Devops Handbook World Class Reliability Organizations

Simplify your DevOps roles with DevOps tools and techniques Key Features Learn to utilize business resources effectively to increase productivity and collaboration Leverage the ultimate open source DevOps tools to achieve continuous integration and continuous delivery (CI/CD) Ensure faster time-to-market by reducing overall lead time and deployment downtime Book Description The implementation of DevOps processes requires the efficient use of various tools, and the choice of these tools is crucial for the sustainability of projects and collaboration between development (Dev) and operations (Ops). This book presents the different patterns and tools that you can use to provision and configure an infrastructure in the cloud. You'll begin by understanding DevOps culture, the application of DevOps in cloud infrastructure, provisioning with Terraform, configuration with Ansible, and image building with Packer. You'll then be taken through source code versioning with Git and the construction of a DevOps CI/CD pipeline using Jenkins, GitLab CI, and Azure Pipelines. This DevOps handbook will also guide you in containerizing and deploying your applications with Docker and Kubernetes. You'll learn how to reduce deployment downtime with blue-green deployment and the feature flags technique, and study DevOps practices for open source projects. Finally, you'll grasp some best practices for reducing the overall application lead time to ensure faster time to market. By the end of this book, you'll have built a solid foundation in DevOps, and developed the skills necessary to enhance a traditional software delivery process using modern software delivery tools and techniques What you will learn Become well versed with DevOps culture and its practices Use Terraform and Packer for cloud infrastructure provisioning Implement Ansible for infrastructure configuration Use basic Git commands and understand the Git flow process Build a DevOps pipeline with Jenkins, Azure Pipelines, and GitLab CI Containerize your applications with Docker and Kubernetes Check application quality with SonarQube and Postman Protect DevOps processes and applications using DevSecOps tools Who this book is for If you are a developer or a system administrator interested in understanding continuous integration, continuous delivery, and containerization with DevOps tools and techniques, this book is for you.

The infrastructure-as-code revolution in IT is also affecting database administration. With this practical book, developers, system administrators, and junior to mid-level DBAs will learn how the modern practice of site reliability engineering applies to the craft of database architecture and operations. Authors Laine Campbell and Charity Majors provide a framework for professionals looking to join the ranks of today's database reliability engineers (DBRE). You'll begin by exploring core operational concepts that DBREs need to master. Then you'll examine a wide range of database persistence options, including how to implement key technologies to provide resilient, scalable, and performant data storage and retrieval. With a firm foundation in database reliability engineering, you'll be ready to dive into the architecture and operations of any modern database. This book covers: Service-level requirements and risk management Building and evolving an architecture for operational visibility Infrastructure engineering and infrastructure management How to facilitate the release management process Data storage, indexing, and replication Identifying datastore characteristics and best use cases Datastore architectural components and data-driven architectures

Increase profitability, elevate work culture, and exceed productivity goals with this updated and expanded edition of the definitive handbook for DevOps.More than ever, the effective management of technology is critical for business competitiveness. For decades, technology leaders have struggled to balance agility, reliability, and security. The consequences of failure have never been greater?whether it's the healthcare.gov debacle, cardholder data breaches, or missing the boat with Big Data in the cloud.And yet, high performers using DevOps principles, such as Google, Amazon, Facebook, Etsy, and Netflix, are routinely and reliably deploying code into production hundreds, or even thousands, of times per day.Following in the footsteps of The Phoenix Project, The DevOps Handbook shows leaders how to replicate these incredible outcomes, by showing how to integrate Product Management, Development, QA, IT Operations, and Information Security to elevate your company and win in the marketplace.

