SOA Principles of Service Design (paperback)-Thomas Erl 2016-12-06
"This book could be described as an encyclopedia of service design-Erl leaves nothing to chance. Indispensable." -Steve Birkel, Chief IT Technical Architect, Intel Corp. "An absolute pleasure to read...the best SOA book I've read. A book I would recommend to all of my colleagues; it provides much insight to the topics often overlooked by most books in this genre...the visuals were fantastic." -Brandon Bohling, SOA Architecture and Strategy, Intel Corporation "This book is a milestone in SOA literature. For the first time we are provided with a practical guide on defining service characteristics and service design principles for SOA from a vendor-agnostic viewpoint. It's a great reference for SOA discovery, adoptions, and implementation projects." -Canyang Kevin Liu, Principal Enterprise Architect, SAP Americas, Inc. "I liked this book. It contains extremely important material for those who need to design services." -Farzin Yashar, IBM SOA Advanced Technologies "This book does a great job laying out benefits, key ideas and design principles behind successfully adopting service-oriented computing. At the same time, the book openly addresses challenges, risks and trade-offs that are in the way of adopting SOA in the real-world today. It moves away from ivory-tower views of service orientation, but still lays out a strong vision for SOA and outlines the changes necessary to realize the full potential." -Christoph Schittko, Senior Architect, Microsoft "I recommend this book to any SOA practitioner who wishes to empower themselves in making service design real...gives readers the 360° view into service design [and] gives SOA practitioners the depth and understanding needed into the principles of SOA to assist in the design of a mature and successful SOA program." -Stephen G. Bennett, Americas SOA Practice Lead, BEA Systems "SOA projects are most successful when they are based on a solid technical foundation. Well accepted and established design principles are part of this foundation. This book takes a very structured approach at defining the core design principles for SOA, thus allowing
the reader to immediately applying them to a project. Each principle is formally introduced and explained, and examples are given for how to apply it to a real design problem. A ‘must read' for any architect, designer or developer of service oriented solutions." - Andre Tost, Senior Technical Staff Member, IBM Software Group "There are few references for SOA that give you the nuts and bolts and this one is at the top of the list. Well written and valuable as a reference book to any SOA practitioner." - Dr. Mohamad Afshar, Director of Product Management, Oracle Fusion Middleware, Oracle Corporation "A thorough examination of the considerations of service design. Both seasoned SOA practitioners and those endeavoring to realize services can benefit from reading this book." - Bill Draven, Enterprise Architect, Intel Corporation "There are very few who understand SOA like Thomas Erl does! The principle centric description of service orientation from Thomas canonizes the underpinnings of this important paradigm shift in creating agile and reusable software capabilities. The principles, so eloquently explained, leave little room for any ambiguity attached to the greater purpose of SOA. Most organizations today are creating services in a bottoms-up approach, realizing composition and reuse organically. The time is ripe for a book like this that prepares architects for a principle centric approach to SOA." - Hanu Kommalapati, Architect, Microsoft Corporation "Outstanding SOA literature uniquely focused on the fundamental services design with thorough and in-depth study on all practical aspects from design principles to methodologies. This book provides a systematic approach for SOA adoption essential for both IT management and professionals." - Robin Chen, PhD, Google, Inc. "Thomas Erl's books are always densely filled with information that's well structured. This book is especially insightful for Enterprise Architects because it provides great context and practical examples. Part 1 of the book alone is worth getting the book for." - Markus Zirn, Senior Director, Product Management, Oracle Fusion Middleware, Oracle Corporation "A very clear discussion of the subject matter. Provides a good structure that facilitates understanding and readily highlights key points." - Kareem Yusuf, Director of SOA Strategy and Planning, IBM Software Group "I am very impressed. Comprehensive. Educative. This book helped me to step back and look at the SOA principles from broader perspective. I'd say this is a must-read book for SOA stakeholders." - Radovan Janecek, Director R&D, SOA Center, Hewlett-Packard "Very valuable guidance
for understanding and applying SOA service design principles with concrete examples. A must read for the practitioner of SOA service design." -Umit Yalcinalp, PhD, Standards Architect, SAP "This book really does an excellent job of explaining the principles underpinning the value of SOA...Erl goes to great length to explain and give examples of each of the 8 principles that will significantly increase the readers ability to drive an SOA service design that benefits both business and IT." -Robert Laird, IT Architect, IBM EAI/SOA Advanced Technologies Group "This book strikes a healthy balance between theory and practice. It is a perfect complement to the SOA series by the author." -Prakash Narayan, Sun Microsystems "If you are going to be designing, developing, or implementing SOA, this is a must have book." -Jason "AJ" Comfort Sr., Booz Allen Hamilton "An excellent book for anyone who wants to understand service-orientation and the principles involved in designing services...a clear, concise and articulate exploration of the eight design principles involved in analyzing, designing, implementing, and maintaining services..." -Anish Karmarkar, Oracle Corporation "Very well written, succinct, and easy to understand." -Raj Balasubramanian, IBM Software Group "A comprehensive exploration of the issues of service design which has the potential to become the definitive work in this area." -James Pasley, Chief Technology Officer, Cape Clear Software "An excellent addition to any SOA library; it covers a wide range of issues in enough detail to be a valuable asset to anyone considering designing or using SOA based technologies." -Mark Little, Director of Standards, Red Hat "This book communicates complex concepts in a clear and concise manner. Examples and illustrations are used very effectively." -Darryl Hogan, Senior Architect, Microsoft "A work of genius...Offers the most comprehensive and thorough explanation on the principles of service design and what it means to be 'service oriented.' "Erl's treatment of the complex world of service oriented architecture is pragmatic, inclusive of real world situations and offers readers ways to communicate these ideas through illustrations and well formulated processes." -David Michalowicz, MITRE Corporation "This is the book for the large organization trying to rationalize its IT assets and establish an agile platform for the future. By highlighting risk and rewards, Thomas Erl brings clarity to how Service Orientation can be applied to ensure a responsive IT organization. This book finally brings software engineering principles to address the real world development challenges.
being faced. To effectively serve the business, let alone embrace SOA, everyone involved should be familiar with the concepts investigated here. Thomas Erl thoroughly clarifies the nuances and defines the practice of service design. We expect that this will become a classic text in software engineering, corporate training and colleges." -Cory Isaacson, President, Rogue Wave Software and Ravi Palepu, SOA Author and Speaker "Thomas Erl does a great job...an easy read." -Michael H. Sor, Booz Allen Hamilton ..".a must read for SOA Architects to develop a firm foundation and understanding of the principles (and trade-offs) that make up a good SOA service. After reading this book, it finally 'clicked' as to why a properly designed SOA system is different (and better) than a system based on previous enterprise architectures." -Fred Ingham, Platinum Solutions Inc. "Lays a tremendous foundation for business and technical workers to come to common terms and expectations...incredibly enlightening to see the details associated with achieving the SOA vision." -Wayne P. Ariola, Vice President of Strategy, Parasoft "[Erl does] and excellent job of addressing the breadth of [his] audience to present to those new to SOA and weaved in enough detail to assist those who are already actively involved in SOA development." -R. Perry Smith, Application Program Manager, EDS/OnStar "It is easy to miss the big picture of what SOA means for the design of larger scale systems amidst the details of WS technologies. Erl helps provide a broader perspective, surveying the landscape from a design standpoint." -Jim Clune, Chief Architect, Parasoft "Lays a firm foundation for the underlying principles of good service design. Cuts through the hype and provides a cogent resource for improving architectural judgment on SOA projects." -Jim Murphy, Vice President of Product Management, Mindreef, Inc. "The first book to concisely, gradually and comprehensively explain how to apply SOA principles into enterprise-level software design. It is an excellent book." -Robin G. Qiu, Ph.D., Division of Engineering and Information Science, Pennsylvania State University "I really think that this is a very useful book that a lot of people really need out there in the industry." -Dr. Arnaud Simon, Principal Software Engineer, Red Hat ..".indispensable companion to designing and implementing a service-oriented architecture. It condenses all information necessary to design services and is the most relevant source I know if in the field." "[This book is] not only helpful, but fundamental to successfully designing an SOA." -Phillipp Offermann,
Research Analyst, University of Berlin "Service-Oriented Architecture is an important topic in IT today. Its vast scope could span an organization's enterprise. Designing it properly is a major undertaking. This book provides timely, expert and comprehensive discussions on the principles of service design. Thomas has a keen sense in identifying the subtle points of various subjects and explains them in an easy-to-understand way. The book is a valuable resource for IT professionals working in SOA." -Peter H. Chang, PhD, Associate Professor of Information Systems, Lawrence Technological University

