

Enterprise Integration Patterns Designing Building And Deploying Messaging Solutions Addison Wesley Signature Series Fowler

Unlike traditional information systems which work by issuing requests and waiting for responses, event-driven systems are designed to process events as they occur, allowing the system to observe, react dynamically, and issue personalized data depending on the recipient and situation. Event Processing in Action introduces the major concepts of event-driven architectures and shows how to use, design, and build event processing systems and applications. Written for working software architects and developers, the book looks at practical examples and provides an in-depth explanation of their architecture and implementation. Since patterns connect the events that occur in any system, the book also presents common event-driven patterns and explains how to detect and implement them. Throughout the book, readers follow a comprehensive use case that incorporates all event processing programming styles in practice today. 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.

Annotation Over the past 10 years, distributed systems have become more fine-grained. From the large multi-million line long monolithic applications, we are now seeing the benefits of smaller self-contained services. Rather than heavy-weight, hard to change Service Oriented Architectures, we are now seeing systems consisting of collaborating microservices. Easier to change, deploy, and if required retire, organizations which are in the right position to take advantage of them are yielding significant benefits. This book takes an holistic view of the things you need to be cognizant of in order to pull this off. It covers just enough understanding of technology, architecture, operations and organization to show you how to move towards finer-grained systems. As Python continues to grow in popularity, projects are becoming larger and more complex. Many Python developers are now taking an interest in high-level software design patterns such as hexagonal/clean architecture, event-driven architecture, and the strategic patterns prescribed by domain-driven design (DDD). But translating those patterns into Python isn't always straightforward. With this hands-on guide, Harry Percival and Bob Gregory from MADE.com introduce proven architectural design patterns to help Python developers manage application complexity—and get the most value out of their test suites. Each pattern is illustrated with concrete examples in beautiful, idiomatic Python, avoiding some of the verbosity of Java and C# syntax. Patterns include: Dependency inversion and its links to ports and adapters (hexagonal/clean architecture) Domain-driven design's distinction between entities, value objects, and aggregates Repository and Unit of Work patterns for persistent storage Events, commands, and the message bus Command-query responsibility segregation (CQRS) Event-driven architecture and reactive microservices

USE THE ACTOR MODEL TO BUILD SIMPLER SYSTEMS WITH BETTER PERFORMANCE AND SCALABILITY Enterprise software development has been much more difficult and failure-prone than it needs to be. Now, veteran software engineer and author Vaughn Vernon offers an easier and more rewarding method to succeeding with Actor model. Reactive Messaging Patterns with the Actor Model shows how the reactive enterprise approach, Actor model, Scala, and Akka can help you overcome previous limits of performance and scalability, and skillfully address even the most challenging non-functional requirements. Reflecting his own cutting-edge work, Vernon shows architects and developers how to translate the longtime promises of Actor model into practical reality. First, he introduces the tenets of reactive software, and shows how the message-driven Actor model addresses all of them—making it possible to build systems that are more responsive, resilient, and elastic. Next, he presents a practical Scala bootstrap tutorial, a thorough introduction to Akka and Akka Cluster, and a full chapter on maximizing performance and scalability with Scala and Akka. Building on this foundation, you'll learn to apply enterprise application and integration patterns to establish message channels and endpoints; efficiently construct, route, and transform messages; and build robust systems that are simpler and far more successful. Coverage Includes How reactive architecture replaces complexity with simplicity throughout the core, middle, and edges The characteristics of actors and actor systems, and how Akka makes them more powerful Building systems that perform at scale on one or many computing nodes Establishing channel mechanisms, and choosing appropriate channels for each application and integration challenge Constructing messages to clearly convey a sender's intent in communicating with a receiver Implementing a Process Manager for your Domain-Driven Designs Decoupling a message's source and destination, and integrating appropriate business logic into its router Understanding the transformations a message may experience in applications and integrations Implementing persistent actors using Event Sourcing and reactive views using CQRS Find unique online training on Domain-Driven Design, Scala, Akka, and other software craftsmanship topics using the [for{comprehension} website at forcomprehension.com](http://forcomprehension.com).

Explains how to leverage Java's architecture and mechanisms to design enterprise applications and considers code modularity, nonduplication, network efficiency, maintainability, and reusability.

Provides information on service oriented architecture, covering such topics as XML, SOA standards, BPEL, SCA, SDO, and data components.

