

The Art Of Scalability Scalable Web Architecture Processes And Organizations For Modern Enterprise Martin L. Abbott

Foreword by Bill Gates LinkedIn cofounder, legendary investor, and host of the award-winning Masters of Scale podcast reveals the secret to starting and scaling massively valuable companies. What entrepreneur or founder doesn't aspire to build the next Amazon, Facebook, or Airbnb? Yet those who actually manage to do so are exceedingly rare. So what separates the startups that get disrupted and disappear from the ones who grow to become global giants? The secret is blitzscaling: a set of techniques for scaling up at a dizzying pace that blows competitors out of the water. The objective of Blitzscaling is not to go from zero to one, but from one to one billion—as quickly as possible. When growing at a breakneck pace, getting to next level requires very different strategies from those that got you to where you are today. In a book inspired by their popular class at Stanford Business School, Hoffman and Yeh reveal how to navigate the necessary shifts and weather the unique challenges that arise at each stage of a company's life cycle, such as how to design business models for igniting and sustaining relentless growth; strategies for hiring and managing; how the role of the founder and company culture must evolve as the business matures, and more. Whether your business has ten employees or ten thousand, Blitzscaling is the essential playbook for winning in a world where speed is the only competitive advantage that matters.

"This book presents, discusses, shares ideas, results and experiences on the recent important advances and future challenges on enabling technologies for achieving higher performance"—Provided by publisher.

Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by explaining pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures Know how your company can accelerate growth by not only tapping into new growth vectors, but also by adapting its organization, culture, and processes. To oversee growth from an idea to a company with billions in revenue, CEOs must reinvent many aspects of their company in anticipation of it reaching ever-higher revenues. Author Peter Cohan takes you through the four stages of scaling: winning the first customers, building a scalable business model, sprinting to liquidity, and running the marathon. What You'll LearnDiscover how founders keep their CEO positions by managing the organizational change needed to reach the next stage of scalingRead case studies that illustrate how CEOs craft growth strategies, raise capital, create culture, build their organizations, set goals, and manage processes to achieve themDiscover principles of successful scaling through comparisons of successful and less successful companies Use the Scaling Quotient to assess your startup's readiness to growFollow a road map for turning your idea into a company that can change the world Who This Book Is For Entrepreneurs, aspiring CEOs, capital providers, and all other key stakeholders Patterns and Paradigms for Scalable, Reliable Services Web Scalability for Startup Engineers Scalable Big Data Architecture Design and architect highly scalable and robust applications using Go SCI: Scalable Coherent Interface The Voltage Effect Implement Robust, Fault-Tolerant Systems Principles for Scaling Web Sites

Take your Node.js application into production-ready status, capable of scaling up to whatever your needs might be. You'll discover that architecting for successful, popular sites is an essential tool of any professional Node.js developer, and learning to scale your own applications is a great place to start. Using this book you will learn when to scale, what factors should trigger scaling, and what architectural techniques are best suited for scaling. You will also explore common pitfalls that arise when scaling a Node.js application and solutions to correct them. Including analyses of success cases at the largest-scale companies, such as Netflix and Paypal, this book will get you started with scaling in no time at all. What You'll Learn Determine what factors should trigger the need to scale Discover different architectural patterns that lend themselves to scaling Resolve problems that arise when scaling up a Node.js application Monitor a platform in order to understand when to start scaling Who This Book Is For The main audience for this book are Node.js developers with a mid-level understanding of the technology. Novice Node users will also benefit from the coverage of generic scaling-related topics.

The Art of ScalabilityScalable Web Architecture, Processes, and Organizations for the Modern EnterpriseAddison-Wesley Professional

Every successful business needs to have turnaround tactics in its arsenal. When a business is struggling, it's these tactics that will turn the tide. Everyday Turnaround tells the tale of a turnaround CEO of a fictional organization who uses agile tactics such as kaizen and scrum to achieve success. Author Eric Kish developed and tested the Everyday Turnaround concept while executing 12 turnarounds across seven industries and three continents over a period of 18 years. From the introduction: "The guy who hired me to do my first turnaround was very smart. He gave me on average 18 months to complete a turnaround and then, overnight and with no warning, would move me to the next one. And he would not allow me to take any of the people I trained and coached in the previous one. This became a ritual for the next 10 years and resulted in 7 successful turnarounds. I had very little time, if any, to prepare for the next turnaround. I had to get my bearings on the spot and 'fly the airplane while it was being built.' This meant that while discovering and developing assumptions I needed to act and have the organization follow. And I also knew that the day will come when I will move on overnight and will leave behind a leadership team and an organization that can fly the airplane 'without me.'"

