

Ing Mule Esb 3 Mulesoft Documentation

Mule in Action Simon and Schuster

With this book you will learn in a step-by-step manner and build solutions from the ground up using Mule ESB. Each task is well illustrated through recipes and the code contained in the examples is very engaging. This book targets Java developers, architects, and IT managers who want to learn Mule ESB and get solutions to their Enterprise and Web Service problem. This book requires familiarity with Java but no previous exposure to Mule or other ESBs.

Semantic agent systems are about the integration of the semantic Web, software agents, and multi-agent systems technologies. Like in the past (e.g. biology and informatics yielding bioinformatics) a whole new perspective is emerging with semantic agent systems. In this context, the semantic Web is a Web of semantically linked data which aims to enable man and machine to execute tasks in tandem. Here, software agents in a multi-agent system as delegates of humans are endowed with power to use semantically linked data. This edited book "Semantic Agent Systems: Foundations and Applications" proposes contributions on a wide range of topics on foundations and applications written by a selection of international experts. It first introduces in an accessible style the nature of semantic agent systems. Then it explores with numerous illustrations new frontiers in software agent technology. "Semantic Agent Systems: Foundations and Applications" is recommended for scientists, experts, researchers, and learners in the field of artificial intelligence, the semantic Web, software agents, and multi-agent systems technologies.

Java SOA Cookbook offers practical solutions and advice to programmers charged with implementing a service-oriented architecture (SOA) in their organization. Instead of providing another conceptual, high-level view of SOA, this cookbook shows you how to make SOA work. It's full of Java and XML code you can insert directly into your applications and recipes you can apply right away. The book focuses primarily on the use of free and open source Java Web Services technologies -- including Java SE 6 and Java EE 5 tools -- but you'll find tips for using commercially available tools as well. Java SOA Cookbook will help you: Construct XML vocabularies and data models appropriate to SOA applications Build real-world web services using the latest Java standards, including JAX-WS 2.1 and JAX-RS 1.0 for RESTful web services Integrate applications from popular service providers using SOAP, POX, and Atom Create service orchestrations with complete coverage of the WS-BPEL (Business Process Execution Language) 2.0 standard Improve the reliability of SOAP-based services with specifications such as WS-Reliable Messaging Deal with governance, interoperability, and quality-of-service issues The recipes in Java SOA Cookbook will equip you with the knowledge you need to approach SOA as an integration challenge, not an obstacle.

Explores cloud computing, breaking down the concepts, models, mechanisms, and architectures of this technology while allowing for the financial assessment of resources and how they compare to traditional storage systems.

Welcome to the world of Liferay Portal! This book was written for anyone who has any part in setting up, using, or maintaining a web site built on Liferay Portal. What's New: Everything from the old book has been updated to reflect the release of Liferay Portal 6.2. There is also complete coverage of Liferay's new features, such as web content folders, the Recycle Bin, Audience Targeting, Application Display Templates, and more. You'll learn about Liferay Marketplace as well as the Plugin Security Manager. Mobile devices are first-class citizens in Liferay Portal 6.2, and we cover how to serve sites to mobile devices, using responsive layouts and mobile device rules. We cover the new, split Control Panel UI, which is much more convenient, especially for those who want to grant access to content functionality, but not administration of the overall portal. We also cover the enhancements to staging and the many new settings for sites, including membership management, site hierarchies, and more.

This book is intended for expert programmers and architects who want to learn how to migrate the existing infrastructure to AWS Cloud and start using AWS services in all application tiers. Basic knowledge of Java and competence in cloud computing will be needed to follow the examples in this book.