The Definitive Guide to Service Engineering
The key to succeeding with service-oriented architecture (SOA) is in comprehending the meaning and significance of its most fundamental building block: the service. It is through an understanding of service design that truly "service-oriented" solution logic can be created in support of achieving the strategic goals associated with SOA and service-oriented computing. Bestselling SOA author Thomas Erl guides you through a comprehensive, insightful, and visually rich exploration of the service-orientation design paradigm, revealing exactly how services should and should not be designed for real-world SOA. This book's in-depth coverage includes Over 240 full-color illustrations. A concise introduction to SOA and service-oriented computing concepts and benefits. A thorough exploration of the service-orientation design paradigm as represented by eight specific design principles. A comparison of service-oriented and object-oriented concepts and principles and a clear definition of what qualifies as "service-oriented" logic. Detailed coverage of four different forms of service-related design granularity. An exhaustive examination of service contracts, with an emphasis on standardization, abstraction, and the utilization of WS-Policy, XML Schema, and WSDL definitions. A comprehensive study of positive and negative service-related coupling types with an emphasis on the requirements to attaining a suitable level of loose coupling. An inside look into how commercial design approaches are incorporated to achieve truly agnostic and reusable service logic. Techniques for maximizing service reliability, scalability, and performance by instilling high levels of autonomy and emphasizing stateless design. Approaches for positioning services as highly discoverable and interpretable enterprise resources. Unprecedented coverage of how to design services for participation in complex compositions. The definition of concrete links between each design...
principle and the strategic goals and benefits of SOA and service-oriented computing. Numerous cross-references to key design patterns documented separately in SOA: Design Patterns.

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SOA Design Patterns-Thomas Erl 2008-12-31 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.

SOA and Web Services Interface Design-James Bean 2009-09-25 In SOA and Web Services Interface Design, data architecture guru James Bean teaches you how to design web service interfaces that are capable of being extended to accommodate ever changing business needs and promote incorporation simplicity. The book first provides an overview of critical SOA principles, thereby offering a basic conceptual summary. It then provides explicit, tactical, and real-world techniques for ensuring compliance with these principles. Using a focused, tutorial-based approach the book provides working syntactical examples - described by Web services standards such as XML, XML Schemas, WSDL and SOAP - that can be used to directly implement interface design procedures, thus allowing you immediately generate value from your efforts. In summary, SOA and Web Services Interface Design provides the basic theory, but also design techniques and very specific implementable encoded interface examples that can be immediately employed in your work, making it an invaluable practical guide to any practitioner in today's exploding Web-based service market. Provides chapters on topics of introductory WSDL syntax and XML Schema syntax, taking the reader through fundamental concepts and into deeper techniques and allowing them to quickly climb the learning curve. Provides working
syntactical examples - described by Web services standards such as XML, XML Schemas, WSDL and SOAP - that can be used to directly implement interface design procedures. Real-world examples generated using the Altova XML Spy tooling reinforce applicability, allowing you to immediately generate value from their efforts.