What's the answer to today's increasingly complex web applications? Micro-frontends. Inspired by the microservices model, this approach lets you break interfaces into separate features managed by different teams of developers. With this practical guide, Luca Mezzalana shows software architects, tech leads, and software developers how to build and deliver artifacts atomically rather than use a big bang deployment. You'll learn how micro-frontends enable your team to choose any library or framework. This gives your organization technical flexibility and allows you to hire and retain a broad spectrum of talent. Micro-frontends also support distributed or colocated teams more efficiently. Pick up this book and learn how to get started with this technological breakthrough right away. Explore available frontend development architectures Learn how microservice principles apply to frontend development Understand the four pillars for creating a successful micro-frontend architecture Examine the benefits and pitfalls of existing micro-frontend architectures Learn principles and best practices for creating successful automation strategies Discover patterns for integrating micro-frontend architectures using microservices or a monolith API layer

How to Create Tech Products Customers Love

The Art of Scalability

Architecting for Scale

A Programmer's Guide to Building Products, Technologies, and Teams

Progress Your Personal Projects to Production-Ready

Small Things, Done Well

How to Make Good Ideas Great and Great Ideas Scale

50 Principles for Scaling Web Sites

The Comprehensive, Proven Approach to IT Scalability—Updated with New Strategies, Technologies, and Case Studies In The Art of Scalability, Second Edition, leading scalability consultants Martin L. Abbott and Michael T. Fisher cover everything you need to know to smoothly scale products and services for any requirement. This extensively revised edition reflects new technologies, strategies, and lessons, as well as new case studies from the authors' pioneering consulting practice, AKF Partners. Writing for technical and nontechnical decision-makers, Abbott and Fisher cover everything that impacts scalability, including architecture, process, people, organization, and technology. Their insights and recommendations reflect more than thirty years of experience at companies ranging from eBay to Visa, and Salesforce.com to Apple. You'll find updated strategies for structuring organizations to maximize agility and scalability, as well as new insights into the cloud (IaaS/PaaS) transition, NoSQL, DevOps, business metrics, and more. Using this guide's tools and advice, you can systematically clear away obstacles to scalability—and achieve unprecedented IT and business performance. Coverage includes • Why scalability problems start with organizations and people, not technology, and what to do about it • Actionable lessons from real successes and failures • Staffing, structuring, and leading the agile, scalable organization • Scaling processes for hyper-growth environments • Architecting scalability: proprietary models for clarifying needs and making choices—including 15 key success principles • Emerging technologies and challenges: data cost, datacenter planning, cloud evolution, and customer-aligned monitoring • Measuring availability, capacity, load, and performance

50 Powerful, Easy-to-Use Rules Supporting Hypergrowth In any Environment Scalability Rules is the easy-to-use scalability primer and reference for every architect, developer, web professional, and manager. Authors Martin L. Abbott and Michael T. Fisher have helped scale more than 200 hypergrowth Internet sites through their consulting practice. Now, drawing on their unsurpassed experience, they present 50 clear, proven scalability rules—and practical guidance for applying them. Abbott and Fisher transform scalability from a "black art" to a set of realistic, technology-agnostic best practices for supporting hypergrowth in nearly any environment, including both frontend and backend systems. For architects, they offer powerful new insights for creating and evaluating designs. For developers, they share specific techniques for handling everything from databases to state. For managers, they provide invaluable help in goal-setting, decision-making, and interacting with technical teams. Whatever your role, you'll find practical risk/benefit guidance for setting priorities—and getting maximum "bang for the buck." • Simplifying architectures and avoiding "over-engineering" • Scaling via cloning, replication, separating functionality, and splitting data sets • Scaling out, not up • Getting more out of databases without compromising scalability • Avoiding unnecessary redirects and redundant double-checking • Using caches and content delivery networks more aggressively, without introducing unacceptable complexity • Designing for fault tolerance, graceful failure, and easy rollback • Striving for stresslessness when you must • Effectively utilizing asynchronous communication • Learning quickly from mistakes, and much more

This open access book was prepared as a Final Publication of the COST Action IC1406 "High-Performance Modelling and Simulation for Big Data Applications (CHiPS4)" project. Long considered important pillars of the scientific method, Modelling and Simulation have evolved from traditional discrete numerical methods to complex data-intensive continuous analytical optimisations. Resolution, scale, and accuracy have become essential to predict and analyse natural and complex systems in science and engineering. When their level of abstraction raises to have a better discernment of the domain at hand, their representation gets increasingly demanding for computational and data resources. On the other hand, High Performance Computing typically entails the effective use of parallel and distributed processing units coupled with efficient storage, communication and visualisation systems to underpin complex data-intensive applications in diverse scientific domains. It is the arguably requisite of High Performance Computing with Modelling and Simulation in order to store, combine, analyse, and visualise large data sets in science and engineering. Funded by the European Commission, CHiPS4 has provided a dynamic trans-European forum for their members and distinguished guests to openly discuss novel perspectives and topics of interest for these two communities. This CHiPS4 compendium presents a set of selected case studies related to healthcare, biological data, computational advertising, multimedia, finance, bioinformatics, and telecommunications.

