over object-oriented (OOP) and functional programming (FP) paradigms, moving on to describe the most frequently used design patterns in their classical format and explain how Java's functional programming features are changing them. You will learn to enhance implementations by mixing OOP and FP, and finally get to know about the reactive programming model, where FP and OOP are used in conjunction with a view to writing better code. Gradually, the book will show you the latest trends in architecture, moving from MVC to microservices and serverless architecture. We will finish off by highlighting the new Java features and best practices. By the end of the book, you will be able to efficiently address common problems faced while developing applications and be comfortable working on scalable and maintainable projects of any size. What you will learn Understand the OOP and FP paradigms Explore the traditional Java design patterns Get to know the new functional features of Java See how design patterns are changed and affected by the new features Discover what reactive programming is and why is it the natural augmentation of FP Work with reactive design patterns and find the best ways to solve common problems using them See the latest trends in architecture and the shift from MVC to

serverless applications Use best practices when working with the new features Who this book is for This book is for those who are familiar with Java development and want to be in the driver's seat when it comes to modern development techniques. Basic OOP Java programming experience and elementary familiarity with Java is expected.

Head First Design Patterns Nov 12 2021 Using research in neurobiology, cognitive science and learning theory, this text loads patterns into your brain in a way that lets you put them to work immediately, makes you better at solving software design problems, and improves your ability to speak the language of patterns with others on your team.

Object-Oriented Software Engineering Using UML, Patterns, and Java Apr 17 2022 For courses in Software Engineering, Software Development, or Object-Oriented Design and Analysis at the Junior/Senior or Graduate level. This text can also be utilized in short technical courses or in short, intensive management courses. Shows students how to use both the principles of software engineering and the practices of various object-oriented tools, processes, and products. Using a step-by-step case study to illustrate the concepts and topics in each chapter, Bruegge and Dutoit emphasize learning object-oriented software engineer through practical experience: students can apply the techniques learned in class by implementing a real-world software project. The third edition addresses new trends, in particular agile project management (Chapter 14 Project Management) and agile methodologies (Chapter 16 Methodologies).

Domain-Driven Design with Java - A Practitioner's Guide Feb 27 2023 Adopt a practical and modern approach to architecting and implementing DDD-inspired solutions to transform abstract business ideas into working software across the entire spectrum of the software development life cycle Key Features • Implement DDD principles to build simple, effective, and well-factored solutions • Use lightweight modeling techniques to arrive at a common collective understanding of the problem domain • Decompose monolithic applications into loosely coupled, distributed components using modern design patterns Book Description Domain-Driven Design (DDD) makes available a set of techniques and patterns that enable domain experts, architects, and developers to work together to decompose complex business problems into a set of well-factored, collaborating, and loosely coupled subsystems. This practical guide will help you as a developer and architect to put your knowledge to work in order to create elegant software designs that are enjoyable to work with and easy to reason about. You'll begin with an introduction to the concepts of domain-driven design and discover various ways to apply them in real-world scenarios. You'll also appreciate how DDD is extremely relevant when creating cloud native solutions that employ modern techniques such as event-driven microservices and fine-grained architectures. As you advance through the chapters, you'll get acquainted with core DDD's strategic design concepts such as the ubiquitous language, context maps, bounded contexts, and tactical design elements like aggregates and domain models and events. You'll understand how to apply modern, lightweight modeling techniques such as business value canvas, Wardley mapping, domain storytelling, and event storming, while also learning how to test-drive the system to create solutions that exhibit high degrees of internal quality. By the end of this software design book, you'll be able to architect, design, and implement robust, resilient, and performant distributed software solutions. What you will learn • Discover how to develop a shared understanding of the problem domain • Establish a clear demarcation between core and peripheral systems • Identify how to evolve and decompose complex systems into well-factored components • Apply elaboration techniques like domain storytelling and event storming • Implement EDA, CQRS, event sourcing, and much more • Design an ecosystem of cohesive, loosely coupled, and distributed microservices • Test-drive the implementation of an event-driven system in Java • Grasp how non-functional requirements influence bounded context decompositions Who this book is for This book is for intermediate Java programmers looking to upgrade their software engineering skills and adopt a collaborative and structured approach to designing complex software systems. Specifically, the book will assist senior developers and hands-on architects to gain a deeper understanding of domain-driven design and implement it in their organization. Familiarity with DDD techniques is not a prerequisite; however, working knowledge of Java is expected.