Service-Oriented Architecture (paperback)-Thomas Erl 2016-02-19

"Service Oriented Architecture is a hot, but often misunderstood topic in IT today. Thomas articulately describes the concepts, specifications, and standards behind service orientation and Web Services. For enterprises adopting SOA, there is detailed advice for service-oriented analysis, planning, and design. This book is a must read!" --Alex Lynch, Principal Consultant, Microsoft Enterprise Services

"One primary objective of applying SOA in design is to provide business value to the solutions we build. Understanding the right approach to analyzing, designing, and developing service-oriented solutions is critical. Thomas has done a great job of demystifying SOA in practical terms with his book." --Rick Weaver, IBM Senior Consulting Certified SW I/T Specialist

"A pragmatic guide to SOA principles, strategy, and best practices that distills the hype into a general framework for approaching SOA adoption in complex enterprise environments." --Sameer Tyagi, Senior Staff Engineer, Sun Microsystems

"A very timely and much needed contribution to a rapidly emerging field. Through clarifying the principles and nuances of this space, the author provides a comprehensive treatment of critical key aspects of SOA from analysis and planning to standards ranging from WS specifications to BPEL. I'll be recommending this book to both clients and peers who are planning on embracing SOA principles." --Ravi Palepu, Senior Field Architect, Rogue Wave Software

"Finally, an SOA book based on real implementation experience in production environments. Too many SOA books get lost in the technical details of Web Services standards, or simply repeat vendor hype. This book covers the really hard parts: the complex process of planning, designing and implementing service-oriented architectures that meet organizational goals. It is an essential companion to any software developer, architect, or project manager implementing--or thinking about implementing--a service-oriented architecture." --Priscilla Walmsley, Managing Director of Datypic

"Thomas Erl"s Service-Oriented Architecture: Concepts, Technology, and Design is as good an introduction to service-oriented architectures
as one could wish for. In a single volume, it covers the entire topic, from theory to real-world use to technical details. The examples are superb and the writing is wonderfully clear." --Ronald Bourret, Author, "XML and Databases" "Finally an SOA book which gets to the point with real world answers and examples. Erl guides you on a real world SOA journey. From architecture design to industry standards, this book is well written and can be easily referenced for everyday use. When embarking on your own service orientated adventures, this is the book you want in your bag." --Clark Sell, Vice President, CSell Incorporated "Organizations struggling to evolve existing service-oriented solutions beyond simple Web Services now have an expert resource available. Leading the way to the true service-oriented enterprise, Thomas Erl demystifies the complexities of the open WS-I standards with detailed practical discussions and case studies. Erl"s depth and clarity makes this work a superb complement to his Field Guide." --Kevin P. Davis, PhD., Software Architect "This book is an excellent guide for architects, developers, and managers who are already working with or are considering developing Web Services or Service-Oriented Architecture solutions. The book is divided into four sections. In the first section the fundamental technologies of XML, Web Services and Service-Oriented Architectures are described in detail with attention given to emerging standards. The book is well written and very thorough in its coverage of the subject. I recommend this book highly to anyone interested in enterprise level service architectures." --Adam Hocek, President and CTO, Broadstrokes, Inc. Additional praise quotes are published at: www.soabooks.com/reviews.asp The foremost "how-to" guide to SOA Service-Oriented Architecture (SOA) is at the heart of a revolutionary computing platform that is being adopted world-wide and has earned the support of every major software provider. In Service-Oriented Architecture: Concepts, Technology, and Design, Thomas Erl presents the first end-to-end tutorial that provides step-by-step instructions for modeling and designing service-oriented solutions from the ground up. Erl uses more than 125 case study examples and over 300 diagrams to illuminate the most important facets of building SOA platforms: goals, obstacles, concepts, technologies, standards, delivery strategies, and processes for analysis and design. His book"s broad coverage includes Detailed step-by-step processes for service-oriented analysis and service-oriented design An in-depth exploration of service-orientation as
a distinct design paradigm, including a comparison to object-orientation
A comprehensive study of SOA support in .NET and J2EE development
and runtime platforms Descriptions of over a dozen key Web services
technologies and WS-* specifications, including explanations of how they
interrelate and how they are positioned within SOA The use of "In Plain
English" sections, which describe complex concepts through non-
technical analogies Guidelines for service-oriented business modeling
and the creation of specialized service abstraction layers A study
contrasting past architectures with SOA and reviewing current industry
influences Project planning and the comparison of different SOA
delivery strategies The goal of this book is to help you attain a solid
understanding of what constitutes contemporary SOA along with step-
by-step guidance for realizing its successful implementation. About the
Web Sites Erl”s Service-Oriented Architecture books are supported by
two Web sites. http:// www.soabooks.com provides a variety of content
resources and http:// www.soaspecs.com supplies a descriptive portal to
referenced specifications. © Copyright Pearson Education. All rights
reserved.
SOA with REST-Thomas Erl 2012-08-06 The Definitive Guide to Building
Web-Centric SOA with REST The World Wide Web is based on the most
successful technology architecture in history. It has changed how we
view, access, and exchange information and, with the advent of REST, it
has also provided us with compelling ways to build and improve
automation solutions. REST provides a great deal of guidance to ensure
that an architecture and its automation logic are technically sound,
though it is still your responsibility to build services that actually add
value to your business. SOA with REST is the first comprehensive
tutorial and reference for designing and building RESTful services as
part of service-oriented solutions and in conjunction with service-
oriented architecture (SOA). This book demonstrates that REST is not
only a suitable medium for building truly service-oriented solutions, but
also that the service-oriented architectural model is a necessary
foundation for REST technology architectures to realize their full
business potential. The authors provide thorough mapping of REST
constraints and architectural goals with service-orientation principles
and SOA characteristics. Using real-world examples, they show how to
leverage REST’s simplicity, flexibility, and low overhead without
compromising the power or manageability of service-oriented solutions
and architectures. This ebook will be valuable to IT architects, developers, and any practitioner seeking to use SOA and REST together. Applied SOA—Michael Rosen 2012-07-02 Endorsed by all major vendors (Microsoft, Oracle, IBM, and SAP), SOA has quickly become the industry standard for building next-generation software; this practical guide shows readers how to achieve the many benefits of SOA. Begins with a look at the architectural principles needed to create successful applications and then goes on to examine the process for designing services and SOA implementations. Each stage of the design process has an accompanying chapter that walks readers through the details and provides helpful tips, techniques, and examples. The author team of SOA practitioners also provides two unique, comprehensive, end-to-end case studies illustrating the architectural and design techniques presented in the book.