This text aims to help all members of the development team make the correct nuts-and-bolts architecture decisions that ensure project success.

Refactoring has proven its value in a wide range of development projects—helping software professionals improve system designs, maintainability, extensibility, and performance. Now, for the first time, leading agile methodologist Scott Ambler and renowned consultant Pramodkumar Sadalage introduce powerful refactoring techniques specifically designed for database systems. Ambler and Sadalage demonstrate how small changes to table structures, data, stored procedures, and triggers can significantly enhance virtually any database design—without changing semantics. You'll learn how to evolve database schemas in step with source code—and become far more effective in projects relying on iterative, agile methodologies. This comprehensive guide and reference helps you overcome the practical obstacles to refactoring real-world databases by covering every fundamental concept underlying database refactoring. Using start-to-finish examples, the authors walk you through refactoring simple standalone database applications as well as sophisticated multi-application scenarios. You'll master every task involved in refactoring database schemas, and discover best practices for deploying refactorings in even the most complex production environments. The second half of this book systematically covers five major categories of database refactorings. You'll learn how to use refactoring to enhance database structure, data quality, and referential integrity; and how to refactor both architectures and methods. This book provides an extensive set of examples built with Oracle and Java and easily adaptable for other languages, such as C#, C++, or

VB.NET, and other databases, such as DB2, SQL Server, MySQL, and Sybase. Using this book's techniques and examples, you can reduce waste, rework, risk, and cost—and build database systems capable of evolving smoothly, far into the future. Enterprise Patterns and MDA teaches you how to customize any archetype pattern—such as Customer, Product, and Order—to reflect the idiosyncrasies of your own business environment. Because all the patterns work harmoniously together and have clearly documented relationships to each other, you'll come away with a host of reusable solutions to common problems in business-software design. This book shows you how using a pattern or a fragment of a pattern can save you months of work and help you avoid costly errors. You'll also discover how—when used in literate modeling—patterns can solve the difficult challenge of communicating UML models to broad audiences. The configurable patterns can be used manually to create executable code. However, the authors draw on their extensive experience to show you how to tap the significant power of MDA and UML for maximum automation. Not surprisingly, the patterns included in this book are highly valuable; a blue-chip company recently valued a similar, but less mature, set of patterns at hundreds of thousands of dollars. Use this practical guide to increase the efficiency of your designs and to create robust business applications that can be applied immediately in a business setting.

"Camel in Action" is for developers working with integration of any kind. This highly practical book introduces Camel and shows examples of how to use it with the more than 45 supported enterprise integration patterns.

Enterprise Architecture (EA) is typically an aggregate of the business, application, data, and infrastructure architectures of any forward-looking enterprise. Due to constant changes and rising complexities in the business and technology landscapes, producing sophisticated architectures is on the rise. Architectural patterns are gaining a lot ...

44 reusable patterns to develop and deploy reliable production-quality microservices-based applications, with worked examples in Java Key Features 44 design patterns for building and deploying microservices applications Drawing on decades of unique experience from author and microservice architecture pioneer Chris Richardson A pragmatic approach to the benefits and the drawbacks of microservices architecture Solve service decomposition, transaction management, and inter-service communication Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Microservices Patterns teaches you 44 reusable patterns to reliably develop and deploy production-quality microservices-based applications. This invaluable set of design patterns builds on decades of distributed system experience, adding new patterns for composing services into systems that scale and perform under real-world conditions. More than just a patterns catalog, this practical guide with worked examples offers industry-tested advice to help you design, implement, test, and deploy your microservices-based application. What You Will Learn How (and why!) to use microservices architecture Service decomposition strategies Transaction management and querying patterns Effective testing strategies Deployment patterns This Book Is Written For Written for enterprise developers familiar with standard enterprise application architecture. Examples are in Java. About The Author Chris Richardson is a Java Champion, a JavaOne rock star, author of Manning's POJOs in Action, and creator of the original CloudFoundry.com. Table of Contents Escaping monolithic hell Decomposition strategies Interprocess communication in a microservice architecture Managing transactions with sagas Designing business logic in a microservice architecture Developing business logic with event sourcing Implementing queries in a microservice architecture External API patterns Testing microservices: part 1 Testing microservices: part 2 Developing production-ready services Deploying microservices Refactoring to microservices