Summary Activiti in Action is a comprehensive tutorial designed to introduce developers to the world of business process modeling using Activiti. Before diving into the nuts and bolts of Activiti, this book presents a solid introduction to BPMN 2.0 from a developer's perspective. About the Technology Activiti streamlines the implementation of your business processes: with Activiti Designer you draw your business process using BPMN. Its XML output goes to the Activiti Engine which then creates the web forms and performs the communications that implement your process. It's as simple as that. Activiti is lightweight, integrates seamlessly with standard frameworks, and includes easy-to-use design and management tools. About the Book Activiti in Action introduces developers to business process modeling with Activiti. You'll start by exploring BPMN 2.0 from a developer's perspective. Then, you'll quickly move to examples that show you how to implement processes with Activiti. You'll dive into key areas of process modeling, including workflow, ESB usage, process monitoring, event handling, business rule engines, and document management integration. Written for business application developers. Familiarity with Java and BPMN 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. What's Inside Activiti from the ground up Dozens of real-world examples Integrate with standard Java tooling Table of Contents PART 1 INTRODUCING BPMN 2.0 AND ACTIVITI Introducing the Activiti framework BPMN 2.0: what's in it for developers? Introducing the Activiti tool stack Working with the Activiti process engine PART 2 IMPLEMENTING BPMN 2.0 PROCESSES WITH ACTIVITI Implementing a BPMN 2.0 process Applying advanced BPMN 2.0 and extensions Dealing with error handling Deploying and configuring the Activiti Engine Exploring additional Activiti modules PART 3 ENHANCING BPMN 2.0 PROCESSES Implementing advanced workflow Integrating services with a BPMN 2.0 process Ruling the business rule engine Document management using Alfresco Business monitoring and Activiti PART 4 MANAGING BPMN 2.0 PROCESSES? Managing the Activiti Engine

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).

In cooperation with experts and practitioners throughout the SOA community, best-selling author Thomas Erl brings together the de facto catalog of design patterns for SOA and service-orientation. More than three years in development and subjected to numerous industry reviews, the 85 patterns in this full-color book provide the most successful and proven design techniques to overcoming the most common and critical problems to achieving modern-day SOA. Through numerous examples, individually documented pattern profiles, and over 400 color illustrations, this book provides in-depth coverage of:

- Patterns for the design, implementation, and governance of service inventories—collections of services representing individual service portfolios that can be independently modeled, designed, and evolved.
- Patterns specific to service-level architecture which pertain to a wide range of design areas, including contract design, security, legacy encapsulation, reliability, scalability, and a variety of implementation and governance issues.
- Service composition patterns that address the many aspects associated with combining services into aggregate distributed solutions, including topics such as runtime messaging and message design, inter-service security controls, and transformation.
- Compound patterns (such as Enterprise Service Bus and Orchestration) and recommended pattern application sequences that establish foundational processes.

The book begins by establishing SOA types that are referenced throughout the patterns and then form the basis of a final chapter that discusses the architectural impact of service-oriented computing in general. These chapters bookend the pattern catalog to provide a clear link between SOA design patterns, the strategic goals of service-oriented computing, different SOA types, and the service-orientation design paradigm. This book series is further supported by a series of resources sites, including soabooks.com, soaspecs.com, soapatterns.org, soamag.com, and soaposters.com.

This book contains a selection of thoroughly refereed and revised papers from the Second International ICST Conference on Wireless and Mobile Communication in Healthcare, MobiHealth 2010, held in Ayia Napa, Cyprus, in October 2010. The 33 papers in this volume describe various applications of information and communication technologies in healthcare and medicine and cover a wide range of topics such as intelligent public health monitoring services, mobile health technologies, signal processing techniques for monitoring services, wearable biomedical devices, ambient assistive technologies, emergency and disaster applications, and integrated systems for chronic monitoring and management. A step-by-step guide to using Windows 98 explains how to navigate the Active Desktop, configure hardware, customize Windows, and use the operating system with a network

Mule 2: A Developer's Guide introduces the Mule 2.0 integration platform for developers of enterprise integration applications who wish to leverage Mule as a lightweight messaging framework that contains a distributable object broker for managing communication between applications. The book is based on insight, knowledge, and experience resulting from working with Mule. The text provides support, consulting, and training to developers implementing Mule in a broad range of scenarios ranging from small projects through to large corporations developing major deployments. The author(s) have also developed the official training materials for Mule.

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.

This biography introduces readers to John Quincy Adams including his political career as a Massachusetts state senator, US senator, US secretary of state, minister to the Netherlands, Prussia, Russia, and Great Britain, and US president. Information about his childhood, family, personal life, and retirement years is included. A timeline, fast facts, and sidebars provide additional information. Aligned to Common Core Standards and correlated to state standards. Big Buddy Books is an imprint of Abdo Publishing, a division of ABDO.