SOA Source Book—The Open Group 2009-04-04 Software services are established as a programming concept, but their impact on the overall architecture of enterprise IT and business operations is not well-understood. This has led to problems in deploying SOA, and some disillusionment. The SOA Source Book adds to this a collection of reference material for SOA. It is an invaluable resource for enterprise architects working with SOA. The SOA Source Book will help enterprise architects to use SOA effectively. It explains: What SOA is How to evaluate SOA features in business terms How to model SOA How to use The Open Group Architecture Framework (TOGAF™) for SOA SOA governance This book explains how TOGAF can help to make an Enterprise Architecture. Enterprise Architecture is an approach that can help management to understand this growing complexity.

Service-Oriented Architecture—Thomas Erl 2016-12-23 The Top-Selling, De Facto Guide to SOA—Now Updated with New Content and Coverage of Microservices! For more than a decade, Thomas Erl’s best-selling Service-Oriented Architecture: Concepts, Technology, and Design has been the definitive end-to-end tutorial on SOA, service-orientation, and service technologies. Now, Erl has thoroughly updated the industry’s de facto guide to SOA to reflect new practices, technologies, and strategies that have emerged through hard-won experience and creative innovation. This Second Edition officially introduces microservices and micro task abstraction as part of service-oriented architecture and its associated service layers. Updated case study examples and illustrations.
further explain and position the microservice model alongside and in relation to more traditional types of services. Coverage includes: • Easy-to-understand, plain English explanations of SOA and service-orientation fundamentals (as compiled from series titles) • Microservices, micro task abstraction, and containerization • Service delivery lifecycle and associated phases • Analysis and conceptualization of services and microservices • Service API design with REST services, web services, and microservices • Modern service API and contract versioning techniques for web services and REST services • Up-to-date appendices with service-orientation principles, REST constraints, and SOA patterns (including three new patterns) Service-Oriented Architecture: Analysis and Design for Services and Microservices, Second Edition, will be indispensable to application architects, enterprise architects, software developers, and any IT professionals interested in learning about or responsible for designing or implementing modern-day, service-oriented solutions. Chapter 1: Introduction Chapter 2: Case Study Backgrounds Part I: Fundamentals Chapter 3: Understanding Service-Orientation Chapter 4: Understanding SOA Chapter 5: Understanding Layers with Services and Microservices Part II: Service-Oriented Analysis and Design Chapter 6: Analysis and Modeling with Web Services and Microservices Chapter 7: Analysis and Modeling with REST Services and Microservices Chapter 8: Service API and Contract Design with Web Services Chapter 9: Service API and Contract Design with REST Services and Microservices Chapter 10: Service API and Contract Versioning with Web Services and REST Services Part III: Appendices Appendix A: Service-Orientation Principles Reference Appendix B: REST Constraints Reference Appendix C: SOA Design Patterns Reference Appendix D: The Annotated SOA Manifesto

SOA Principles of Service Design-Thomas Erl 2007-07-18 The Definitive Guide to Service Engineering The key to succeeding with service-oriented architecture (SOA) is in comprehending the meaning and significance of its most fundamental building block: the service. It is through an understanding of service design that truly “service-oriented” solution logic can be created in support of achieving the strategic goals associated with SOA and service-oriented computing. Bestselling SOA author Thomas Erl guides you through a comprehensive, insightful, and visually rich exploration of the service-orientation design paradigm, revealing exactly how services should and should not be designed for
real-world SOA.

Service Design Patterns-Robert Daigneau 2011-09 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.