Over a half-million sold! The sequel, The Unicorn Project, is coming Nov 26 "Every person involved in a failed IT project should be forced to read this book."—TIM O'REILLY, Founder & CEO of O'Reilly Media "The Phoenix Project is a must read for business and IT executives who are struggling with the growing complexity of IT."—JIM WHITEHURST, President and CEO, Red Hat, Inc. Five years after this sleeper hit took on the world of IT and flipped it on it's head, the 5th Anniversary Edition of The Phoenix Project continues to guide IT in the DevOps revolution. In this newly updated and expanded edition of the bestselling The Phoenix Project, co-author Gene Kim includes a new afterword and a deeper delve into the Three Ways as described in The DevOps Handbook. Bill, an IT manager at Parts Unlimited, has been tasked with taking on a project critical to the future of the business, code named Phoenix Project. But the project is massively over budget and behind schedule. The CEO demands Bill must fix the mess in ninety days or else Bill's entire department will be outsourced. With the help of a prospective board member and his mysterious philosophy of The Three Ways, Bill starts to see that IT work has more in common with a manufacturing plant work than he ever imagined. With the clock ticking, Bill must organize work flow streamline interdepartmental communications, and effectively serve the other business functions at Parts Unlimited. In a fast-paced and entertaining style, three luminaries of the DevOps movement deliver a story that anyone who works in IT will recognize. Readers will not only learn how to improve their own IT organizations, they'll never view IT the same way again. "This book is a gripping read that captures brilliantly the dilemmas that face companies which depend on IT, and offers real-world solutions."—JEZ HUMBLE, Co-author of Continuous Delivery, Lean Enterprise, Accelerate, and The DevOps Handbook ———— "I'm delighted at how The Phoenix Project has reshaped so many conversations in technology. My goal in writing The Unicorn Project was to explore and reveal the necessary but invisible structures required to make developers (and all engineers) productive, and reveal the devastating

effects of technical debt and complexity. I hope this book can create common ground for technology and business leaders to leave the past behind, and co-create a better future together."—Gene Kim, November 2019

As tech giants and startups disrupt every market, those who master large-scale software delivery will define the economic landscape of the 21st century, just as the masters of mass production defined the landscape in the 20th. Unfortunately, business and technology leaders are woefully ill-equipped to solve the problems posed by digital transformation. At the current rate of disruption, half of S&P 500 companies will be replaced in the next ten years. A new approach is needed. In Project to Product, Value Stream Network pioneer and technology business leader Dr. Mik Kersten introduces the Flow Framework—a new way of seeing, measuring, and managing software delivery. The Flow Framework will enable your company's evolution from project-oriented dinosaur to product-centric innovator that thrives in the Age of Software. If you're driving your organization's transformation at any level, this is the book for you.

Operations Anti-Patterns, DevOps Solutions shows how to implement DevOps techniques in the kind of imperfect environments most developers work in. Part technology tutorial, part reference manual, and part psychology handbook, this practical guide shows you realistic ways to bring DevOps to your team when you don't have the flexibility to make sweeping changes in organizational structure. Summary Operations Anti-Patterns, DevOps Solutions shows how to implement DevOps techniques in the kind of imperfect environments most developers work in. Part technology tutorial, part reference manual, and part psychology handbook, this practical guide shows you realistic ways to bring DevOps to your team when you don't have the flexibility to make sweeping changes in organizational structure. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology To some extent, all organizations—even yours—suffer from poor development practices, garbled communications, and outdated legacy systems. The good news is DevOps can help you improve your processes. First, however, you'll need to recognize the core issues holding you back. This book empowers you to deliver DevOps with limited resources while navigating the office politics and entrenched mindsets that are all too common in actual workplaces. About the book Operations Anti-Patterns, DevOps Solutions offers clear steps for transforming development and communication. Using jargon-free language, this book describes incremental techniques that pay off immediately. Streamline your workflow, manage unplanned time, and build operational metrics. Whatever your issues, this book holds the keys to organizational success. What's inside Turn failure into opportunity Drive change through culture Break down knowledge silos Settle middle management turf wars About the reader For team leaders and managers. About the author Jeffery D. Smith has been in the technology industry for over 15 years. He has managed DevOps transformations at the ad-tech firm Centro and the online ordering platform Grubhub. Table of Contents 1 The DevOps ingredients 2 The paternalist syndrome 3 Operational blindness 4 Data instead of information 5 Quality as a condiment 6 Alert fatigue 7 The empty toolbox 8 Off-hour deployments 9 Wasting a perfectly good incident 10 Information hoarding: Only Brent knows 11 Culture by decree 12 Too many yardsticks