Object-Oriented Analysis and Design Mar 04 2021 Object-oriented analysis and design (OOAD) has over the years, become a vast field, encompassing such diverse topics as design process and principles, documentation tools, refactoring, and design and architectural patterns. For most students the learning experience is incomplete without implementation. This new textbook provides a comprehensive introduction to OOAD. The salient points of its coverage are: • A sound footing on object-oriented concepts such as classes, objects, interfaces, inheritance, polymorphism, dynamic linking, etc. • A good introduction to the stage of requirements analysis. • Use of UML to document user requirements and design. • An extensive treatment of the design process. • Coverage of implementation issues. • Appropriate use of design and architectural patterns. • Introduction to the art and craft of refactoring. • Pointers to resources that further the reader's knowledge. All the main case-studies used for this book have been implemented by the authors using Java. The text is liberally peppered with snippets of code, which are short and fairly self-explanatory and easy to read. Familiarity with a Java-like syntax and a broad understanding of the structure of Java would be helpful in using the book to its full potential.

Designing Embedded Internet Devices Jul 28 2020 Embedded internet and internet appliances are the focus of great attention in the computing industry, as they are seen as the future of computing. The design of such devices presents many technical challenges. This book is the first guide available that describes how to design internet access and communications capabilities into embedded systems. It takes an integrated hardware/software approach using the Java programming language and industry-standard microcontrollers. Numerous illustrations and code examples enliven the text. This book shows how to build various sensors and control devices that connect to the TINI interfaces, explains how to write programs that control them in Java, and then ties them all together in practical applications. Included is a discussion on how these technologies work, where to get detailed specifications, and ideas for the reader to pursue beyond the book. The first guide to designing internet access and communications capabilities into embedded systems Takes an integrated hardware/software approach using the Java programming language an industry-standard

Essential Software Architecture Jan 02 2021 Job titles like "Technical Architect" and "Chief Architect" nowadays abound in software industry, yet many people suspect that "architecture" is one of the most overused and least understood terms in professional software development. Gorton's book tries to resolve this dilemma. It concisely describes the essential elements of knowledge and key skills required to be a software architect. The explanations encompass the essentials of architecture thinking, practices, and supporting technologies. They range from a general understanding of structure and quality attributes through technical issues like middleware components and service-oriented architectures to recent technologies like model-driven architecture, software product lines, aspect-oriented design, and the Semantic Web, which will presumably influence future software systems. This second edition contains new material covering enterprise architecture, agile development, enterprise service bus technologies, RESTful Web services, and a case study on how to use the MeDICi integration framework. All approaches are illustrated by an ongoing real-world example. So if you work as an architect or senior designer (or want to someday), or if you are a student in software engineering, here is a valuable and yet approachable knowledge source for you.

Embedded Internet Design Feb 03 2021 *Explores how to make microcontroller systems that are Internet-active*Covers both Java-enabled modules and stand-alone microcontroller designs*An excellent introduction to web technology basics for hardware designers.

Java Design Oct 31 2020 Discusses how the unified modeling language (UML) can be used during the implementation stage of the Java software development lifecycle. The book focuses on refactoring or cleaning

up the design of existing code, and addresses the most common and significant decisions made during enterprise Java development. The author identifies initial analysis classes, introduces the UML sequence diagram, and demonstrates architectural modeling. Annotation copyrighted by Book News Inc., Portland, OR.

Spring 5 Design Patterns Sep 22 2022 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.

Software Development, Design and Coding Jun 19 2022 Learn the principles of good software design, and how to turn those principles into great code. This book introduces you to software engineering — from the application of engineering principles to the development of software. You'll see how to run a software development project, examine the different phases of a project, and learn how to design and implement programs that solve specific problems. It's also about code construction — how to write great programs and make them work. Whether you're new to programming or have written hundreds of applications, in this book you'll re-examine what you already do, and you'll investigate ways to improve. Using the Java language, you'll look deeply into coding standards, debugging, unit testing, modularity, and other characteristics of good programs. With Software Development, Design and Coding, author and professor John Dooley distills his years of teaching and development experience to demonstrate practical techniques for great coding. What You'll Learn Review modern agile methodologies including Scrum and Lean programming Leverage the capabilities of modern computer systems with parallel programming Work with design patterns to exploit application development best practices Use modern tools for development, collaboration, and source code controls Who This Book Is For Early career software developers, or upper-level students in software engineering courses