Soa Made Simple-Lonneke Dikmans 2012-01-01 "SOA Made Simple" is a concise and indispensable handbook for finally understanding exactly what Service Oriented Architecture is. Split into three clear sections, in this book you'll learn from both theory as well as step-by-step implementation examples to aid in your understanding of this often poorly- articulated industry term. If you are an architect who wants to be completely clear in your understanding of what SOA is, then this book is essential. In fact, anyone (designer, developer, administrator or team lead) who is implementing or about to implement an architecture in an IT environment should not miss out on "SOA Made Simple." Some previous experience with general software architecture is required, but
this guide will tell you everything you need to know about SOA in a clear and easy fashion.
SOA Governance-Thomas Erl 2011-04-05 The Definitive Guide to Governing Shared Services and SOA Projects SOA Governance: Governing Shared Services On-Premise and in the Cloud is the result of a multi-year project to collect proven industry practices for establishing IT governance controls specific to the adoption of SOA and service-orientation. Authored by world-renowned experts in the fields of SOA, IT governance, and cloud computing, this comprehensive book provides clear direction as to what does and does not constitute SOA governance and then steps the reader through the most important industry governance practices, as they pertain to individual SOA project lifecycle stages. With a consistent, vendor-neutral focus, and with the help of case study examples, the authors demonstrate how to define and position precepts, organizational roles, processes, standards, and metrics. Readers benefit from thorough and visually depicted cross-references and mapping between roles, processes, precepts, and project stages, enabling them to fully explore dynamics and dependencies and thereby learn how to use these governance controls to create their own custom SOA governance systems. This important title will be valuable to every practitioner concerned with making SOA work, including senior IT managers, project managers, architects, analysts, developers, administrators, QA professionals, security specialists, and cloud computing professionals. Topic Areas Defining SOA governance Establishing an SOA governance office and program Working with proven SOA governance precepts and processes Identifying organizational roles and relating them to SOA governance Associating design-time and runtime SOA project stages with SOA governance controls Governance considerations specific to shared services Roles, precepts, and factors specific to cloud-based services Understanding and categorizing SOA governance products and technologies Applying governance controls as early as the planning stages and measuring their success in subsequent stages Using vitality triggers to govern shared services on an on-going basis SOA governance controls that pertain to business information documents and policies SOA in Practice-Nicolai M. Josuttis 2007-08-24 This book demonstrates service-oriented architecture (SOA) as a concrete discipline rather than a hopeful collection of cloud charts. Built upon the author's firsthand
experience rolling out a SOA at a major corporation, SOA in Practice explains how SOA can simplify the creation and maintenance of large-scale applications. Whether your project involves a large set of Web Services-based components, or connects legacy applications to modern business processes, this book clarifies how -- and whether -- SOA fits your needs. SOA has been a vision for years. This book brings it down to earth by describing the real-world problems of implementing and running a SOA in practice. After defining SOA's many facets, examining typical use patterns, and exploring how loose coupling helps build stronger applications, SOA in Practice presents a framework to help you determine when to take advantage of SOA. In this book you will: Focus squarely on real deployment and technology, not just standards maps Examine business problems to determine which ones fit a SOA approach before plastering a SOA solution on top of them Find clear paths for building solutions without getting trapped in the mire of changing web services details Gain the experience of a systems analyst intimately involved with SOA "The principles and experiences described in this book played an important role in making SOA at T-Mobile a success story, with more than 10 million service calls per day." --Dr. Steffen Roehn, Member of the Executive Committee T-Mobile International (CIO) "Nicolai Josuttis has produced something that is rare in the over-hyped world of SOA; a thoughtful work with deep insights based on hands-on experiences. This book is a significant milestone in promoting practical disciplines for all SOA practitioners." --John Schmidt, Chairman, Integration Consortium "The book belongs in the hands of every CIO, IT Director and IT planning manager." --Dr. Richard Mark Soley, Chairman and CEO, Object Management Group; Executive Director, SOA Consortium

Service-oriented Architecture-Thomas Erl 2004 Reap the benefits of increased ROI by integrating Service-Oriented Design principles and XML Web services into your IT infrastructure.

Web Service Contract Design and Versioning for SOA-Thomas Erl 2008-09-24 The Ultimate Guide for Designing and Governing Web Service Contracts For Web services to succeed as part of SOA, they require balanced, effective technical contracts that enable services to be evolved and repeatedly reused for years to come. Now, a team of industry experts presents the first end-to-end guide to designing and governing Web service contracts. Writing for developers, architects,
governance specialists, and other IT professionals, the authors cover the following areas: Understanding Web Service Contract Technologies Fundamental and Advanced WSDL Fundamental and Advanced XML Schema Fundamental and Advanced WS-Policy Fundamental Message Design with SOAP Advanced Message Design with WS-Addressing Advanced Message Design with MTOM, and SwA Versioning Techniques and Strategies Web Service Contracts and SOA Enterprise SOA-Dirk Krafzig 2005 Learn to apply the significant promise of SOA to overcome the formidable challenges of distributed enterprise development.

Design Principles for Process-driven Architectures Using Oracle BPM and SOA Suite 12c-Matjaz B. Juric 2015-06-29 This book is a design handbook and provides skills to successfully design, implement, and optimize business processes on top of SOA. Starting with business process modeling, it shows design principles to architect sound process architectures. It presents best practices for modeling business processes using BPMN, together with design principles for services and composite applications. It provides detailed coverage of how to prepare business processes for execution. An in-depth explanation of human interactions is given and also principles and best practices for using rules. Moving on, Adaptive Case Management principles are explained, along with the reach of business processes to mobile devices and ensuring multichannel interactions. Business activity monitoring, event-driven architectures, complex event processing in relation to business processes, and enabling integration with events and IoT devices are explained. The design principles and best practices are demonstrated in a practical way on a rental car use case.