This book highlights the different types of data architecture and illustrates the many possibilities hidden behind the term "Big Data", from the usage of No-SQL databases to the deployment of stream analytics architecture, machine learning, and governance. Scalable Big Data Architecture covers real-world, concrete industry use cases that leverage complex distributed applications, which involve web applications, RESTful API, and high throughput of large amount of data stored in highly scalable No-SQL data stores such as Couchbase and Elasticsearch. This book demonstrates how data processing can be done at scale from the usage of NoSQL datastores to the combination of Big Data distribution. When the data processing is too complex and involves different processing topology like long running jobs, stream processing, multiple data sources correlation, and machine learning, it's often necessary to delegate the load to Hadoop or Spark and use the No-SQL to serve processed data in real time. This book shows you how to choose a relevant combination of big data technologies available within the Hadoop ecosystem. It focuses on processing log jobs, architecture, stream data patterns, log analysis, and real time analytics. Every pattern is illustrated with practical examples, which use the different open source projects such as Logstash, Spark, Kafka, and so on. Traditional data infrastructures are built for digging and rendering data synthesis and analytics from large amount of data. This book helps you to understand why you should consider using machine learning algorithms early on in the project, before being overwhelmed by constraints imposed by dealing with the high throughput of Big data. Scalable Big Data Architecture is for developers, data architects, and data scientists looking for a better understanding of how to choose the most relevant pattern for a Big Data pattern which tools to integrate into their pattern.

Scalability Patterns

The Art of Leadership

Part 1

A Quantitative Approach

Best Practices for Designing High Volume Websites

How a Few Companies Make It... and Why the Rest Don't

Scaling for Success

Fully updated! Etsy Powerful, Easy-to-Use Rules for Supporting Hyper Growth "Whether you're taking on a role as a technology leader in a new company or you simply want to make great technology decisions, Scalability Rules will be the go-to resource on your bookshelf." —Chad Dickerson, CTO, Etsy Scalability Rules, Second Edition, is the easy-to-use scalability primer and reference for every architect, developer, network/software engineer, web professional, and manager. Authors Martin L. Abbott and Michael T. Fisher have helped scale hundreds of high-growth companies and thousands of systems. Drawing on their immense experience, they present 50 up-to-the-minute technical best practices for supporting hyper growth practically anywhere. Fully updated to reflect new technical trends and experiences, this edition is even easier to read, understand, and apply. Abbott and Fisher have also added powerful "stories behind the rules": actual experiences and case studies from CTOs and technology executives at Etsy, NASDAQ, Salesforce, Shutterstock, Chegg, Warby Parker, Twitter, and other scalability pioneers. Architects will find powerful technology-agnostic insights for creating and evaluating designs. Developers will discover specific techniques for handling everything from databases to state. Managers will get invaluable help in setting goals, making decisions, and interacting with technical teams. Whatever your role, you'll find practical risk/benefit guidance for setting priorities, translating plans into action, and gaining maximum scalability at minimum cost. You'll learn how to Simplify architectures and avoid "over-engineering" Design scale into your solution, so you can scale on a just-in-time basis Make the most of cloning and replication Separate functionality and split data sets Scale out, not up Get more out of databases without compromising scalability Eliminate unnecessary redirects and redundant double-checking Use caches and CDNs more aggressively, without unacceptable complexity Design for fault tolerance, graceful failure, and easy rollback Emphasize stresslessness, and efficiently handle state when you must Effectively utilize asynchronous communication Learn from your own mistakes and others' high-profile failures Prioritize your actions to get the biggest "bang for the buck"

In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the right tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization

Transform Your Organization by Scaling Leadership How do senior leaders, in their own words, describe the most effective leaders—the ones that get results, grow the business, enhance the culture and leave in their wake a trail of other really effective leaders? Conversely, how do senior leaders describe the kind of leader that undercuts the organization's capacity and capability to create its future? This book, based on groundbreaking research, shows how senior leaders describe and develop leadership that works, that does not, that scales, and that limits scale. Is your leadership built for scale as you advance in today's volatile, uncertain, dynamic, and disruptive business environment? This context puts a premium on a very particular kind of leadership—High-Creative leadership capable of rapidly growing the organization while simultaneously transforming it into more agile, innovative, adaptive and engaging workplace. The research presented in this book suggests that senior leaders can describe the High-Creative leadership with surprising clarity. They also describe with equal precision the High-Reactive leadership that cancels itself out and seriously limits scale. Which type of leader are you? You scale your leadership by increasing the multiple on your leadership in three ways. First, by developing the strengths that differentiate the most effective leaders from the strengths deployed by the most Reactive and ineffective leaders. And second, by increasing your leadership ratio—the ratio of most the effective strengths to the most damaging liabilities. Third, by developing High-Creative leaders all around you. Scaling Leadership provides a proven framework for magnifying agile and scalable leadership in your organization. Scalable leadership drives forward-momentum by multiplying high-achieving leaders at scale so that growth, productivity and innovation increase exponentially. Creative leaders multiply their strengths beyond technical competence by leading in deep relationship, with radical humanity, passion and integrity. Drawing upon decades of solid research and experience enhancing individual capability and collective leadership effectiveness with Fortune 500 companies and government agencies, the authors provide an innovative and efficient framework to help you: Take stock of your own personal balance of leadership strengths and weaknesses Scale your leadership in deep relationship and high integrity Proliferate high-achievers throughout your organization's leadership system Identify ineffective leadership and course-correct quickly Transform your organization by transforming leadership Scaling Leadership is an invaluable tool for executives, managers, and leaders in business, academia, nonprofit organizations, and more. This innovative resource provides effective techniques, real-world examples, and expert guidance for organizations seeking to improve performance, align and execute strategies, and transform their business with scalable leadership capability.