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

A complete practitioner's catalog of proven domain services design solutions that can help any organization leverage SOA's full benefits * Provides a vocabulary of proven SOA design solutions, with concrete examples and code that is easy for architects to adapt and implement. *By Rob Daigneau, one of the industry's leading experts in complex systems integration. *Helps architects and IT leaders accurately set stakeholder expectations for major SOA initiatives. Service-oriented architectures are typically called upon to deliver two general categories of services: enterprise services and domain services. Enterprise services are essentially composite services that typically leverage technologies such as message-oriented middleware. Domain services are the building blocks these composites depend upon. Each service

category is best served by a distinct set of design solutions. This is the first book to systematically identify and explain best practice patterns for domain services. Rob Daigneau expands upon the Service Layer concept (covered expertly by Fowler in *Patterns of Enterprise Application Architecture*) domain services can be used with Enterprise Integration Patterns (made famous by Hohpe and Woolf). Daigneau begins by reviewing SOA concepts, illuminating the distinctions between enterprise and domain services, and identifying key relationships between domain services and other pattern groups. Next, he introduces each essential pattern for creating and delivering domain services, providing a vocabulary of design solutions that architects and other IT professionals can implement by referencing and adapting the concrete examples he supplies.

An expert guide to solving real business problems using components This groundbreaking book gets developers up to speed on Enterprise JavaBeans, CORBA components, and other cutting edge technologies that are making it easier and cheaper than ever for companies to integrate all of their applications into unified systems to support corporate decision-making. Fred Cummins presents an overview of the integration architecture and then dives right into the details, including communications messaging techniques for integrating application components, the "publish and subscribe" mechanism for linking components and monitoring business activities, using "adapters" to integrate applications, integrating Web services, work-flow management, and he also supplies proven code solutions for an array of problems associated with integrating packaged and custom applications across the enterprise. Companion Web site features source code and updates on the EAI architecture and underlying technologies.

Enterprise Integration Patterns Designing, Building, and Deploying Messaging Solutions Addison-Wesley

The software development ecosystem is constantly changing, providing a constant stream of new tools, frameworks, techniques, and paradigms. Over the past few years, incremental developments in core engineering practices for software development have created the foundations for rethinking how architecture changes over time, along with ways to protect important architectural characteristics as it evolves. This practical guide ties those parts together with a new way to think about architecture and time.

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.

Enterprise developers face several challenges when it comes to building serverless applications, such as integrating applications and building container images from source. With more than 60 practical recipes, this cookbook helps you solve these issues with Knative—the first serverless platform natively designed for Kubernetes. Each recipe contains detailed examples and exercises, along with a discussion of how and why it works. If you have a good understanding of serverless computing and Kubernetes core resources such as deployment, services, routes, and replicas, the recipes in this cookbook show you how to apply Knative in real enterprise application development. Authors Kamesh Sampath and Burr Sutter include chapters on autoscaling, build and eventing, observability, Knative on OpenShift, and more. With this cookbook, you'll learn how to: Efficiently build, deploy, and manage modern serverless workloads Apply Knative in real enterprise scenarios, including advanced eventing Monitor your Knative serverless applications effectively Integrate Knative with CI/CD principles, such as using pipelines for faster, more successful production deployments Deploy a rich ecosystem of enterprise integration patterns and connectors in Apache Camel K as Kubernetes and Knative components When carefully selected and used, Domain-Specific Languages (DSLs) may simplify complex code, promote effective communication with customers, improve productivity, and unclog development bottlenecks. In *Domain-Specific Languages*, noted software development expert Martin Fowler first provides the information software professionals need to decide if and when to utilize DSLs. Then, where DSLs prove suitable, Fowler presents effective techniques for building them, and guides software engineers in choosing the right approaches for their applications. This book's techniques may be utilized with most modern object-oriented languages; the author provides numerous examples in Java and C#, as well as selected examples in Ruby. Wherever possible, chapters are organized to be self-standing, and most reference topics are presented in a familiar patterns format. Armed with this wide-ranging book, developers will have the knowledge they need to make important decisions about DSLs—and, where appropriate, gain the significant technical and business benefits they offer. The topics covered include: How DSLs compare to frameworks and libraries, and when those alternatives are sufficient Using parsers and parser generators, and parsing external DSLs Understanding, comparing, and choosing DSL language constructs Determining whether to use code generation, and comparing code generation strategies Previewing new language workbench tools for creating DSLs

Summary SOA Patterns provides architectural guidance through patterns and antipatterns. It shows you how to build real SOA services that feature flexibility, availability, and scalability. Through an extensive set of patterns, this book identifies the major SOA pressure points and provides reusable techniques to address them. Each pattern pairs the classic problem/solution format with a unique technology map, showing where specific solutions fit into the general pattern.