Process-Driven SOA-Carsten Hentrich 2016-04-19 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
computing with Microsoft’s latest .NET service technologies and Windows Azure innovations. The authors provide comprehensive documentation of on-premise and cloud-based modern service technology advancements within the Microsoft platform and further show how these technologies have increased the potential for applying and realizing service-orientation practices and goals. Specifically, the book delves into Microsoft enterprise technologies, such as: Windows Communication Foundation (WCF) Windows Azure Windows Workflow Foundation (WF) Windows Azure AppFabric BizTalk Server Windows Presentation Foundation (WPF) …as well as industry service mediums, including WS-* and REST, and many related service industry standards and technologies. The book steps through common SOA design patterns and service-orientation principles, along with numerous code-level examples that further detail various technology architectures and implementations. Topic Areas This book covers the following primary topics: Microsoft Service Technologies Microsoft Enterprise Technologies On-Premise & Cloud-Based Service Topics Industry Service Technologies & Mediums Service-Oriented Technology Architectural Models Service-Orientation Design Paradigm Service-Orientation Design Principles SOA Design Patterns About the Web Sites This book series is further supported by a series of resources sites, including: www.soabooks.com www.soaspecs.com www.soamag.com www.serviceorientation.com www.soapatterns.org www.soaprinciples.com www.whatissoa.com Next Generation SOA-Thomas Erl 2014-08-08 800x600 The Concise Introduction to Modern SOA: High-Value Approaches, Innovative Technologies, Proven Use Cases After a decade of innovation in technology and practice, SOA is now a mainstream computing discipline, capable of transforming IT enterprises and optimizing business automation. In Next Generation SOA, top-selling SOA author Thomas Erl and a team of experts present a plain-English tour of SOA, service-orientation, and the key service technologies being used to build sophisticated contemporary service-oriented solutions. The starting point for today’s IT professionals, this concise guide distills the increasingly growing and diverse field of service-oriented architecture and the real-world practice of building powerful service-driven systems. Accessible and jargon-free, this book intentionally avoids technical details to provide easy-to-understand, introductory coverage of the
following topics: Services, service-orientation, and service-oriented computing: what they are and how they have evolved How SOA and service-orientation change businesses and transform IT culture, priorities, and technology decisions How services are defined and composed to solve a wide spectrum of business problems Deep implications of the service-orientation paradigm--illuminated through an annotation of the classic SOA Manifesto Traditional and contemporary service technologies and architectures How clouds and virtualization support the scalability and reliability of services-based solutions SOA-based industry models, from enterprise service to global trader A detailed case study: how real enterprises bring together contemporary SOA practices, models, and technologies Next Generation SOA will be indispensable to wide audiences of business decision makers and technologists--including architects, developers, managers, executives, strategists, consultants, and researchers.
changes, and the CAiSE conferences provide a forum for presenting and debating important scientific results. In fact, CAiSE is positioned at the core of these tumultuous processes, hosting new emerging ideas, fostering innovative processes of design and evaluation, developing new information technologies adapted to information systems, creating new kinds of models, but always being subject to rigorous scientific selection.

Soa with Java - Thomas Erl 2014 “An outstanding depth-and-breadth resource for IT architects and Java professionals to understand and apply the marriage of SOA and modern Java.” -- Antonio Bruno, Enterprise Architecture and Strategy, digitalStrom “A great self-contained book on SOA using flexible Java implementations....” -- Roger Stoffers, Hewlett Packard “Provides clarity on abstract concepts and is filled with concrete examples of implementing SOA principles in Java environments.” -- Sanjay Singh, Certified SOA Architect “...provides a holistic, comprehensive view on leveraging SOA principles and architecture for building and deploying performant Java services.” -- Suzanne D'Souza, KBACE Technologies “Thomas Erl's series of books on services technology have shaped, influenced, and strengthened a whole community of enterprise and solution architects' thinking and solution development, and the much awaited SOA with Java book is an excellent addition to the series. It is a must-read.” -- Lalatendu Rath, Wipro Technologies

The Definitive Guide to Building Service-Oriented Solutions with Lightweight and Mainstream Java Technologies

Java has evolved into an exceptional platform for building Web-based enterprise services. In SOA with Java, Thomas Erl and several world-class experts guide you in mastering the principles, best practices, and Java technologies you need to design and deliver high-value services and service-oriented solutions. You'll learn how to implement SOA with lightweight frameworks, mainstream Java services technologies, and contemporary specifications and standards. To demonstrate real-world examples, the authors present multiple case study scenarios. They further demystify complex concepts with a plain-English writing style. This book will be valuable to all developers, analysts, architects, and other IT professionals who want to design and implement Web-based service-oriented architectures and enterprise solutions with Java technologies.

Topic Areas Applying modern service-orientation principles to modern Java technology platforms Leveraging Java
infrastructure extensions relevant to service-oriented solutions
Exploring key concepts associated with SOA and service-orientation within the context of Java Reviewing relevant Java platforms, technologies, and APIs Understanding the standards and conventions that REST and SOAP services are built upon in relation to Java implementations Building Java Web-based services with JAX-WS and JAX-RS Applying the eight key principles of service-orientation design using Java tools and technologies Creating Java utility services: architectural, design, and implementation issues Constructing effective entity services: service contracts, messages, data access, and processing Constructing task services, including detailed guidance on service composition Using ESBs to support infrastructure requirements in complex services ecosystems Learning WCF-Michele Leroux Bustamante 2007 Provides information and examples on using Windows Communication Foundation to build service-oriented applications.
Microservice Architecture-Irakli Nadareishvili 2016-07-18 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 Web Services & SOA-M. Papazoglou 2012
Developing Enterprise Web Services - Sandeep Chatterjee 2004

Includes a detailed case study - with complete source code - of building Web Services with Java AND .Net. & Covers key emerging standards in transactioning, conversations, workflow, security and authentication, mobile and wireless, QoS, portlets, and management. & Presents best practices based on authors' experiences building real world Web Services-based applications.

Hands-On Design Patterns with Java - Dr. Edward Lavieri 2019-04-27

Understand Gang of Four, architectural, functional, and reactive design patterns and how to implement them on modern Java platforms, such as Java 12 and beyond

Key Features
- Learn OOP, functional, and reactive patterns for creating readable and maintainable code
- Explore architectural patterns and practices for building scalable and reliable applications
- Tackle all kinds of performance-related issues and streamline development using design patterns

Book Description
Java design patterns are reusable and proven solutions to software design problems. This book covers over 60 battle-tested design patterns used by developers to create functional, reusable, and flexible software.