If you need to build a scalable, fault tolerant system with requirements for high availability, discover why the Erlang/OTP platform stands out for the breadth, depth, and consistency of its features. This hands-on guide demonstrates how to use the Erlang programming language and its OTP framework of reusable libraries, tools, and design principles to develop complex commercial-grade systems that simply cannot fail. In the first part of the book, you'll learn how to design and implement process behaviors and supervision trees with Erlang/OTP, and bundle them into standalone nodes. The second part addresses reliability, scalability, and high availability in your overall system design. If you're familiar with Erlang, this book will help you understand the design choices and trade-offs necessary to keep your system running. Explore OTP's building blocks: the Erlang language, tools and libraries collection, and its abstract principles and design rules Dive into the fundamentals of OTP reusable frameworks: the Erlang process structures OTP uses for behaviors Understand how OTP behaviors support client-server structures, finite state machine patterns, event handling, and runtime/code integration Write your own behaviors and special processes Use OTP's tools, techniques, and architectures to handle deployment, monitoring, and operations

Scalable Web Architecture, Processes, and Organizations for the Modern Enterprise

How to Overcome the Predictable Crises of Growth

Mastering the Key Metrics for Startup Growth

Understanding Big Data Scalability

The Big Ideas Behind Reliable, Scalable, and Maintainable Systems

Strategies for Building Successful Teams and Organizations

Why Interventions Lose Impact at Scale and What We Can Do About It

Handbook of Research on Scalable Computing Technologies

Who is the Scaling Champion in the marketplace. How can we apply technology to drive business value? For years, we've been told that the performance of software delivery teams doesn't matter—that it can't provide a competitive advantage to our companies. Through four years of groundbreaking research to include data collected from the State of DevOps reports conducted with Puppet, Dr. Nicole Forsgren, Jeh Humble, and Gene Kim set out to find a way to measure software delivery performance—and what drives it—using rigorous statistical methods. This book presents both the findings and the science behind that research, making the information accessible for readers to apply in their own organizations. Readers will discover how to measure the performance of their teams, and what capabilities they should invest in to drive higher performance. This book is ideal for management at every level.

In this book, the CEO of Cazon, Inc. and internationally-acclaimed speaker, Chander Dhall, demonstrates current website design scalability patterns and takes a pragmatic approach to explaining their pros and cons to show you how to select the appropriate pattern for your site. He then tests the patterns by deliberately forcing them to fail and exposing potential flaws before discussing them to design the optimal pattern to match your scale requirements. The author explains the use of polyglot programming and how to match the right patterns to your business needs. He also details several No-SQL patterns and explains the fundamentals of different paradigms of No-SQL by showing complementary strategies of using them along with relational databases to achieve the best results. He also teaches how to make the scalability pattern work with a real-world microservices pattern. With the proliferation of countless electronic devices and the ever growing number of Internet users, the scalability of websites has become an increasingly important challenge. Scalability, even though highly coveted, may not be so easy to achieve. Think that you can't attain responsiveness along with scalability? Chander Dhall will demonstrate that, in fact, they go hand in hand. What You'll Learn Architect and develop applications so that they are easy to scale. Learn different scaling and partitioning options and the combinations. Learn techniques to speed up responsiveness. Deep dive into caching, column-family databases, document databases, search engines and RDDBMS. Learn scalability and responsiveness concepts that are usually ignored. Effectively balance scalability, performance, responsiveness, and availability while minimizing downtime. Who This Book Is For Executives (CXOs), software architects, developers, and IT Pros