Hands-On Design Patterns with Kotlin May 18 2022 Make the most of Kotlin by leveraging design patterns and best practices to build scalable and high performing apps Key Features Understand traditional GOF design patterns to apply generic solutions Shift from OOP to FP; covering reactive and concurrent patterns in a step-by-step manner Choose the best microservices architecture and MVC for your development environment Book Description Design patterns enable you as a developer to speed up the development process by providing you with proven development paradigms. Reusing design patterns helps prevent complex issues that can cause major problems, improves your code base, promotes code reuse, and makes an architecture more robust. The mission of this book is to ease the adoption of design patterns in Kotlin and provide good practices for programmers. The book begins by showing you the practical aspects of smarter coding in Kotlin, explaining the basic Kotlin syntax and the impact of design patterns. From there, the book provides an in-depth explanation of the classical design patterns of creational, structural, and behavioral families, before heading into functional programming. It then takes you through reactive and concurrent patterns, teaching you about using streams, threads, and coroutines to write better code along the way By the end of the book, you will be able to efficiently address common problems faced while developing applications and be comfortable working on scalable and maintainable projects of any size. What you will learn Get to grips with Kotlin principles, including its strengths and weaknesses Understand classical design patterns in Kotlin Explore functional programming using built-in features of Kotlin Solve real-world problems using reactive and concurrent design patterns Use threads and coroutines to simplify concurrent code flow Understand antipatterns to write clean Kotlin code, avoiding common pitfalls Learn about the design considerations necessary while choosing between architectures Who this book is for This book is for developers who would like to master design patterns with Kotlin to build efficient and scalable applications. Basic Java or Kotlin programming knowledge is assumed

Java Web Services Unleashed Dec 13 2021 This text provides Java developers with in-depth coverage of Web Services technology. It includes contributions from recognised Web Services experts and architects, including the Web Services team at IBM.

Report on Implementation Design on Mountain Logging Practices in Java Technical Cooperation Project Jul 08 2021

Domain-driven Design Apr 24 2020 "Domain-Driven Design" incorporates numerous examples in Java-case studies taken from actual projects that illustrate the application of domain-driven design to real-world software development.

Top 50 Java Design-Pattern Interview Questions Oct 23 2022 Introduction: Design Pattern Interview Questions Updated 2020 edition!! This book contains the Design Pattern Technical interview questions that you can expect in a Java interview. Design Pattern is a very important topic in technical interview. Many fortune 500 organizations use Design Patterns. This book contains basic to expert level Design Pattern interview questions that an interviewer asks. Each question is accompanied with an answer so that you can prepare for job interview in short time. Often, these questions and concepts are used in our daily programming work. But these are most helpful when an Interviewer is trying to test your deep knowledge of Design Pattern concepts. How will this book help me? By reading this book, you do not have to spend time searching the Internet for Design Pattern interview questions. We have already compiled the list of the most popular and the latest Design Pattern Interview questions. Are there answers in this book? Yes, in this book each question is followed by an answer. So you can save time in interview preparation. What is the best way of reading this book? You have to first do a slow reading of all the questions in this book. Once you go through them in the first pass, mark the questions that you could not answer by yourself. Then, in second pass go through only the difficult questions. After going through this book 2-3 times, you will be well prepared to face a technical interview for Software Engineer position in Design Patterns programming. What is the level of questions in this book? This book contains questions that are good for a Associate Software engineer to a Principal Software engineer. The difficulty level of question varies in the book from a Fresher to an Experienced professional. What are the sample questions in this book? When will you use Strategy