About the Technology The idea of service-oriented architecture is an easy one to grasp and yet developers and

enterprise architects often struggle with implementation issues. Here are some of them: How to get high availability and high performance How to know a service has failed How to create reports when data is scattered within multiple services How to make loose coupling looser How to solve authentication and authorization for service consumers How to integrate SOA and the UI About the Book SOA Patterns provides detailed, technology-neutral solutions to these challenges, and many others, using plain language. You'll understand the design patterns that promote and enforce flexibility, availability, and scalability. Each of the 26 patterns uses the classic problem/solution format and a unique technology map to show where specific solutions fit into the general pattern. The book is written for working developers and architects building services and service-oriented solutions. Knowledge of Java or C# is helpful but not 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. Table of Contents PART 1 SOA PATTERNS Solving SOA pains with patterns Foundation structural patterns Patterns for performance, scalability, and availability Security and manageability patterns Message exchange patterns Service consumer patterns Service integration patterns PART 2 SOA IN THE REAL WORLD Service antipatterns Putting it all together—a case study SOA vs. the world

A collection of hands-on lessons based upon the authors' considerable experience in enterprise integration, the 65 patterns included with this guide show how to use message-oriented middleware to connect enterprise applications. Software -- Programming Languages.

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures

Software patterns have revolutionized the way developers think about how software is designed, built, and documented, and this unique book offers an in-depth look of what patterns are, what they are not, and how to use them successfully The only book to attempt to develop a comprehensive language that integrates patterns from key literature, it also serves as a reference manual for all pattern-oriented software architecture (POSA) patterns Addresses the question of what a pattern language is and compares various pattern paradigms Developers and programmers operating in an object-oriented environment will find this book to be an invaluable resource

Understand the key challenges and solutions around building microservices in the enterprise application environment. This book provides a comprehensive understanding of microservices architectural principles and how to use microservices in real-world scenarios. Architectural challenges using microservices with service integration and API management are presented and you learn how to eliminate the use of centralized integration products such as the enterprise service bus (ESB) through the use of composite/integration microservices. Concepts in the book are supported with use cases, and emphasis is put on the reality that most of you are implementing in a “brownfield” environment in which you must implement microservices alongside legacy applications with minimal disruption to your business.

Microservices for the Enterprise covers state-of-the-art techniques around microservices messaging, service development and description, service discovery, governance, and data management technologies and guides you through the microservices design process. Also included is the importance of organizing services as core versus atomic, composite versus integration, and API versus edge, and how such organization helps to eliminate the use of a central ESB and expose services through an API gateway. What You'll Learn Design and develop microservices architectures with confidence Put into practice the most modern techniques around messaging technologies Apply the Service Mesh pattern to overcome inter-service communication challenges Apply battle-tested microservices security patterns to address real-world scenarios Handle API management, decentralized data management, and observability Who This Book Is For Developers and DevOps engineers responsible for implementing applications around a microservices architecture, and architects and analysts who are designing such systems

In Ruling Capital, Kevin P. Gallagher demonstrates how several emerging market and developing countries (EMDs) managed to reregulate cross-border financial flows in the wake of the global financial crisis, despite the political and economic difficulty of doing so at the national level. Gallagher also shows that some EMDs, particularly the BRICS coalition, were able to maintain or expand their sovereignty to regulate cross-border finance under global economic governance institutions. Gallagher combines econometric analysis with in-depth interviews with officials and interest groups in select emerging markets and policymakers at the International Monetary Fund, the World Trade Organization, and the G-20 to explain key characteristics of the global economy. Gallagher develops a theory of countervailing monetary power that shows how emerging markets can counter domestic and international opposition to the regulation of cross-border finance. Although many countries were able to exert countervailing monetary power in the wake of the crisis, such power was not sufficient to stem the magnitude of unstable financial flows that continue to plague the world economy. Drawing on this theory, Gallagher outlines the significant opportunities and obstacles to regulating cross-border finance in the twenty-first century.