Eliminate the guesswork involved in writing and deploying a cloud application. This step-by-step guide uses PHP to minimize the complexity of the code and setup, but the tools and techniques can be applied on any platform using any language. Everything that you need to jumpstart your application on the cloud is right here. Clear diagrams, step-by-step information, and complete code listings tell you everything you need to get off the ground and start developing your cloud application today. This book introduces several cloud architectures and technologies that will help you accelerate your application in the cloud. Chapters cover load-balance clusters, database replication, caching configuration, content delivery networks, infinite-scale file storage, and cloud system administration. Cloud computing has dramatically changed the landscape of web hosting. Instead of spending weeks negotiating contracts for servers, new servers can be deployed with the push of a button, and your application can be resized almost instantly to meet today's needs. No matter what size of web application you are developing, you can benefit from modern cloud servers, and this is the guide to tell you how. What You'll LearnUse the cloud and its various platforms with Docker management toolsBuild a simple PHP-based scalable web applicationCreate a basic cloud clusterWork with Amazon and Google Cloud Platform in your PHP web application development Who This Book Is For Developers who have some prior programming experience, including PHP, and who are new to building applications

This invaluable roadmap for startup engineers reveals how to successfully handle web application scalability challenges to meet increasing product and traffic demands. Web Scalability for Startup Engineers shows engineers working at startups and small companies how to plan and implement a comprehensive scalability strategy. It presents broad and holistic view of infrastructure and architecture of a scalable web application. Successful startups often face the challenge of scalability, and the core concepts driving a scalable architecture are language and platform agnostic. The book covers scalability of HTTP-based systems (websites, REST APIs, SaaS, and mobile application backends), starting with a high-level perspective before taking a deep dive into common challenges and issues. This approach builds a holistic view of the problem, helping you see the big picture, and then introduces different technologies and best practices for solving the problem at hand. The book is enriched with the author's real-world experience and expert advice, saving you precious time and effort by learning from others' mistakes and successes. Language-agnostic approach addresses universally challenging concepts in Web development/scalability—does not require knowledge of a particular language Fills the gap for engineers in startups and smaller companies who have limited means for getting to the next level in terms of accomplishing scalability Strategies presented help to decrease time to market and increase the efficiency of web applications

High Availability for Your Growing Applications

Building Scalable Web Sites

SOA Source Book

97 Things Every Cloud Engineer Should Know

A Practical Guide to Creating Responsive, Scalable Software

Scaling Leadership

High-Performance Modelling and Simulation for Big Data Applications

The Science of Lean Software and DevOps: Building and Scaling High Performing Technology Organizations

Every day, companies struggle to scale critical applications. As traffic volume and data demands increase, these applications become more complicated and brittle, exposing risks and compromising availability. This practical guide shows IT, devops, and system reliability managers how to prevent an application from becoming slow, inconsistent, or downright unavailable as it grows. Scaling isn't just about handling more users; it's also about managing risk and ensuring availability. Author Lee Atchison provides basic techniques for building applications that can handle huge quantities of traffic, data, and demand without affecting the quality your customers expect. In five parts, this book explores: Availability: learn techniques for building highly available applications, and for tracking and improving availability going forward Risk management: identify, mitigate, and manage risks in your application, test your recovery/disaster plans, and build out systems that contain fewer risks Services and microservices: understand the value of services for building complicated applications that need to operate at higher scale Scaling applications: assign services to specific teams, label the criticalness of each service, and devise failure scenarios and recovery plans Cloud services: understand the structure of cloud-based services, resource allocation, and service distribution

"Scaling Lean offers an invaluable blueprint for modeling startup success. You'll learn the essential metrics that measure the output of a working business model, give you the pulse of your company, communicate its health to investors, and enable you to make precise interventions when things go wrong. "--Amazon.com. Python is a wonderful programming language that allows writing applications quickly. But how do you make those applications scale for thousands of users and requests? It takes years of practice, research, trial and errors to build experience and knowledge along the way. Simple questions such as "How do I make my code better?" or "How do I make sure there's no bottlenecks?" cost hours to find good answers. Without enough background on the topic, you'll never be sure that any answer you'll come up with will be correct. The Hacker's Guide to Scaling Python will help you solve that by providing guidelines, tips and best practice. Adding a few interviews of experts on the subject, you will learn how you can distribute your Python application so it is able to process thousands of requests.

Managing a high-growth organization requires both strategy and adaptability. Unfortunately, start-up founders and executives seeking to scale up to the next level find all too frequently that growth turns into chaos. Rather than laying the groundwork for the future, organizations get stuck by covering up complex problems with unsustainable band-aids and duct-tape fixes, implementing anecdote-based solutions from the latest tech-industry unicorns or leadership books, and relying on too much on-the-fly learning from inexperienced managers. This book is the definitive guide for leaders of high-growth organizations seeking to understand and execute the people-management principles that are essential to continued success. Combining a wealth of practical experience, well-grounded academic research, and easy-to-apply frameworks, Andrew Bartlow and T. Brad Harris offer a practical toolkit that founders, functional leaders, and managers of people can use to rethink their practices to meet their organizations' needs. They help readers identify the core people-management programs and practices that are best for an organization at its current stage and size while also supporting a foundation for continued development and the capacity to adapt to inevitable surprises. Practical, actionable, and supplemented with numerous diagnostic tools and illustrative examples, Scaling for Success is a must-have playbook for organizational leaders pursuing smart and sustainable growth.