Design Pattern in Design Pattern? What is Observer design pattern? What are the examples of Observer design pattern in JDK? How Strategy design pattern is different from State design pattern in Design Pattern? Can you explain Decorator design pattern with an example in Design Pattern? What is a good scenario for using Composite design Pattern in Design Pattern? Have you used Singleton design pattern in your Design Pattern project? What are the main uses of Singleton design pattern in Design Pattern project? Why Design Pattern.lang.Runtime is a Singleton in Design Pattern? What is the way to implement a thread-safe Singleton design pattern in Design Pattern? What are the examples of Singleton design pattern in JDK? What are the examples of Visitor design pattern in JDK? How Decorator design pattern is different from Proxy pattern? What are the different scenarios to use Setter and Constructor based injection in Dependency Injection (DI) design pattern? What are the different scenarios for using Proxy design pattern? What is the main difference between Adapter and Proxy design pattern? What are the examples of Adapter design pattern in JDK? What is the difference between Factory and Abstract Factory design pattern? What is Open/closed design principle in Software engineering? What is SOLID design principle? What is a Data Access Object (DAO) design pattern? <http://www.knowledgepowerhouse.com>
Building Maintainable Software, Java Edition Jun 07 2021 Have you ever felt frustrated working with someone else's code? Difficult-to-maintain source code is a big problem in software development today, leading to costly delays and defects. Be part of the solution. With this practical book, you'll learn 10 easy-to-follow guidelines for delivering Java software that's easy to maintain and adapt. These guidelines have been derived from analyzing hundreds of real-world systems. Written by consultants from the Software Improvement Group (SIG), this book provides clear and concise explanations, with advice for turning the guidelines into practice. Examples for this edition are written in Java, while our companion C# book provides workable examples in that language. Write short units of code: limit the length of methods and constructors Write simple units of code: limit the number of branch points per method Write code once, rather than risk copying buggy code Keep unit interfaces small by extracting parameters into objects Separate concerns to avoid building large classes Couple architecture components loosely Balance the number and size of top-level components in your code Keep your codebase as small as possible Automate tests for your codebase Write clean code, avoiding "code smells" that indicate deeper problems

Beginning JavaServer Pages Feb 21 2020 "Packed with real-world code examples and in-depth case studies accompanied by fully working applications, this book introduces the many new features of JSP 2.0 while emphasizing good Web development practices. - Along the way, you'll examine how JSP interacts with other Enterprise Java technologies and you'll be challenged to apply your new JSP programming skills to real-world projects. - "This book is for novice programmers who have basic programming experience either in Java or a Web scripting language and want to become fluent in JSP."--BOOK JACKET.

Continuous Delivery in Java May 26 2020 Continuous delivery adds enormous value to the business and the entire software delivery lifecycle, but adopting this practice means mastering new skills typically outside of a developer's comfort zone. In this practical book, Daniel Bryant and Abraham Marín-Pérez provide guidance to help experienced Java developers master skills such as architectural design, automated quality assurance, and application packaging and deployment on a variety of platforms. Not only will you learn how to create a comprehensive build pipeline for continually delivering effective software, but you'll also explore how Java application architecture and deployment platforms have affected the way we rapidly and safely deliver new software to production environments. Get advice for beginning or completing your migration to continuous delivery Design architecture to enable the continuous delivery of Java applications Build application artifacts including fat JARs, virtual machine images, and operating system container (Docker) images Use continuous integration tooling like Jenkins, PMD, and find-sec-bugs to automate code quality checks Create a comprehensive build pipeline and design software to separate the deploy and release processes Explore why functional and system quality attribute testing is vital from development to delivery Learn how to effectively build and test applications locally and observe your system while it runs in production

Java Software Development With Event B Jan 14 2022 The cost of fixing software design flaws after the completion of a software product is so high that it is vital to come up with ways to detect software design flaws in the early stages of software development, for instance, during the software requirements, the analysis activity, or during software design, before coding starts. It is not uncommon that software requirements are ambiguous or contradict each other. Ambiguity is exacerbated by the fact that software requirements are typically written in a natural language, which is not tied to any formal semantics. A palliative to the ambiguity of software requirements is to restrict their syntax to boilerplates, textual templates with placeholders. However, as informal requirements do not enjoy any particular semantics, no essential properties about them (or about the system they attempt to describe) can be proven easily. Formal methods are an alternative to address this problem. They offer a range of mathematical techniques and mathematical tools to validate software requirements in the early stages of software development. This book is a living proof of the use of formal methods to develop software. The particular formalisms that we use are EVENT B and refinement calculus. In short: (i) software requirements as written as User Stories; (ii) they are ported to formal specifications; (iii) they are refined as desired; (iv) they are implemented in the form of a prototype; and finally (v) they are tested for inconsistencies. If some unit-test fails, then informal as well as formal specifications of the software system are revisited and evolved. This book presents a case study of software development of a chat system with EVENT B and a case study of formal proof of properties of a social network.