Process-Driven SOA: Patterns for Aligning Business and IT supplies detailed guidance on how to design and build software architectures that follow the principles of business-IT alignment. It illustrates the design process using proven patterns that address complex business/technical scenarios, where integrated concepts of service-oriented architect Microservices can have a positive impact on your enterprise—just ask Amazon and Netflix—but you can fall into many traps if you don't approach them in the right way. This practical guide covers the entire microservices landscape, including the principles, technologies, and methodologies of this unique, modular style of system building. You'll learn about the experiences of organizations around the globe that have successfully adopted microservices. In three parts, this book explains how these services work and what it means to build an application the Microservices Way. You'll explore a design-based approach to microservice architecture with guidance for implementing various elements. And you'll get a set of recipes and practices for meeting practical, organizational, and cultural challenges to microservice adoption. Learn how microservices can help you drive business objectives Examine the principles, practices, and culture that define microservice architectures Explore a model for creating complex systems and a design process for building a microservice architecture Learn the fundamental design concepts for individual microservices Delve into the operational elements of a microservices architecture, including containers and service discovery Discover how to handle the challenges of introducing microservice architecture in your organization

This book presents an in-depth description of the Arrowhead Framework and how it fosters interoperability between IoT devices at service level, specifically addressing application. The Arrowhead Framework utilizes SOA technology and the concepts of local clouds to provide required automation capabilities such as: real time control, security, scalability, and engineering simplicity. Arrowhead Framework supports the realization of collaborative automation; it is the only IoT Framework that addresses global interoperability across multiplet SOA technologies. With these features, the Arrowhead Framework enables the design, engineering, and operation of large automation systems for a wide range of applications utilizing IoT and CPS technologies. The book provides application examples from a wide number of industrial fields e.g. airline maintenance, mining maintenance, smart production, electro-mobility, automative test, smart cities—all in response to EU societal challenges. Features Covers the design and implementation of IoT based automation systems. Industrial usage of Internet of Things and Cyber Physical Systems made feasible through Arrowhead Framework. Functions as a design cookbook for building automation systems using IoT/CPS and Arrowhead Framework. Tools, templates, code etc. described in the book will be accessible through open sources project Arrowhead Framework Wiki at forge.soa4d.org/ Written by the leading experts in the European Union and around the globe.

This book constitutes the refereed proceedings of the 5th International Symposium on Rules, RuleML 2011 - Europe, held in Barcelona, Spain, in July 2011 - collocated with the 22nd International Joint Conference on Artificial Intelligence, IJCAI 2011. It is the first of two RuleML events that take place in 2011. The second RuleML Symposium - RuleML 2011 - America - will be held in Fort Lauderdale, FL, USA, in November 2011. The 18 revised full papers, 8 revised short papers and 3 invited track papers presented together with the abstracts of 2 keynote talks were carefully reviewed and selected from 58 submissions. The papers are organized in the following topical sections: rule-based distributed/multi-agent systems; rules, agents and norms; rule-based event processing and reaction rules; fuzzy rules and uncertainty; rules and the semantic Web; rule learning and extraction; rules and reasoning; and rule-based applications.

Get the definitive guide on designing applications on the Microsoft application platform—straight from the Microsoft patterns & practices team. Learn how to choose the most appropriate architecture and the best implementation technologies that the Microsoft application platform offers applications developers. Get critical design recommendations and guidelines organized by application type—from Web, mobile, and rich Internet applications to Office Business Applications. You'll also get links to additional technical resources that can help with your application development.

Summary Mule in Action, Second Edition is a totally-revised guide covering Mule 3 fundamentals and best practices. It starts with a quick ESB overview and then dives into rich examples covering core concepts like sending, receiving, routing, and transforming data. About the Technology An enterprise service bus is a way to integrate enterprise applications using a bus-like infrastructure. Mule is the leading open source Java ESB. It borrows from the Hohpe/Woolf patterns, is lightweight, can publish REST and SOAP services, integrates well with Spring, is customizable, scales well, and is cloud-ready. About the Book Mule in Action, Second Edition is a totally revised guide covering Mule 3 fundamentals and best practices. It starts with a quick ESB overview and then dives into rich examples covering core concepts like sending, receiving, routing, and transforming data. You'll get a close look at Mule's standard components and how to roll out custom ones. You'll also pick up techniques for testing, performance tuning, and BPM orchestration, and explore cloud API integration for SaaS applications. Written for developers, architects, and IT managers, this book requires familiarity with Java but no previous exposure to Mule or other ESBs. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. What's Inside Full coverage of Mule 3 Integration with cloud services Common transports, routers, and transformers Security, routing, orchestration, and transactions About the Authors David Dossot is a software architect and has created numerous modules and transports for Mule. John D'Emic is a principal solutions architect and Victor Romero a solutions architect, both at MuleSoft, Inc. Table of Contents PART 1 CORE MULE Discovering Mule Processing messages with Mule Working with connectors Transforming data with Mule Routing data with Mule Working with components and patterns PART 2 RUNNING MULE Integration architecture with Mule Deploying Mule Exception handling and transaction management with Mule Securing Mule Tuning Mule PART 3 TRAVELING FURTHER WITH MULE Developing with