Scaling Teams

The Founder's Mentality

Designing for Scalability with Erlang/OTP

Designing Data-Intensive Applications

People Priorities for High-Growth Organizations

A Simple Guide to Programming and Administering Cloud-Based Applications

Scaling Up

Hello, Startup

How do today's most successful tech companies—Amazon, Google, Facebook, Netflix, Tesla—design, develop, and deploy the products that have earned the love of literally billions of people around the world? Perhaps surprisingly, they do it very differently than the vast majority of tech companies. In INSPIRED, technology product management thought leader Marty Cagan provides readers with a master class in how to structure and staff a vibrant and successful product organization, and how to discover and deliver technology products that your customers will love—and that will work for your business. With sections on assembling the right people and skillsets, discovering the right product, embracing an effective yet lightweight process, and creating a strong product culture, readers can take the information they learn and immediately leverage it within their own organizations—dramatically improving their own product efforts. Whether you're an early stage startup working to get to product/market fit, or a growth-stage company working to scale your product organization, or a large, long-established company trying to regain your ability to consistently deliver new value for your customers, INSPIRED will take you and your product organization to a new level of customer engagement, consistent innovation, and business success. Filled with the author's own personal stories—and profiles of some of today's most-successful product managers and technology-powered product companies, including Adobe, Apple, Google, Microsoft, and Netflix—INSPIRED will show you how to turn up the dial of your own product efforts, creating technology products your customers love. The first edition of INSPIRED, published ten years ago, established itself as the primary reference for technology product managers, and can be found on the shelves of nearly every successful technology product company worldwide. This thoroughly updated second edition shares the same objective of being the most valuable resource for technology product managers, yet it is completely new—sharing the latest practices and techniques of today's most-successful tech product companies, and the men and women behind every great product.

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer—even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals from around the world provide valuable insight into today's cloud engineering role. These concise articles explore the entire cloud computing experience, including fundamentals, architecture, and migration. You'll delve into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana Garry "What Is Toll, and Why Are SREs Obsessed with It?," Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economics of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummins

Learn to build powerful machine learning models quickly and deploy large-scale predictive applications About This Book Design, engineer and deploy scalable machine learning solutions with the power of Python Take command of Hadoop and Spark with Python for effective machine learning on a map reduce framework Build state-of-the-art models and develop personalized recommendations to perform machine learning at scale Who This Book Is For This book is for anyone who intends to work with large and complex data sets. Familiarity with basic Python and machine learning concepts is recommended. Working knowledge in statistics and computational mathematics would also be helpful. What You Will Learn Apply the most scalable machine learning algorithms Work with modern state-of-the-art large-scale machine learning techniques Increase predictive accuracy with deep learning and scalable data-handling techniques Improve your work by combining the MapReduce framework with Spark Build powerful ensembles at scale Use data streams to train linear and non-linear predictive models from extremely large datasets using a single machine In Detail Large Python machine learning projects involve new problems associated with specialized machine learning architectures and designs that many data scientists have yet to tackle. But finding algorithms and designing and building platforms that deal with large sets of data is a growing need. Data scientists have to manage and maintain data sets, data projects, and with the rise of big data comes an increasing demand for computational and algorithmic efficiency. Large Scale Machine Learning with Python uncovers a new wave of machine learning algorithms that meet scalability demands together with a high predictive accuracy. Dive into scalable machine learning and the three forms of scalability. Speed up algorithms that can be used on a desktop computer with tips on parallelization and memory allocation. Get to grips with new algorithms that are specifically designed for large projects and can handle bigger files, and learn about machine learning in big data environments. We will also cover the most effective machine learning techniques on a map reduce framework in Hadoop and Spark in Python. Style and Approach This efficient and practical title is stuffed full of the techniques, tips and tools you need to ensure your large scale Python machine learning runs swiftly and seamlessly. Large-scale machine learning tackles a different issue to what is currently on the market. Those working with Hadoop clusters and in data intensive environments can now learn effective ways of building powerful machine learning models from prototype to production. This book is written in a style that programmers from other languages (R, Julia, Java, Matlab) can follow.

Winner of the International Book Awards for General Business Winner of the Readers' Favorite International Book Award for Non-Fiction Business It's been over a decade since Verne Harshbarger's best-selling book Mastering the Rockefeller Habits was first released. Scaling Up (Rockefeller Habits 2.0) is the first major revision of this business classic which details practical tools and techniques for building an industry-dominating business. This book is written so everyone -- from frontline employees to senior executives -- can get involved in contributing to the growth of a firm. Scaling Up focuses on the four major decision areas every company must get right: People, Strategy, Execution, and Cash. The book includes a series of new one-page tools including the updated One-Page Strategic Plan and the Rockefeller Habits ChecklistTM, which more than 40,000 firms around the globe have used to scale their companies successfully -- many to \$10 million, \$100 million, and \$1 billion and beyond -- while enjoying the climb!