The First Complete Guide to DevOps for Software Architects DevOps promises to accelerate the release of new software features and improve monitoring of systems in production, but its crucial implications for software architects and architecture are often ignored. In DevOps: A Software Architect's Perspective, three leading architects address these issues head-on. The authors review decisions software architects must make in order to achieve DevOps' goals and clarify how other DevOps participants are likely to impact the architect's work. They also provide the organizational, technical, and operational context needed to deploy DevOps more efficiently, and review DevOps' impact on each development phase. The authors address cross-cutting concerns that link multiple functions, offering practical insights into compliance, performance, reliability, repeatability, and security. This guide demonstrates the authors' ideas in action with three real-world case studies: datacenter replication for business continuity, management of a continuous deployment pipeline, and migration to a microservice architecture. Comprehensive coverage includes • Why DevOps can require major changes in both system architecture and IT roles • How virtualization and the cloud can enable DevOps practices • Integrating operations and its service lifecycle into DevOps • Designing new systems to work well with DevOps practices • Integrating DevOps with agile methods and TDD • Handling failure detection, upgrade planning, and other key issues • Managing consistency issues arising from DevOps' independent deployment models • Integrating security controls, roles, and audits into DevOps • Preparing a business plan for DevOps adoption, rollout, and measurement

The DevOps Handbook:How to Create World-Class Agility, Reliability, and Security in Technology OrganizationsIT Revolution

How well does your organization respond to changing market conditions, customer needs, and emerging technologies when building software-based products? This practical guide presents Lean and Agile principles and patterns to help you move fast at scale—and demonstrates why and how to apply these paradigms throughout your organization, rather than with just one department or team. Through case studies, you'll learn how successful enterprises have rethought everything from governance and financial management to systems architecture and organizational culture in the pursuit of radically improved performance. Discover how Lean focuses on people and teamwork at every level, in contrast to traditional management practices Approach problem-solving experimentally by exploring solutions, testing assumptions, and getting feedback from real users Lead and manage large-scale programs in a way that empowers employees, increases the speed and quality of delivery, and lowers costs Learn how to implement ideas from the DevOps and Lean Startup movements even in complex, regulated environments

In Team Topologies DevOps consultants Matthew Skelton and Manuel Pais share secrets of successful team patterns and interactions to help readers choose and evolve the right team

patterns for their organization, making sure to keep the software healthy and optimize value streams. Team Topologies will help readers discover: • Team patterns used by successful organizations. • Common team patterns to avoid with modern software systems. • When and why to use different team patterns • How to evolve teams effectively. • How to split software and align to teams.

This concise book offers 'four steps to control an IT environment' that can be mapped 'to any maturity model'. From the table of contents: ITIL processes common to the High Performers; Creat a change request tracking system; The Spectrum of Change; Helpful tips when preparing for an audit; Generate the DSL approval process; Metrics and how to use them.

This book is an engineering reference manual that explains "How to do DevOps?". It is targeted to people and organizations that are "doing DevOps" but not satisfied with the results that they are getting. There are plenty of books that describe different aspects of DevOps and customer user stories, but up until now there has not been a book that frames DevOps as an engineering problem with a step-by-step engineering solution and a clear list of recommended engineering practices to guide implementors. The step-by-step engineering prescriptions can be followed by leaders and practitioners to understand, assess, define, implement, operationalize, and evolve DevOps for their organization. The book provides a unique collection of engineering practices and solutions for DevOps. By confining the scope of the content of the book to the level of engineering practices, the content is applicable to the widest possible range of implementations. This book was born out of the author's desire to help others do DevOps, combined with a burning personal frustration. The frustration comes from hearing leaders and practitioners say, "We think we are doing DevOps, but we are not getting the business results we had expected." Engineering DevOps describes a strategic approach, applies engineering implementation discipline, and focuses operational expertise to define and accomplish specific goals for each leg of an organization's unique DevOps journey. This book guides the reader through a journey from defining an engineering strategy for DevOps to implementing The Three Ways of DevOps maturity using engineering practices: The First Way (called "Continuous Flow") to The Second Way (called "Continuous Feedback") and finally The Third Way (called "Continuous Improvement"). This book is intended to be a guide that will continue to be relevant over time as your specific DevOps and DevOps more generally evolves.