Hands-On Design Patterns with Java Apr 29 2023 Understand Gang of Four, architectural, functional, and reactive design patterns and how to implement them on modern Java platforms, such as Java 12 and beyond Key Features Learn OOP, functional, and reactive patterns for creating readable and maintainable code Explore architectural patterns and practices for building scalable and reliable applications Tackle all kinds of performance-related issues and streamline development using design patterns Book Description Java design patterns are reusable and proven solutions to software design problems. This book covers over 60 battle-tested design patterns used by developers to create functional, reusable, and flexible software. Hands-On Design Patterns with Java starts with an introduction to the Unified Modeling Language (UML), and delves into class and object diagrams with the help of detailed examples. You'll study concepts and approaches to object-oriented programming (OOP) and OOP design patterns to build robust applications. As you advance, you'll explore the categories of GOF design patterns, such as behavioral, creational, and structural, that help you improve code readability and enable large-scale reuse of software. You'll also discover how to work effectively with microservices and serverless architectures by using cloud design patterns, each of which is thoroughly explained and accompanied by real-world programming solutions. By the end of the book, you'll be able to speed up your software development process using the right design patterns, and you'll be comfortable working on scalable and maintainable projects of any size. What you will learn Understand the significance of design patterns for software engineering Visualize software design with UML diagrams Strengthen your understanding of OOP to create reusable software systems Discover GOF design patterns to develop scalable applications Examine programming challenges and the design patterns that solve them Explore architectural patterns for microservices and cloud development Who this book is for If you are a developer who wants to learn how to write clear, concise, and effective code for building production-ready applications, this book is for you. Familiarity with the fundamentals of Java is assumed.

Data Structures and Program Design Using Python Jun 26 2020 Data structures provide a means to managing huge amounts of information such as large databases, using SEO effectively, and creating Internet/Web indexing services. This book is designed to present fundamentals of data structures for beginners using the Python programming language in a friendly, self-teaching, format. Practical analogies using real world applications are integrated throughout the text to explain technical concepts. The book includes a variety of end-of-chapter practice exercises, e.g., programming, theoretical, and multiple-choice.

FEATURES: Covers data structure fundamentals using Python Numerous tips, analogies, and practical applications enhance understanding of subjects under discussion "Frequently Asked Questions" integrated throughout the text clarify and explain concepts Includes a variety of end-of-chapter exercises, e.g., programming, theoretical, and multiple choice.

Software Development and Professional Practice Dec 01 2020 Software Development and Professional Practice reveals how to design and code great software. What factors do you take into account? What makes a good design? What methods and processes are out there for designing software? Is designing small programs different than designing large ones? How can you tell a good design from a bad one? You'll learn the principles of good software design, and how to turn those principles back into great code. Software Development and Professional Practice is also about code construction—how to write great programs and make them work. What, you say? You've already written eight gazillion programs! Of course I know how to write code! Well, in this book you'll re-examine what you already do, and you'll investigate ways to improve. Using the Java language, you'll look deeply into coding standards, debugging, unit testing, modularity, and other characteristics of good programs. You'll also talk about reading code. How do you read code? What makes a program readable? Can good, readable code replace documentation? How much documentation do you really need? This book introduces you to software engineering—the application of engineering principles to the development of software. What are these engineering principles? First, all engineering efforts follow a defined process. So, you'll be spending a bit of time talking about how you run a software development project and the different phases of a project. Secondly, all engineering work has a basis in the application of science and mathematics to real-world problems. And so does software development! You'll therefore take the time to examine how to design and implement programs that solve specific problems. Finally, this book is also about human-computer interaction and user interface design issues. A poor user interface can ruin any desire to actually use a program; in this book, you'll figure out why and how to avoid those errors. Software Development and Professional Practice covers many of the topics described for the ACM Computing Curricula 2001 course C292c Software Development and Professional Practice. It is designed to be both a textbook and a manual for the working professional.

Professional Java Sep 10 2021 'Professional Java' builds upon Ivor Horton's 'Beginning Java' to provide the reader with an understanding of how professionals use Java to develop software solutions. 'Pro Java' starts with an overview of best methods and tools for developing Java applications.

Project-based Software Engineering Apr 05 2021 Project-Based Software Engineering is the first book to provide hands-on process and practice in software engineering essentials for the beginner. The book presents steps through the software development life cycle and two running case studies that develop as the steps are presented. Running parallel to the process presentation and case studies, the book supports a semester-long software development project. This book focuses on object-oriented software development, and supports the conceptualization, analysis, design and implementation of an object-oriented project. It is mostly language-independent, with necessary code examples in Java. A subset of UML is used, with the notation explained as needed to support the readers' work. Two running case studies a video game and a library check out system show the development of a software project. Both have sample deliverables and thus provide the reader with examples of the type of work readers are to create. This book is appropriate for readers looking to gain experience in project analysis, design implementation, and testing.