Summary Camel in Action, Second Edition is the most complete Camel book on the market. Written by core developers of Camel and the authors of the highly acclaimed first edition, this book distills their experience and practical insights so that you can tackle integration tasks like a pro. Forewords by James Strachan and Dr. Mark Little Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Apache Camel is a Java framework that implements enterprise integration patterns (EIPs) and comes with over 200 adapters to third-party systems. A concise DSL lets you build integration logic into your app with just a few lines of Java or XML. By using Camel, you benefit from the testing and experience of a large and vibrant open source community. About the Book Camel in Action, Second Edition is the definitive guide to the Camel framework. It starts with core concepts like sending, receiving, routing, and transforming data. It then goes in depth on many topics such as how to develop, debug, test, deal with errors, secure, scale, cluster, deploy, and monitor your Camel applications. The book also discusses how to run Camel with microservices, reactive systems, containers, and in the cloud. What's Inside Coverage of all relevant EIPs Camel microservices with Spring Boot Camel on Docker and Kubernetes Error handling, testing, security, clustering, monitoring, and deployment Hundreds of examples in Java and XML About the Reader Readers should be familiar with Java. This book is accessible to beginners and invaluable to experts. About the Author Claus Ibsen is a senior principal engineer working for Red Hat specializing in cloud and integration. He has worked on Apache Camel for the last nine years where he heads the project. Claus lives in Denmark. Jonathan Anstey is an engineering manager at Red Hat and a core Camel contributor. He lives in Newfoundland, Canada. Table of Contents Part 1 - First steps Meeting Camel Routing with Camel Part 2 - Core Camel Transforming data with Camel Using beans with Camel Enterprise integration patterns Using components Part 3 - Developing and testing Microservices Developing Camel projects Testing RESTful web services Part 4 - Going further with Camel Error handling Transactions and idempotency Parallel processing Securing Camel Part 5 - Running and managing Camel Running and deploying Camel Management and monitoring Part 6 - Out in the wild Clustering Microservices with Docker and Kubernetes Camel tooling Bonus online chapters Available at <https://www.manning.com/books/camel-in-?action=second-edition> and in electronic versions of this book: Reactive Camel Camel and the IoT by Henryk Konsek

A single dramatic software failure can cost a company millions of dollars - but can be avoided with simple changes to design and architecture. This new edition of the best-selling industry standard shows you how to create systems that run longer, with fewer failures, and recover better when bad things happen. New coverage includes DevOps, microservices, and cloud-native architecture. Stability antipatterns have grown to include systemic problems in large-scale systems. This is a must-have pragmatic guide to engineering for production systems. If you're a software developer, and you don't want to get alerts every night for the rest of your life, help is here. With a combination of case studies about huge losses - lost revenue, lost reputation, lost time, lost opportunity - and practical, down-to-earth advice that was all gained through painful experience, this book helps you avoid the pitfalls that cost companies millions of dollars in downtime and reputation. Eighty percent of project life-cycle cost is in production, yet few books address this topic. This updated edition deals with the production of today's systems - larger, more complex, and heavily virtualized - and includes information on chaos engineering, the discipline of applying randomness and deliberate stress to reveal systematic problems. Build systems that survive the real world, avoid downtime, implement zero-downtime upgrades and continuous delivery, and make cloud-native applications resilient. Examine ways to architect, design, and build software - particularly distributed systems - that stands up to the typhoon winds of a flash mob, a Slashdotting, or a link on Reddit. Take a hard look at software that failed the test and find ways to make sure your software survives. To skip the pain and get the experience...get this book.

With the immense cost savings and scalability the cloud provides, the rationale for building cloud native applications is no longer in question. The real issue is how. With this practical guide, developers will learn about the most commonly used design patterns for building cloud native applications using APIs, data, events, and streams in both greenfield and brownfield development. You'll learn how to incrementally design, develop, and deploy large and effective cloud native applications that you can manage and maintain at scale with minimal cost, time, and effort. Authors Kasun Indrasiri and Srisankarajah Suhothayan highlight use cases that effectively demonstrate the challenges you might encounter at each step. Learn the fundamentals of cloud native applications Explore key cloud native communication, connectivity, and composition patterns Learn decentralized data management techniques Use event-driven architecture to build distributed and scalable cloud native applications Explore the most commonly used patterns for API management and consumption Examine some of the tools and technologies you'll need for building cloud native systems

In this new book, intended as a language companion to the classic Design Patterns , noted Smalltalk and design patterns experts implement the 23 design patterns using Smalltalk code. This approach has produced a language-specific companion that tailors the topic of design patterns to the Smalltalk programmer. The authors have worked closely with the authors of Design Patterns to ensure that this companion volume meets the same quality standards that made the original a bestseller and indispensable resource. The full source code will be available on the AWL web site.