Everyday Turnaround

The Lightning-Fast Path to Building Massively Valuable Companies

A practitioners guide to choosing relevant Big Data architecture

The Scale-Up Effect in Early Childhood and Public Policy

Mastering the Four Stages from Idea to \$10 Billion

Hands-On Software Architecture with Golang

Blitzscaling

Scaling Your Node.js Apps

A guide to developing Web sites using scalable applications.

"A leading economist answers one of today's trickiest questions: why do some great ideas make it big while others fail to take off? 'Scale' has become a favored buzzword in the startup world. But scale isn't just about accumulating more users or capturing more market share. It's about whether an idea that takes hold in a small group can do the same in a much larger one—whether you're growing a small business, rolling out a diversity and inclusion program, or delivering billions of doses of a vaccine. Translating an idea into widespread impact, says University of Chicago economist John A. List, depends on one thing only: whether it can achieve 'high voltage'—the ability to be replicated at scale"--

Understand the principles of software architecture with coverage on SOA, distributed and messaging systems, and database modeling Key FeaturesGain knowledge of architectural approaches on SOA and microservices for architectural decisionsExplore different architectural patterns for building distributed applicationsMigrate applications written in Java or Python to the Go languageBook Description Building software requires careful planning and architectural considerations; Golang was developed with a fresh perspective on building next-generation applications on the cloud with distributed and concurrent computing concerns. Hands-On Software Architecture with Golang starts with a brief introduction to architectural elements, Go, and a case study to demonstrate architectural principles. You'll then move on to look at code-level aspects such as modularity, class design, and constructs specific to Golang and implementation of design patterns. As you make your way through the chapters, you'll explore the core objectives of architecture such as effectively managing complexity, scalability, and reliability of software systems. You'll also work through creating distributed systems and their communication before moving on to modeling and scaling of data. In the concluding chapters, you'll learn to apply architectures and plan the migration of applications from other languages. By the end of this book, you will have

gained insight into various design and architectural patterns, which will enable you to create robust, scalable architecture using Golang. What you will learnUnderstand architectural paradigms and deep dive into MicroservicesDesign parallelism/concurrency patterns and learn object-oriented design patterns in GoExplore API-driven systems architecture with introduction to REST and GraphQL standardsBuild event-driven architectures and make your architectures anti-fragileEngineer scalability and learn how to migrate to Go from other languagesGet to grips with deployment considerations with CI/CD pipeline, cloud deployments, and so onBuild an end-to-end e-commerce (travel) application backend in GoWho this book is for Hands-On Software Architecture with Golang is for software developers, architects, and CTOs looking to use Go in their software architecture to build enterprise-grade applications. Programming knowledge of Golang is assumed.

Many people think leadership is a higher calling that resides exclusively with a select few who practice and preach big, complex leadership philosophies. But as this practical book reveals, what ' s most important for leadership is principled consistency. Time and again, small things done well build trust and respect within a team. Using stories from his time at Netscape, Apple, and Slack, Michael Lopp presents a series of small but compelling practices to help you build leadership skills. You ' ll learn how to create teams that are highly productive, highly respected, and highly trusted. Lopp has been speaking and writing about this topic for over a decade and now maintains a Slack leadership channel with over 13,000 members. The essays in this book examine the practical skills Lopp learned from exceptional leaders—as a manager at Netscape, a senior manager and director at Apple, and an executive at Slack. You ' ll learn how to apply these lessons to your own experience.

Large Scale Machine Learning with Python

Scaling Your Startup

INSPIRED

Scaling Lean

Accelerate

Scalability Rules

Performance Solutions

Building Scalable PHP Web Applications Using the Cloud

Scalable Coherent Interface (SCI) is an innovative interconnect standard (ANSI/IEEE Std 1596-1992) addressing the high-performance computing and networking domain. This book describes in depth one specific application of SCI: its use as a high-speed interconnection network (often called a system area network, SAN) for compute clusters built from commodity workstation nodes. The editors and authors, coming from both academia and industry, have been instrumental in the SCI standardization process, the development and deployment of SCI adapter cards, switches, fully integrated clusters, and software systems, and are closely involved in various research projects on this important interconnect. This thoroughly cross-reviewed state-of-the-art survey covers the complete hardware/software spectrum of SCI clusters, from the major concepts of SCI, through SCI hardware, networking, and low-level software issues, various programming models and environments, up to tools and application experiences.

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.