Hands-On Software Architecture with Java Jul 20 2022 Build robust and scalable Java applications by learning how to implement every aspect of software architecture Key Features Understand the fundamentals of software architecture and build production-grade applications in Java Make smart architectural decisions with comprehensive coverage of various architectural approaches from SOA to microservices Gain an in-depth understanding of deployment considerations with cloud and CI/CD pipelines Book Description Well-written software architecture is the core of an efficient and scalable enterprise application. Java, the most widespread technology in current enterprises, provides complete toolkits to support the implementation of a well-designed architecture. This book starts with the fundamentals of architecture and takes you through the basic components of application architecture. You'll cover the different types of software architectural patterns and application integration patterns and learn about their most widespread implementation in Java. You'll then explore cloud-native architectures and best practices for enhancing existing applications to better suit a cloud-enabled world. Later, the book highlights some cross-cutting concerns and the importance of monitoring and tracing for planning the evolution of the software, foreseeing predictable maintenance, and troubleshooting. The book concludes with an analysis of the current status of software architectures in Java programming and offers insights into transforming your architecture to reduce technical debt. By the end of this software architecture book, you'll have acquired some of the most valuable and in-demand software architect skills to progress in your career. What you will learn Understand the importance of requirements engineering, including functional versus non-functional requirements Explore design techniques such as domain-driven design, test-driven development (TDD), and behavior-driven development Discover the mantras of selecting the right architectural patterns for modern applications Explore different integration patterns Enhance existing applications with essential cloud-native patterns and recommended practices Address cross-cutting considerations in enterprise applications regardless of architectural choices and application type Who this book is for This book is for Java software engineers who want to become software architects and learn everything a modern software architect needs to know. The book is also for software architects, technical leaders, vice presidents of software engineering, and CTOs looking to extend their knowledge and stay up to date with the latest developments in the field of software architecture.

Head First Object-Oriented Analysis and Design Mar 24 2020 Provides information on analyzing, designing, and writing object-oriented software.

Design Patterns Mar 16 2022 Software -- Software Engineering.

Java Software Development with Event B Mar 28 2023 The cost of fixing software design flaws after the completion of a software product is so high that it is vital to come up with ways to detect software design flaws in the early stages of software development, for instance, during the software requirements, the analysis activity, or during software design, before coding starts. It is not uncommon that software requirements are ambiguous or contradict each other. Ambiguity is exacerbated by the fact that software requirements are typically written in a natural language, which is not tied to any formal semantics. A palliative to the ambiguity of software requirements is to restrict their syntax to boilerplates, textual templates with placeholders. However, as informal requirements do not enjoy any particular semantics, no essential properties about them (or about the system they attempt to describe) can be proven easily. Formal methods are an alternative to address this problem. They offer a range of mathematical techniques and mathematical tools to validate software requirements in the early stages of software development. This book is a living proof of the use of formal methods to develop software. The particular formalisms that we use are EVENT B and refinement calculus. In short: (i) software requirements as written as User Stories; (ii) they are ported to formal specifications; (iii) they are refined as desired; (iv) they are implemented in the form of a prototype; and finally (v) they are tested for inconsistencies. If some unit-test fails, then informal as well as formal specifications of the software system are revisited and evolved. This book presents a case study of software development of a chat system with EVENT B and a case study of formal proof of properties of a social network.

Java 5.0 Program Design Dec 25 2022 August Release--5.0 Update. Java 5.-0 Program Design is about the fundamentals of programming and software development using Java. It is targeted for a first programming course and has been designed to be appropriate for people from all disciplines. The authors assume no prior programming skills and use mathematics and science at a level appropriate to first-year college students. The breadth of coverage and the arrangement of the chapters provide flexibility for the instructor in what and when topics are introduced. Key to Java 5.0 Program Design is an introduction to problem solving. The

basics of problem-solving techniques are introduced in chapter one and then reinforced during the explanations of Java programming and design. In addition, software engineering design concepts are introduced via problem studies and software projects. This updated version of Java Program Design takes advantage of the improvements to the language introduced with Java 5.0. The additions are especially important for beginning programmers because they help make program design and development a clearer and more straightforward process. Key Handles: •Good Problem Solving Techniques •Wide Variety of Examples •Placement of Objects first—Aids students in Problem Solving •5.0 update is included in this revision

Applied Java Patterns Sep 29 2020 Sun Microsystems experts Stelting and Maassen describe how design patterns can be applied effectively to the Java platform and present proven techniques for all types of patterns, from system architecture to single classes. Applied Java Patterns features a pattern catalog organized into four major categories - the creational, structural, behavioral, and system patterns. In addition, the authors identify patterns in the core Java APIs and present techniques for pattern use in distributed development.