Increase profitability, elevate work culture, and exceed productivity goals through DevOps practices. More than ever, the effective management of technology is critical for business competitiveness. For decades, technology leaders have struggled to balance agility, reliability, and security. The consequences of failure have never been greater?whether it's the healthcare.gov debacle, cardholder data breaches, or missing the boat with Big Data in the cloud. And yet, high performers using DevOps principles, such as Google, Amazon, Facebook, Etsy, and Netflix, are routinely and reliably deploying code into production hundreds, or even thousands, of times per day. Following in the footsteps of The Phoenix Project, The DevOps Handbook shows leaders how to replicate these incredible outcomes, by showing how to integrate Product Management, Development, QA, IT Operations, and Information Security to elevate your company and win in the marketplace.

The Continuous Delivery and SRE movements are here to stay and grow, its time you to ride the wave! This book goes in detail about DevOps Culture, Microservices Architecture, How to automate deployment using Kubernetes and How Google's SRE and DevOps philosophies overlap. Overall it is a complete package for any application development stakeholder. This book can be used by a beginner, Technology Consultant, Business Consultant and Project Manager and any member of the project team trying to figure out SRE & CD. The structure of the book is such that it answers the most asked questions about DevOps, Microservices, Kubernetes and SRE. It also covers the best and the latest case studies with benefits. Therefore, it is expected that after going through this book, you can discuss the topic with any stakeholder and take your agenda ahead as per your role. Here is your chance to dive into the CD & SRE role and know what it takes to be and implement best practices. The Continuous Delivery and SRE movements are here to stay and grow, its time you to ride the wave! So, don't wait and take action!

Summary, Analysis & Review of Gene Kim's, Jez Humble's, Patrick Debois's, & John Willis's The DevOps Handbook by Instaread Preview: The DevOps Handbook: How to Create World-Class Agility, Reliability, & Security in Technology Organizations is a manual for technology companies looking to improve their ability to deliver high-value products to consumers. In the 1980s, Toyota revolutionized manufacturing with its application of the Lean production philosophy. Today, DevOps seeks to apply the principles of Lean manufacturing to the technology industry. To do so, DevOps unites the two traditionally clashing bodies of the corporate IT department: Development and Operations. In traditional IT departments, the Development group builds products and then hands them off to Operations to launch them and keep them up and running. This can lead to tension because products may be untested in real-world conditions when Development builds them, which leaves Operations to clean up the mess while trying simultaneously to keep the product afloat for customers after launch. Instead, DevOps seeks to share responsibilities across cross-functional teams. In this… PLEASE NOTE: This is a Summary, Analysis & Review of the book and NOT the original book. Inside this Summary, Analysis & Review of Gene Kim's, Jez Humble's, Patrick Debois's, & John Willis's The DevOps Handbook by Instaread · Overview of the Book · Important People · Key Takeaways · Analysis of Key Takeaways About the Author With Instaread, you can get the key takeaways and analysis of a book in 15 minutes. We read every chapter, identify the key takeaways and analyze them for your convenience. Visit our website at instaread.co.

Well, you have been hearing a lot about DevOps lately, wait until you meet a Site Reliability Engineer (SRE)! Google is the pioneer in the SRE movement and Ben Treynor from Google defines SRE as," "what happens when a software engineer is tasked with what used to be called operations". The ongoing struggles between Development and Ops team for software releases have been sorted out by mathematical formula for green or red-light launches! Sounds interesting, now do you know which the organizations are using SRE: Apart from Google, you can find SRE job postings from: LinkedIn, Twitter, Uber, Oracle, Twitter and many more. I also enquired about the average salary of a SRE in USA and all the leading sites gave similar results around $130,000 per year. Also, currently the most sought job titles in tech domain are DevOps & Site Reliability Engineer. So do you want to know, How SRE works, what are the skill sets required, How a software engineer can transit to SRE role, How LinkedIn used SRE to smoothen the deployment process. Here is your chance to dive into the SRE role and know what it takes to be and implement best SRE practices. The DevOps, Continuous Delivery and SRE movements are here to stay and grow, its time you to ride the wave! So, don't wait and take action!