Mule Writing custom cloud connectors and processors Augmenting Mule with orthogonal technologies

Harness "Code Halos" to gain competitive advantage in the digital era Amazon beating Borders, Netflix beating Blockbuster, Apple beating Kodak, and the rise of companies like Google, LinkedIn, and Pandora are not isolated or random events. Today's outliers in revenue growth and value creation are winning with a new set of rules. They are dominating by managing the information that surrounds people, organizations, processes, and products—what authors Malcolm Frank, Paul Roehrig, and Ben Pring call Code Halos. This is far beyond "Big Data" and analytics. Code Halos spark new commercial models that can dramatically flip market dominance from industry stalwarts to challengers. In this new book, the authors show leaders how digital innovators and traditional companies can build Code Halo solutions to drive success. The book: Examines the explosion of digital information that now surrounds us and describes the profound impact this is having on individuals, corporations, and societies; Shows how the Crossroads Model can help anticipate and navigate this market shift; Provides examples of traditional firms already harnessing the power of Code Halos including GE's "Brilliant Machines," Disney's theme park "Magic Band," and Allstate's mobile devices and analytics that transform auto insurance. With reasoned insight, new data, real-world cases, and practical guidance, Code Halos shows seasoned executives, entrepreneurs, students, line-of-business owners, and technology leaders how to master the new rules of the Code Halo economy.

Dealing with the concepts behind a vendor's products, this a guide for IT managers on how to ensure the IT infrastructure matches the need of the enterprise, and which procedures should be followed to ensure this happens.

Agile Systems Engineering presents a vision of systems engineering where precise specification of requirements, structure, and behavior meet larger concerns as such as safety, security, reliability, and performance in an agile engineering context. World-renown author and speaker Dr. Bruce Powel Douglass incorporates agile methods and model-based systems engineering (MBSE) to define the properties of entire systems while avoiding errors that can occur when using traditional textual specifications. Dr. Douglass covers the lifecycle of systems development, including requirements, analysis, design, and the handoff to specific engineering disciplines. Throughout, Dr. Douglass couples agile methods with SysML and MBSE to arm system engineers with the conceptual and methodological tools they need to avoid specification defects and improve system quality while simultaneously reducing the effort and cost of systems engineering. Identifies how the concepts and techniques of agile methods can be effectively applied in systems engineering context Shows how to perform model-based functional analysis and tie these analyses back to system requirements and stakeholder needs, and forward to system architecture and interface definition Provides a means by which the quality and correctness of systems engineering data can be assured (before the entire system is built!) Explains agile system architectural specification and allocation of functionality to system components Details how to transition engineering specification data to downstream engineers with no loss of fidelity Includes detailed examples from across industries taken through their stages, including the "Waldo" industrial exoskeleton as a complex system

Distributed and Cloud Computing: From Parallel Processing to the Internet of Things offers complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing. It is the first modern, up-to-date distributed systems textbook; it explains how to create high-performance, scalable, reliable systems, exposing the design principles, architecture, and innovative applications of parallel, distributed, and cloud computing systems. Topics covered by this book include: facilitating management, debugging, migration, and disaster recovery through virtualization; clustered systems for research or ecommerce applications; designing systems as web services; and social networking systems using peer-to-peer computing. The principles of cloud computing are discussed using examples from open-source and commercial applications, along with case studies from the leading distributed computing vendors such as Amazon, Microsoft, and Google. Each chapter includes exercises and further reading, with lecture slides and more available online. This book will be ideal for students taking a distributed systems or distributed computing class, as well as for professional system designers and engineers looking for a reference to the latest distributed technologies including cloud, P2P and grid computing. Complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing Includes case studies from the leading distributed computing vendors: Amazon, Microsoft, Google, and more Explains how to use virtualization to facilitate management, debugging, migration, and disaster recovery Designed for undergraduate or graduate students taking a distributed systems course—each chapter includes exercises and further reading, with lecture slides and more available online

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

Describes principles of the emerging field of data-intensive computing, along with methods for designing, managing and analyzing the big data sets of today.