Architecting Modern Java EE Applications Dec 21 2019 Find out how to craft effective, business-oriented Java EE 8 applications that target customer's demands in the age of Cloud platforms and container technology. About This Book Understand the principles of modern Java EE and how to realize effective architectures Gain knowledge of how to design enterprise software in the age of automation, Continuous Delivery and Cloud platforms Learn about the reasoning and motivations behind state-of-the-art enterprise Java technology, that focuses on business Who This Book Is For This book is for experienced Java EE developers who are aspiring to become the architects of enterprise-grade applications, or software architects who would like to leverage Java EE to create effective blueprints of applications. What You Will Learn What enterprise software engineers should focus on Implement applications, packages, and components in a modern way Design and structure application architectures Discover how to realize technical and cross-cutting aspects Get to grips with containers and container orchestration technology Realize zero-dependency, 12-factor, and Cloud-native applications Implement automated, fast, reliable, and maintainable software tests Discover distributed system architectures and their requirements In Detail Java EE 8 brings with it a load of features, mainly targeting newer architectures such as microservices, modernized security APIs, and cloud deployments. This book will teach you to design and develop modern, business-oriented applications using Java EE 8. It shows how to structure systems and applications, and how design patterns and Domain Driven Design aspects are realized in the age of Java EE 8. You will learn about the concepts and principles behind Java EE applications, and how to effect communication, persistence, technical and cross-cutting concerns, and asynchronous behavior. This book covers Continuous Delivery, DevOps, infrastructure-as-code, containers, container orchestration technologies, such as Docker and Kubernetes, and why and especially how Java EE fits into this world. It also covers the requirements behind containerized, zero-dependency applications and how modern Java EE application servers support these approaches. You will also learn about automated, fast, and reliable software tests, in different test levels, scopes, and test technologies. This book covers the prerequisites and challenges of distributed systems that lead to microservice, shared-nothing architectures. The challenges and solutions of consistency versus scalability will further lead us to event sourcing, event-driven architectures, and the CQRS principle. This book also includes the nuts and bolts of application performance as well as how to realize resilience, logging, monitoring and tracing in a modern enterprise world. Last but not least the demands of securing enterprise systems are covered. By the end, you will understand the ins and outs of Java EE so that you can make critical design decisions that not only live up to, but also surpass your clients' expectations. Style and approach This book focuses on solving business problems and meeting customer demands in the enterprise world. It covers how to create enterprise applications with reasonable technology choices, free of cargo-cult and over-engineering. The aspects shown in this book not only demonstrate how to realize a certain solution, but also explain its motivations and reasoning.

Component-Oriented Development and Assembly Nov 24 2022 Although industry has been leveraging the advancements of component-oriented development and assembly (CODA) technology for some time, there has long been a need for a book that provides a complete overview of the multiple technologies that support CODA. Filling this need, Component-Oriented Development and Assembly supplies comprehensive coverage of the principles, practice, and paradigm of component-oriented development and assembly. The first part of the book provides the conceptual foundation for component-oriented software. Part II focuses on the various standard Java component models and describes how to develop a component-oriented system using these component models. Part III covers the various aspects of the component-oriented development paradigm. Based on the authors' research and teaching experience, the text focuses on the principles of component-oriented software development from a technical concepts perspective, designer's perspective, programmer's perspective, and manager's perspective. Covering popular component development frameworks based on Java, it is suitable as a textbook for component-oriented software for undergraduate and postgraduate courses. It is also an ideal reference for anyone looking to adopt the component-oriented development paradigm. The book provides readers with access to all the source code used in the book on a companion site (<http://www.codabook.com>). The source code for the CODA implementation of the case study presented in Chapter 11 is also hosted on the website. The website will also serve as a technical forum for further discussions on the topic and for any updates to the book.

Web Site Engineering Aug 29 2020 "Web Site Engineering" shows how to apply industrial-strength software engineering methods to Web site construction and management. The book systematically addresses the management and technical issues that arise when Web sites move from "brochureware" to sophisticated application deployment platforms.