Achieve streamlined, rapid production with enterprise-level DevOps Awarded DevOps 2017 Book of the Year, The DevOps Adoption Playbook provides practical, actionable, real-world

guidance on implementing DevOps at enterprise scale. Author Sanjeev Sharma heads the DevOps practice for IBM; in this book, he provides unique guidance and insight on implementing DevOps at large organizations. Most DevOps literature is aimed at startups, but enterprises have unique needs, capabilities, limitations, and challenges; "DevOps for startups" doesn't work at this scale, but the DevOps paradigm can revolutionize enterprise IT. Deliver high-value applications and systems with velocity and agility by adopting the necessary practices, automation tools, and organizational and cultural changes that lead to innovation through rapid experimentation. Speed is an advantage in the face of competition, but it must never come at the expense of quality; DevOps allows your organization to keep both by intersecting development, quality assurance, and operations. Enterprise-level DevOps comes with its own set of challenges, but this book shows you just how easily they are overcome. With a slight shift in perspective, your organization can stay ahead of the competition while keeping costs, risks, and quality under control. Grasp the full extent of the DevOps impact on IT organizations Achieve high-value innovation and optimization with low cost and risk Exceed traditional business goals with higher product release efficiency Implement DevOps in large-scale enterprise IT environments DevOps has been one of IT's hottest trends for the past decade, and plenty of success stories testify to its effectiveness in organizations of any size, industry, or level of IT maturity, all around the world. The DevOps Adoption Playbook shows you how to get your organization on board so you can slip production into the fast lane and innovate your way to the top.

Bill has 90 days to fix a behind-schedule IT project, or his entire department will be outsourced. Fortunately, he has the help of a prospective board member, whose "Three Ways" philosophy might just save the day.

This award-winning and bestselling business handbook for digital transformation is now fully updated and expanded with the latest research and new case studies! Over the last five years, The DevOps Handbook has been the definitive guide for taking the successes laid out in the bestselling The Phoenix Project and applying them in any organization. Now, with this fully updated and expanded edition, it's time to take DevOps out of the IT department and apply it across the full business. Technology is now at the core of every company, no matter the business model or product. The theories and practices laid out in The DevOps Handbook are tools to be used by anyone from across the organization to create joy and succeed in the marketplace. The second edition features fifteen new case studies, including stories from adidas, American Airlines, Fannie Mae, Target, and the US Air Force. In addition, renowned researcher and coauthor of Accelerate, Nicole Forsgren, PhD, provides her insights through new and updated material and research. With over 100 pages of new content throughout the book, this expanded edition is a must read for anyone who works with technology.

A web application involves many specialists, but it takes people in web ops to ensure that everything works together throughout an application's lifetime. It's the expertise you need when your start-up gets an unexpected spike in web traffic, or when a new feature causes your mature application to fail. In this collection of essays and interviews, web veterans such as Theo Schlossnagle, Baron Schwartz, and Alistair Croll offer insights into this evolving field. You'll learn stories from the trenches--from builders of some of the biggest sites on the Web--on what's necessary to help a site thrive. Learn the skills needed in web operations, and why they're gained through experience rather than schooling Understand why it's important to gather metrics from both your application and infrastructure Consider common approaches to database architectures and the pitfalls that come with increasing scale Learn how to handle the human side of outages and degradations Find out how one company avoided disaster after a huge traffic deluge Discover what went wrong after a problem occurs, and how to prevent it from happening again Contributors include: John Allspaw Heather Champ Michael Christian Richard Cook Alistair Croll Patrick Debois Eric Florenzano Paul Hammond Justin Huff Adam Jacob Jacob Loomis Matt Massie Brian Moon Anoop Nagwani Sean Power Eric Ries Theo Schlossnagle Baron Schwartz Andrew Shafer