Hands-On Design Patterns with Java starts with an introduction to the Unified Modeling Language (UML), and delves into class and object diagrams with the help of detailed examples. You’ll study concepts and approaches to object-oriented programming (OOP) and OOP design patterns to build robust applications. As you advance, you’ll explore the categories of GOF design patterns, such as behavioral, creational, and structural, that help you improve code readability and enable large-scale reuse of software. You’ll also discover how to work effectively with microservices and serverless architectures by using cloud design patterns, each of which is thoroughly explained and accompanied by real-world programming solutions. By the end of the book, you’ll be able to speed up your software development process using the right design patterns, and you’ll be comfortable working on scalable and maintainable projects of any size.

What you will learn
- Understand the significance of design patterns for software engineering
- Visualize software design with UML diagrams
- Strengthen your understanding of OOP to create reusable software systems
- Discover GOF design patterns to develop scalable applications
- Examine programming challenges and the design patterns that solve them
- Explore architectural patterns for microservices and cloud development

Who this book is for
If you are a
developer who wants to learn how to write clear, concise, and effective code for building production-ready applications, this book is for you. Familiarity with the fundamentals of Java is assumed.

Oracle SOA Governance 11g Implementation-Luis Augusto Weir 2013-09-18 The book uses a concise and practical approach to take you through all the steps necessary to create, run, and analyze your own Network Simulations. This book is ideal for anyone wishing to quickly get to grips with Network Simulation whether you’re an expert in networks or just a beginner. It is perfect for all network engineers and administrators who wish to emulate networks using OMNet++ as a preparation for building the actual network.

Service-Oriented Architecture-Eric A. Marks 2008-11-03 Praise for Service-Oriented Architecture "This book provides a superb overview of the SOA topic. Marks and Bell provide practical guidance across the entire SOA life cycle—from business imperatives and motivations to the post-deployment business and technical metrics to consider. With this book, Marks and Bell demonstrate a unique ability to take the complex dynamics of SOA, and through an eloquent set of metaphors, models, and principles, provide an understandable and insightful how-to manual for both technical and business executives. This will become a required handbook for any organization implementing SOA." —Dan Bertrand, Enterprise Technology Officer & EDS Fellow, EDS Corporation "A fundamental breakthrough in the business and technology perspectives of SOA—this book belongs in every software developer, architect, and IT executive library. Marks and Bell demonstrate a creative and practical approach to building complex, service-oriented systems. I especially liked the hands-on perspective brought to multiple aspects of SOA. A must-have guide in the technology turbulence of the future." —Ariel Aloni, Chief Technology Officer, SunGard Data Management Solutions "This outstanding text gets straight to the heart of the matter, cutting through the hyperbole and discussing how to drive real business value through SOA. It will certainly impact my behavior, our governance models, and, subsequently, the successful business outcomes we derive as we continue to embrace SOA. A must-read for battle-scarred SOA veterans and fledgling architects alike." —Christopher Crowhurst, Vice President and Chief Architect, Thomson Learning "Too often, SOA has been perceived as 'all about the technology'-standards, technology stacks, operational monitoring, and the like. In this book, Marks and Bell
expand beyond the technology to provide a refreshing business-driven perspective to SOA, connecting the dots between business requirements, architecture, and development and operations, and overlaying these perspectives with tried-and-true governance techniques to keep SOA initiatives on track. A must-read for those leading the charge to adopt SOA within their enterprise." —Brent Carlson, Chief Technology Officer, LogicLibrary and coauthor of San Francisco Design Patterns: Blueprints for Business Software

"Marks and Bell have captured a wealth of practical experience and lessons learned in what has become the hottest topic in software development. In this book, they explain in detail what works and what does not, from procedural issues to technical challenges. This book is an invaluable reference for organizations seeking the benefits of SOAs." —Dr. Jeffrey S. Poulin, System Architect, Lockheed Martin and author of Measuring Software Reuse: Principles, Practices, and Economic Models

"One of the last things companies often consider when implementing a business solution such as SOA is the impact on people. Marks and Bell provide an in-depth look at 'what has to change' from a process standpoint to make any SOA implementation a success. A great read for those considering to embark on an enterprise SOA and looking for the right mix of people, process, and products." —Alan Himler, Vice President of Product Management and Marketing, LogicLibrary

SOA is a complex topic and a complex organizational goal Service-Oriented Architecture: A Planning and Implementation Guide for Business and Technology shows you how to plan, implement, and achieve SOA value through its prescriptive approach, joining the business and strategic perspective to the technical and architectural perspective. Applicable to all industries, technology platforms, and operating environments, this innovative book provides you with the essential strategy.

Service-Oriented Modeling-Michael Bell 2008-02-25 This book will provide answers to the most common questions that face enterprise leaders concerning service oriented architecture development lifecycle initiatives. It is a guide for service-oriented projects. The tentative chapters are: (1) Introduction to Service Modeling; (2) Service Polymorphism; (3) Service Typing and Service Structure Model; (4) Service Development Lifecycle Model; (5) Service Conceptualization; (6) Service Discovery and Analysis; (7) Business Service Architecture; (8) Service Design and Realization; (9) Service Architecture
Conceptualization; (10) Service Architecture Modeling.

Building the Agile Enterprise-Fred A. Cummins 2010-07-28 In the last ten years IT has brought fundamental changes to the way the world works. Not only has it increased the speed of operations and communications, but it has also undermined basic assumptions of traditional business models and increased the number of variables.

Today, the survival of major corporations is challenged by a world-wide marketplace, international operations, outsourcing, global communities, a changing workforce, security threats, business continuity, web visibility, and customer expectations. Enterprises must constantly adapt or they will be unable to compete. Fred Cummins, an EDS Fellow, presents IT as a key enabler of the agile enterprise. He demonstrates how the convergence of key technologies—including SOA, BPM and emerging enterprise and data models—can be harnessed to transform the enterprise. Cummins mines his 25 years experience to provide IT leaders, as well as enterprise architects and management consultants, with the critical information, skills, and insights they need to partner with management and redesign the enterprise for continuous change.