Leading a fast-growing team is a uniquely challenging experience. Startups with a hot product often double or triple in size quickly—a recipe for chaos if company leaders aren't prepared for the pitfalls of hyper-growth. If you're leading a startup or a new team between 10 and 150 people, this guide provides a practical approach to managing your way through these challenges. Each section covers essential strategies and tactics for managing growth, starting with a single team and exploring typical scaling points as the team grows in size and complexity. The book also provides many examples and lessons learned, based on the authors' experience and interviews with industry leaders. Learn how to make the most of: Hiring: Learn a scalable hiring process for growing your team People management: Use 1-on-1 mentorship, dispute resolution, and other techniques to ensure your team is happy and productive Organization: Motivate employees by applying five organizational design principles Culture: Build a culture that can evolve as you grow, while remaining connected to the team's core values Communication: Ensure that important information—and only the important stuff—gets through

This critical volume combines theoretical and empirical work across disciplines to explore what threatens scalability—and what enables it—in the early childhood field. Authors and editors provide specific recommendations to help professionals refine and apply the science of scaling in their programs, research, and decision making. Written by leading experts in early childhood, economics, psychology, public health, philanthropy, and more, chapters and commentaries shine light on how to effectively use experimental insights for policy purposes. The result is a comprehensive and forward-thinking guide to the challenges and possibilities of effective scaling in early childhood and beyond. Essential reading for researchers, practitioners, funders, and policy makers alike, this book raises vital questions and provides a vision for the long-term journey to scalable evidence.

Designing Distributed Systems

Architecture and Software for High-Performance Compute Clusters

Building Organizational Capability and Capacity to Create Outcomes that Matter Most

Java Performance and Scalability

Building Micro-Frontends

The Art and Science of Daily Business Transformation

Selected Results of the COST Action IC1406 cHIPSet

The Hacker's Guide to Scaling Python

A Washington Post Bestseller Three Principles for Managing—and Avoiding—the Problems of Growth Why is profitable growth so hard to achieve and sustain? Most executives manage their companies as if the solution to that problem lies in the external environment: find an attractive market, formulate the right strategy, win new customers. But when Bain & Company's Chris Zook and James Allen, authors of the bestselling Profit from the Core, researched this question, they found that when companies fail to achieve their growth targets, 90 percent of the time the root causes are internal, not external—increasing distance from the front lines, loss of accountability, proliferating processes and bureaucracy, to name only a few. What's more, companies experience a set of predictable internal crises, at predictable stages, as they grow. Even for healthy companies, these crises, if not managed properly, stifle the ability to grow further—and can actively lead to decline. The key insight from Zook and Allen's research is that managing these choke points requires a "founder's mentality"—behaviors typically embodied by a bold, ambitious founder—to restore speed, focus, and connection to customers: • An insurgent's clear mission and purpose • An unambiguous owner mindset • A relentless obsession with the front line Based on the authors' decade-long study of companies in more than forty countries, The Founder's Mentality demonstrates the strong relationship between these three traits in companies of all kinds—not just start-ups—and their ability to sustain performance. Through rich analysis and inspiring examples, this book shows how any leader—not only a founder—can instill and leverage a founder's mentality throughout their organization and find lasting, profitable growth.

This title provides systematic performance planning techniques for diverse computing environments and architectures. It seeks to smoothly integrate performance analysis into an existing software development process.

Written in Henry Liu's clear, concise style, Java Performance and Scalability gets right to the point. With clearly explained concepts, most pertinent theories, precise step-by-step procedures, and large volume of illustrative charts and tables with highly reliable data supporting behind, you gain quickly the necessary knowledge and skills for being able to cope with Java application performance and scalability issues without having to resort to more experienced professionals or expensive external consultants. Specifically, it helps you learn the following knowledge and skills that are essential for you to become more effective in contributing to the success of your organization: • What you need to know at minimum about the architecture of modern hardware so that you can make smart decisions on when you should pour your time on your application and when you can just throw in more advanced hardware to get by. • What you need to know about garbage collection theories in general and how they are implemented with widely used Java Virtual Machines like HotSpot JVMs. • Precise methodologies, procedures, and programs that you can start to use immediately to help you profile and tune your Java applications. • How you can design and build performance and scalability into your product proactively without having to face tough retrofitting decisions or even torrents of customer escalations later on. In addition, the book contains interesting data for your reference, associated with oops compression, CMS garbage collection tuning, DoEscapeAnalysis, G1 versus CMS comparison, etc., all based on full scale, rigorous performance and scalability tests with real products.

This book is the "Hello, World" tutorial for building products, technologies, and teams in a startup environment. It's based on the experiences of the author, Yevgeniy (Jim) Brikman, as well as interviews with programmers from some of the most successful startups of the last decade, including Google, Facebook, LinkedIn, Twitter, GitHub, Stripe, Instagram, AdMob, Pinterest, and many others. Hello, Startup is a practical, how-to guide that consists of three parts: Products, Technologies, and Teams. Although at its core, this is a book for programmers, by programmers, only Part II (Technologies) is significantly technical, while the rest should be accessible to technical and non-technical audiences alike. If you're at all interested in startups—whether you're a programmer at the beginning of your career, a seasoned developer bored with large company politics, or a manager looking to motivate your engineers—this book is for you.