For most woodworkers, the router is an essential power tool because it can do so much. Add a router table and you can cut miles of molding, machine fine joints and do all these tasks with precision and ease. This book covers different types of routers and router tables, how to use them successfully and in-depth coverage of a wide variety of router techniques. 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.

This book constitutes the refereed proceedings of the 19th International Conference on CParallel and Distributed Computing, Applications and Technologies, PDCAT 2018, held in Jeju Island, South Korea, in August 2018. The 35 revised full papers presented along with the 14 short papers and were carefully reviewed and selected from 150 submissions. The papers of this volume are organized in topical sections on wired and wireless communication systems, high dimensional data representation and processing, networks and information security, computing techniques for efficient networks design, electronic circuits for communication systems.

This book provides guidelines for practicing design science in the fields of information systems and software engineering research. A design process usually iterates over two activities: first designing an artifact that improves something for stakeholders and subsequently empirically investigating the performance of that artifact in its context. This “validation in context” is a key feature of the book - since an artifact is designed for a context, it should also be validated in this context. The book is divided into five parts. Part I discusses the fundamental nature of design science and its artifacts, as well as related design research questions and goals. Part II deals with the design cycle, i.e. the creation, design and validation of artifacts based on requirements and stakeholder goals. To elaborate this further, Part III presents the role of conceptual frameworks and theories in design science. Part IV continues with the empirical cycle to investigate artifacts in context, and presents the different elements of research problem analysis, research setup and data analysis. Finally, Part V deals with the practical application of the empirical cycle by presenting in detail various research methods, including observational case studies, case-based and sample-based experiments and technical action research. These main sections are complemented by two generic checklists, one for the design cycle and one for the empirical cycle. The book is written for students as well as academic and industrial researchers in software engineering or information systems. It provides guidelines on how to effectively structure research goals, how to analyze research problems concerning design goals and knowledge questions, how to validate artifact designs and how to empirically investigate artifacts in context – and finally how to present the results of the design cycle as a whole.

This book provides an effective overview of the state-of-the art in software engineering, with a projection of the future of the discipline. It includes 13 papers, written by leading researchers in the respective fields, on important topics like model-driven software development, programming language design, microservices, software reliability, model checking and simulation. The papers are edited and extended versions of the presentations at the PAUSE symposium, which marked the completion of 14 years of work at the Chair of Software Engineering at ETH Zurich. In this inspiring context, some of the greatest minds in the field extensively discussed the past, present and future of software engineering. It guides readers on a voyage of discovery through the discipline of software engineering today, offering unique food for thought for researchers and professionals, and inspiring future research and development.

Use the many types of tools required to navigate and maintain a microservice ecosystem. This book examines what is normally a complex system of interconnected services and clarifies them one at a time, first examining theoretical requirements then looking at concrete tools, configuration, and workflows. Building out these systems includes many concerns such as containerization, container orchestration, build pipelines and continuous integration solutions, automated testing, service discovery, logging and analytics. You will examine each of these tools and understand how they can be combined within an organization. You will design an automated build pipeline from Pull Request to container deployment, understand how to achieve High Availability and monitor application health with Service Discovery, and learn how to collaborate with other teams, write documentation, and describe bugs. Covering use of Jenkins, Docker,

Kubernetes, the ELK stack (Elasticsearch, Logstash, and Kibana), and StatsD and Grafana for analytics, you will build on your existing knowledge of Service-Oriented Architecture and gain an advanced, practical understanding of everything from infrastructure development to team collaboration. What You'll Learn Design an API to be convenient for developers to consume. Deploy dynamic instances of Microservices and allow them to discover each other. Track the health of a Microservice and be notified in case of degraded performance. Write effective documentation and communicate efficiently with other teams. Who This Book Is For Those who would like a better understanding of System Oriented Architecture. Those who would like to break a monolith into smaller Microservices. Those who are familiar with Microservices and would like a better understanding of peripheral technologies.