In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational

changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

Summary Spring Integration in Action is a hands-on guide to Spring-based messaging and integration. After addressing the core messaging patterns, such as those used in transformation and routing, the book turns to the adapters that enable integration with external systems. Readers will explore real-world enterprise integration scenarios using JMS, Web Services, file systems, and email. They will also learn about Spring Integration's support for working with XML. The book concludes with a practical guide to advanced topics such as concurrency, performance, system-management, and monitoring. The book features a foreword by Rod Johnson, Founder of the Spring Network. About the Technology Spring Integration extends the Spring Framework to support the patterns described in Gregor Hohpe and Bobby Woolf's Enterprise Integration Patterns. Like the Spring Framework itself, it focuses on developer productivity, making it easier to build, test, and maintain enterprise integration solutions. About the Book Spring Integration in Action is an introduction and guide to enterprise integration and messaging using the Spring Integration framework. The book starts off by reviewing core messaging patterns, such as those used in transformation and routing. It then drills down into real-world enterprise integration scenarios using JMS, Web Services, filesystems, email, and more. You'll find an emphasis on testing, along with practical coverage of topics like concurrency, scheduling, system management, and monitoring. This book is accessible to developers who know Java. Experience with Spring and EIP is helpful but not assumed. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

What's Inside Realistic examples Expert advice from Spring Integration creators Detailed coverage of Spring Integration 2 features About the Authors Mark Fisher is the Spring Integration founder and project lead. Jonas Partner, Marius Bogoevici, and Iwein Fuld have all been project committers and are recognized experts on Spring and Spring Integration. Table of Contents PART 1 BACKGROUND Introduction to Spring Integration Enterprise integration fundamentals 24 PART 2 MESSAGING Messages and channels Message Endpoints Getting down to business Go beyond sequential processing: routing and filtering Splitting and aggregating messages PART 3 INTEGRATING SYSTEMS Handling messages with XML payloads Spring Integration and the Java Message Service Email-based integration Filesystem integration Spring Integration and web services Chatting and tweeting PART 4 ADVANCED TOPICS Monitoring and management Managing scheduling and concurrency Batch applications and enterprise integration Scaling messaging applications with OSGi Testing

Modeling Enterprise Architecture with TOGAF explains everything you need to know to effectively model enterprise architecture with The Open Group Architecture Framework (TOGAF), the leading EA standard. This solution-focused reference presents key techniques and illustrative examples to help you model enterprise architecture. This book describes the TOGAF standard and its structure, from the architecture transformation method to governance, and presents enterprise architecture modeling practices with plenty of examples of TOGAF deliverables in the context of a case study. Although widespread and growing quickly, enterprise architecture is delicate to manage across all its dimensions. Focusing on the architecture transformation method, TOGAF provides a wide framework, which covers the repository, governance, and a set of recognized best practices. The examples featured in this book were realized using the open source Modelio tool, which includes extensions for TOGAF. Includes intuitive summaries of the complex TOGAF standard to let you effectively model enterprise architecture Uses practical examples to illustrate ways to adapt TOGAF to the needs of your enterprise Provides model examples with Modelio, a free modeling tool, letting you exercise TOGAF modeling immediately using a dedicated tool Combines existing modeling standards with TOGAF

Pattern-oriented software architecture is a new approach to software development. This book represents the progression and evolution of the pattern approach into a system of patterns capable of describing and documenting large-scale applications. A pattern system provides, on one level, a pool of proven solutions to many recurring design problems. On another it shows how to combine individual patterns into heterogeneous structures and as such it can be used to facilitate a constructive development of software systems. Uniquely, the patterns that are presented in this book span several levels of abstraction, from high-level architectural patterns and medium-level design patterns to low-level idioms. The intention of, and motivation for, this book is to support both novices and experts in software development. Novices will gain from the experience inherent in pattern descriptions and experts will hopefully make use of, add to, extend and modify patterns to tailor them to their own needs. None of the pattern descriptions are cast in stone and, just as they are borne from experience, it is expected that further use will feed in and refine individual patterns and produce an evolving system of patterns. Visit our Web Page <http://www.wiley.com/compbooks/>

Whether you work for a small start-up or for a large enterprise, this book can help you understand Microsoft Cloud Integration technologies to Integrate application and business processes. By using this book, readers will be able to learn various Architecture design principles while connecting Enterprise application with Azure components.