Object-oriented Software Engineering May 06 2021 This book is based on object-oriented techniques applied to software engineering. Employing the latest technologies such as UML, Patterns, and Java, Bernd Bruegge and Allen H. Dutoit offer a cohesive, class-tested presentation of object-oriented software engineering in a step-by-step format based on ten years of teaching and real-world software engineering experience. This text teaches practical experience in developing complex software appropriate for software engineering project courses, as well as industry R & D practitioners. The reader benefits from timely exposure to state-of-the-art tools and methods. Unlike other texts based on the teaching premise of multiple classes or developing multiple systems, this book focuses on techniques and applications in a reasonably complex environment, such as multi-team development projects including 20 to 60 participants. The book is based on concrete examples from real applications such as accident management, emissions modeling, facility management, and centralized traffic control. Provides an integrated communication infrastructure for distributed development Shows the state of the art in Software Engineering: UML, Java, Design Patterns, Distributed Development, and Multiproject Management Illustrates how the reader learns to develop in a distributed team with hands-on experience on real system development problems Offers a CD-ROM containing the materials used in courses taught by the authors-problem statements, requirement analysis documents, system design documents, test manuals, prototypes, and all the artifacts produced during the development of a facility management system Presents Companion Website (www.prenhall.com/bruegge) with supplemental material such as problem statements, requirement analysis documents, system design documents, test manuals, and solutions to exercises

Java2 Enterprise Edition 1.4 (J2EE 1.4) Bible Feb 15 2022 Java 2 Enterprise Edition (J2EE) is the specification that all enterprise Java developers need to build multi-tier applications, and also the basis for BEA's WebLogic Application Server and IBM's WebSphere Revised to be current with the significant J2EE 1.4 update that will drive substantial developer interest Written by a top-selling team of eleven experts who provide unique and substantial business examples in a vendor-neutral format, making the information applicable to various application servers Covers patterns, J2EE application servers, frameworks, Ant, and

continuous availability Includes extensive intermediate and advanced coverage of J2EE APIs Companion Web site provides additional examples and information

Designing Hexagonal Architecture with Java Oct 11 2021 A practical guide for software architects and Java developers to build cloud-native hexagonal applications using Java and Quarkus to create systems that are easier to refactor, scale, and maintain Key Features Learn techniques to decouple business and technology code in an application Apply hexagonal architecture principles to produce more organized, coherent, and maintainable software Minimize technical debts and tackle complexities derived from multiple teams dealing with the same code base Book Description Hexagonal architecture enhances developers' productivity by decoupling business code from technology code, making the software more change-tolerant, and allowing it to evolve and incorporate new technologies without the need for significant refactoring. By adhering to hexagonal principles, you can structure your software in a way that reduces the effort required to understand and maintain the code. This book starts with an in-depth analysis of hexagonal architecture's building blocks, such as entities, use cases, ports, and adapters. You'll learn how to assemble business code in the Domain hexagon, create features by using ports and use cases in the Application hexagon, and make your software compatible with different technologies by employing adapters in the Framework hexagon. Moving on, you'll get your hands dirty developing a system based on a real-world scenario applying all the hexagonal architecture's building blocks. By creating a hexagonal system, you'll also understand how you can use Java modules to reinforce dependency inversion and ensure the isolation of each hexagon in the architecture. Finally, you'll get to grips with using Quarkus to turn your hexagonal application into a cloud-native system. By the end of this hexagonal architecture book, you'll be able to bring order and sanity to the development of complex and long-lasting applications. What you will learn Find out how to assemble business rules algorithms using the specification design pattern Combine domain-driven design techniques with hexagonal principles to create powerful domain models Employ adapters to make the system support different protocols such as REST, gRPC, and WebSocket Create a module and package structure based on hexagonal principles Use Java modules to enforce dependency inversion and ensure isolation between software components Implement Quarkus DI to manage the life cycle of input and output ports Who this book is for This book is for software architects and Java developers who want to improve code maintainability and enhance productivity with an architecture that allows changes in technology without compromising business logic, which is precisely what hexagonal architecture does. Intermediate knowledge of the Java programming language and familiarity with Jakarta EE will help you to get the most out of this book. Object-oriented Analysis and Design with Applications Jan 22 2020 This text provides a technical introduction to the field of Object-oriented programming. It is aimed at programmers who are familiar with the concepts of programming and design.

- [Hands On Design Patterns With Java](#)
- [Java Software Development With Event B](#)
- [Domain Driven Design With Java A Practitioners Guide](#)
- [Design Patterns And Best Practices In Java](#)
- [Java 50 Program Design](#)
- [Component Oriented Development And Assembly](#)
- [Top 50 Java Design Pattern Interview Questions](#)
- [Spring 5 Design Patterns](#)
- [Software Architecture With Spring 50](#)
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