Would you like to use a consistent visual notation for drawing integration solutions? "Look inside the front cover." Do you want to harness the power of asynchronous systems without getting caught in the pitfalls? "See "Thinking Asynchronously" in the Introduction." Do you want to know which style of application integration is best for your purposes? "See Chapter 2, Integration Styles." Do you want to learn techniques for processing messages concurrently? "See Chapter 10, Competing Consumers and Message Dispatcher." Do you want to learn how you can track asynchronous messages as they flow across distributed systems? "See Chapter 11, Message History and Message Store." Do you want to understand how a system designed using integration patterns can be implemented using Java Web services, .NET message queuing, and a TIBCO-based publish-subscribe architecture? "See Chapter 9, Interlude: Composed Messaging." Utilizing years of practical experience, seasoned experts Gregor Hohpe and Bobby Woolf show how asynchronous messaging has proven to be the best strategy for enterprise integration success. However, building and deploying messaging solutions presents a number of problems for developers. "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. 0321200683B09122003

This book is written in a Cookbook style with short recipes showing developers how to effectively implement EIP without breaking everything in the process. It is concise and to the point, and it helps developers get their data flowing between different components without the need to read through page upon page of theory, while also enabling the reader to learn how to create exciting new projects. Camel Enterprise Integration Cookbook is intended for developers who have some familiarity with Apache Camel and who want a quick lookup reference to practical, proven tips on how to perform common tasks. Every recipe also includes a summary and reference pointers for more details that make it easy for you to get a deeper understanding of the Apache Camel capabilities that you will use day to day.

Find the key to successful SOA adoption in your organization with this book and eBook.

Learn to apply the significant promise of SOA to overcome the formidable challenges of distributed enterprise development.

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.

This book constitutes the thoroughly refereed post-conference proceedings of the Second International Symposium on Foundations of Health Information Engineering and Systems, FHIES 2012, held in Paris, France, in August 2012. The 11 revised full papers presented together with 3 short papers in this volume were carefully reviewed and selected from 26 submissions. Topics of interest covered in this volume are such as software engineering; systems engineering; data engineering; applied mathematics; and psychology.

"Does Karma exist? Is it possible to remember past life? Are there clairvoyant people who can see your aura and know of your past and future? Is it possible to have "out of the body" experience? Can there be transmigration of souls? Do our dreams tell us something? Can a Guru help you liberate from the cycle of life and death? Is there life on other planets and solar systems? Are there intelligent beings in outer space who are observing us? Do some people know when the world will end? Is it possible to be prepared for the end of the times and to move on to a new civilization? What is the purpose of my life? A series of mysterious coincidences lead a child from a remote village in India, who would not have any future otherwise, make leaps of progress. His curiosity led him to attend some conferences given by a Brazilian missionary representing a cult in Spain headed by a Spiritual leader from Mexico. There was an instant attraction. The boy cuts his family connections, overlooks his career aspirations and lands up in the monastery in the Cataluña region of Spain to be a missionary. The spiritual head of the cult directs all the followers to abandon their worldly connections and prepare for the doomsday and creation of a new human race. The followers built safe houses and prepared fervently in

line with the instructions of the spiritual head. The doomsday prediction does not materialize and what follows is chaos and disorientation. The protagonist survives to tell his story."

Most modern business systems include independent applications that exchange information with each other—a technique usually called enterprise integration. An architectural approach called the Enterprise Service Bus (ESB) offers developers a way to handle the messages between those independent applications without creating a lot of custom code. While commercial ESB solutions can be quite expensive to implement and maintain, a set of high-quality open source ESB tools offer the same functionality at a substantially lower cost. *Open Source ESBs in Action* shows you how to implement and use two open source ESB implementations: Mule and ServiceMix. The authors introduce you to these freely-available ESB tools and present practical examples of how to use them in real-world scenarios. You will learn how the various features of an ESB such as transformation, routing, security, connectivity and more can be implemented using Mule and ServiceMix. You will also learn how to solve common enterprise integration problems using a structured approach. Beyond simply learning how Mule and Service Mix work, you'll learn the core techniques of ESB implementation such as Process Choreography, or the implementation of complex business processes through an ESB, and Service Orchestration, or exposing a set of services as a single service. The book shows you the fundamentals of ESB-based event processing and Quality of Service concerns like security, reliable delivery, and transaction management. Working in integration projects is exciting, with new technologies and paradigms arriving every day. Open Source technologies like Mule and ServiceMix both offer lower-cost solutions and a higher degree of innovation than commercial ESB implementations. *Open Source ESBs in Action* will help you master ESB-driven integration techniques quickly and will provide you with knowledge you need to work effectively with Mule and ServiceMix. 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.

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