Many large enterprises are feeling pressure from the rapid digitalization of the world: digital disruptors attack unexpectedly with brand-new business models; the "FaceBook generation" has dramatically different user expectations; and a whole slew of new technologies has become available to everyone with a credit card. This is tough stuff for enterprises that have been, and still are, very successful, but are built around traditional technology and organizational structures. "Turning the tanker", as the need to transform is often described, has become a board room-level topic in many traditional enterprises. Not as easily done as said. Chief IT Architects and CTOs play a key role in such a digital transformation endeavor. They combine the technical, communication, and organizational skill to understand how a tech stack refresh can actually benefit the business, what "being agile" and "DevOps" really mean, and what technology infrastructure is needed to assure quality while moving faster. Their job is not an easy one, though: they must maneuver in an organization where IT is often still seen as a cost center, where operations means "run" as opposed to "change", and where middle-aged middle-management has become cozy neither understanding the business strategy nor the underlying technology. It's no surprise then that IT architects have become some of the most sought-after IT professionals around the globe. This book aims to equip IT architects with the skills necessary to become effective not just in systems architecture, but also in shaping and driving the necessary transformation of large-scale IT departments. In today's

world, technical transformation and organizational transformation have become inseparable. Organized into 37 episodes, this book explains: The role and qualities of an architect in a large enterprise How to think about architecture at enterprise scale How to communicate to a variety of stakeholders Organizational structures and systems How to transform traditional organizations Armed with these insights, architects and CTOs will be able to ride the Architect Elevator up and down the organization to instill lasting change.

As the digital economy changes the rules of the game for enterprises, the role of software and IT architects is also transforming. Rather than focus on technical decisions alone, architects and senior technologists need to combine organizational and technical knowledge to effect change in their company's structure and processes. To accomplish that, they need to connect the IT engine room to the penthouse, where the business strategy is defined. In this guide, author Gregor Hohpe shares real-world advice and hard-learned lessons from actual IT transformations. His anecdotes help architects, senior developers, and other IT professionals prepare for a more complex but rewarding role in the enterprise. This book is ideal for: Software architects and senior developers looking to shape the company's technology direction or assist in an organizational transformation Enterprise architects and senior technologists searching for practical advice on how to navigate technical and organizational topics CTOs and senior technical architects who are devising an IT strategy that impacts the way the organization works IT managers who want to learn what's worked and what hasn't in large-scale transformation

Large IT organizations increasingly face the challenge of integrating various web services, applications, and other technologies into a single network. The solution to finding a meaningful large-scale architecture that is capable of spanning a global enterprise appears to have been met in ESB, or Enterprise Service Bus. Rather than conform to the hub-and-spoke architecture of traditional enterprise application integration products, ESB provides a highly distributed approach to integration, with unique capabilities that allow individual departments or business units to build out their integration projects in incremental, digestible chunks, maintaining their own local control and autonomy, while still being able to connect together each integration project into a larger, more global integration fabric, or grid. Enterprise Service Bus offers a thorough introduction and overview for systems architects, system integrators, technical project leads, and CTO/CIO level managers who need to understand, assess, and evaluate this new approach. Written by Dave Chappell, one of the best known and authoritative voices in the field of enterprise middleware and standards-based integration, the book drills down into the technical details of the major components of ESB, showing how it can utilize an event-driven SOA to bring a variety of enterprise applications and services built on J2EE, .NET, C/C++, and other legacy environments into the reach of the everyday IT professional. With Enterprise Service Bus, readers become well versed in the problems faced by IT organizations today, gaining an understanding of how current technology deficiencies impact business issues. Through the study of real-world use cases and integration patterns drawn from several industries using ESB--including Telcos, financial services, retail, B2B exchanges, energy, manufacturing, and more--the book clearly and coherently outlines the benefits of moving toward this integration strategy. The book also compares ESB to other integration architectures, contrasting their inherent strengths and limitations. If you are charged with understanding, assessing, or implementing an integration architecture, Enterprise Service Bus will provide the straightforward information you need to draw your conclusions about this important disruptive technology.

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