No other book puts IT at the center of this transformation, nor integrates these technologies for this purpose. Shows how to integrate and deploy critical technologies to foster agility Details how to design an enterprise architecture that takes full advantage of SOA, BPM, business rules, enterprise information management, business models, and governance Outlines IT's critical mission in providing an integration infrastructure and key services, while optimizing technology adoption throughout the enterprise Illustrates concepts with examples and cases from large and small commercial enterprises Shows how to create systems that recognize and respond to the need for change Identifies the unique security issues that arise with SOA and shows how to deploy a framework of technologies and processes that address them

Managing Data in Motion-April Reeve 2013-02-26 Managing Data in Motion describes techniques that have been developed for significantly reducing the complexity of managing system interfaces and enabling scalable architectures. Author April Reeve brings over two decades of experience to present a vendor-neutral approach to moving data between computing environments and systems. Readers will learn the techniques, technologies, and best practices for managing the passage of data between computer systems and integrating disparate data
together in an enterprise environment. The average enterprise's computing environment is comprised of hundreds to thousands of computer systems that have been built, purchased, and acquired over time. The data from these various systems needs to be integrated for reporting and analysis, shared for business transaction processing, and converted from one format to another when old systems are replaced and new systems are acquired. The management of the "data in motion" in organizations is rapidly becoming one of the biggest concerns for business and IT management. Data warehousing and conversion, real-time data integration, and cloud and "big data" applications are just a few of the challenges facing organizations and businesses today.

Managing Data in Motion tackles these and other topics in a style easily understood by business and IT managers as well as programmers and architects. Presents a vendor-neutral overview of the different technologies and techniques for moving data between computer systems including the emerging solutions for unstructured as well as structured data types. Explains, in non-technical terms, the architecture and components required to perform data integration. Describes how to reduce the complexity of managing system interfaces and enable a scalable data architecture that can handle the dimensions of "Big Data".

Building Microservices-Sam Newman 2015-02-02 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.

Web Services and Service-oriented Architecture-Douglas K. Barry 2003 Annotation Interesting, timely, and above all, useful, Savvy Guides give IT managers the information they need to effectively manage their technologists, as well as conscientiously inform business decision makers, in the midst of technological revolution.

Open Source SOA-Jeff Davis 2009-07-08 You can build a world-class SOA
infrastructure entirely using popular, and mature, open-source applications. Unfortunately, the technical documentation for most open-source projects focuses on a specific product, the big SOA picture. You're left to your own devices to figure out how to cobble together a full solution from the various bits. In other words, unless you already know how Mule and Tuscany work with jBPM, you're stuck. Open Source SOA shows readers how to build an entire SOA application using open-source technologies. It shows readers how to apply key ideas like Enterprise Service Bus (ESB) design and Business Process Management (BPM) and learn the tools and techniques to implement them effectively. To pull everything together, the author describes real-life case studies from his own work to tie together all the principles and practices. These hard-to-find case studies are pure gold for the reader, as most developers keep these trade secrets to themselves. 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.

Web Services-M. Papazoglou 2008 The first textbook to focus on Web Services—the wave of the future for Web-based distributed computing.

Fundamentals of Software Architecture-Mark Richards 2020-01-28 Salary surveys worldwide regularly place software architect in the top 10 best jobs, yet no real guide exists to help developers become architects. Until now. This book provides the first comprehensive overview of software architecture’s many aspects. Aspiring and existing architects alike will examine architectural characteristics, architectural patterns, component determination, diagramming and presenting architecture, evolutionary architecture, and many other topics. Mark Richards and Neal Ford—hands-on practitioners who have taught software architecture classes professionally for years—focus on architecture principles that apply across all technology stacks. You’ll explore software architecture in a modern light, taking into account all the innovations of the past decade. This book examines: Architecture patterns: The technical basis for many architectural decisions Components: Identification, coupling, cohesion, partitioning, and granularity Soft skills: Effective team management, meetings, negotiation, presentations, and more Modernity: Engineering practices and operational approaches that have changed radically in the past few years Architecture as an engineering discipline: Repeatable results, metrics, and concrete valuations that add rigor to software architecture.
Soa Principles Of Service Design
system as one that looks to its users like an ordinary system, but runs on a set of autonomous processing elements (PEs) where each PE has a separate physical memory space and the message transmission delay is not negligible. With close cooperation among these PEs, the system supports an arbitrary number of processes and dynamic extensions. Distributed System Design outlines the main motivations for building a distributed system, including: inherently distributed applications performance/cost resource sharing flexibility and extendibility availability and fault tolerance scalability Presenting basic concepts, problems, and possible solutions, this reference serves graduate students in distributed system design as well as computer professionals analyzing and designing distributed/open/parallel systems. Chapters discuss: the scope of distributed computing systems general distributed programming languages and a CSP-like distributed control description language (DCDL) expressing parallelism, interprocess communication and synchronization, and fault-tolerant design two approaches describing a distributed system: the time-space view and the interleaving view mutual exclusion and related issues, including election, bidding, and self-stabilization prevention and detection of deadlock reliability, safety, and security as well as various methods of handling node, communication, Byzantine, and software faults efficient interprocessor communication mechanisms as well as these mechanisms without specific constraints, such as adaptiveness, deadlock-freedom, and fault-tolerance virtual channels and virtual networks load distribution problems synchronization of access to shared data while supporting a high degree of concurrency Cloud Computing-Thomas Erl 2013 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.
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