"Toyota Kata gets to the essence of how Toyota manages continuous improvement and human ingenuity, through its improvement kata and coaching kata. Mike Rother explains why typical companies fail to understand the core of lean and make limited progress—and what it takes to make it a real part of your culture." —Jeffrey K. Liker, bestselling author of The Toyota Way "[Toyota Kata is] one of the stepping stones that will usher in a new era of management thinking." —The Systems Thinker "How any organization in any industry can progress from old-fashioned management by results to a strikingly different and better way." —James P. Womack, Chairman and Founder, Lean Enterprise Institute "Practicing the improvement kata is perhaps the best way we've found so far for actualizing PDCA in an organization." —John Shook, Chairman and CEO, Lean Enterprise Institute This game-changing book puts you behind the curtain at Toyota, providing new insight into the legendary automaker's management practices and offering practical guidance for leading and developing people in a way that makes the best use of their brainpower. Drawing on six years of research into Toyota's employee-management routines, Toyota Kata examines and elucidates, for the first time, the company's organizational routines--called kata--that power its success with continuous improvement and adaptation. The book also reaches beyond Toyota to explain issues of human behavior in organizations and provide specific answers to questions such as: How can we make improvement and adaptation part of everyday work throughout the organization? How can we develop and utilize the capability of everyone in the organization to repeatedly work toward and achieve new levels of performance? How can we give an organization the power to handle dynamic, unpredictable situations and keep satisfying customers? Mike Rother explains how to improve our prevailing management approach through the use of two kata: Improvement Kata--a repeating routine of establishing challenging target conditions, working step-by-step through obstacles, and always learning from the problems we encounter; and Coaching Kata: a pattern of teaching the improvement kata to employees at every level to ensure it motivates their ways of thinking and acting. With clear detail, an abundance of practical examples, and a cohesive explanation from start to finish, Toyota Kata gives executives and managers at any level actionable routines of thought and behavior that produce superior results and sustained competitive advantage.

Leading the Transformation is executive guide, providing a clear framework for improving development and delivery. Instead of the traditional Agile and DevOps approaches that focus on improving the effectiveness of teams, this book targets the coordination of work across teams in large organizations—an improvement that executives are uniquely positioned to lead.

Can a system be considered truly reliable if it isn't fundamentally secure? Or can it be considered secure if it's unreliable? Security is crucial to the design and operation of scalable systems in production, as it plays an important part in product quality, performance, and availability. In this book, experts from Google share best practices to help your organization design scalable and reliable systems that are fundamentally secure. Two previous O'Reilly books from Google—Site Reliability Engineering and The Site Reliability Workbook—demonstrated how and why a

commitment to the entire service lifecycle enables organizations to successfully build, deploy, monitor, and maintain software systems. In this latest guide, the authors offer insights into system design, implementation, and maintenance from practitioners who specialize in security and reliability. They also discuss how building and adopting their recommended best practices requires a culture that's supportive of such change. You'll learn about secure and reliable systems through: Design strategies Recommendations for coding, testing, and debugging practices Strategies to prepare for, respond to, and recover from incidents Cultural best practices that help teams across your organization collaborate effectively

Winner of the Shingo Publication Award Accelerate your organization to win 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, Jez 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.

Virtualization, cloud, containers, server automation, and software-defined networking are meant to simplify IT operations. But many organizations adopting these technologies have found that it only leads to a faster-growing sprawl of unmanageable systems. This is where infrastructure as code can help. With this practical guide, author Kief Morris of ThoughtWorks shows you how to effectively use principles, practices, and patterns pioneered through the DevOps movement to manage cloud age infrastructure. Ideal for system administrators, infrastructure engineers, team leads, and architects, this book demonstrates various tools, techniques, and patterns you can use to implement infrastructure as code. In three parts, you'll learn about the platforms and tooling involved in creating and configuring infrastructure elements, patterns for using these tools, and practices for making infrastructure as code work in your environment. Examine the pitfalls that organizations fall into when adopting the new generation of infrastructure technologies Understand the capabilities and service models of dynamic infrastructure platforms Learn about tools that provide, provision, and configure core infrastructure resources Explore services and tools for managing a dynamic infrastructure Learn specific patterns and practices for provisioning servers, building server templates, and updating running servers Organizations big and small have started to realize just how crucial system and application reliability is to their business. They've also learned just how difficult it is to maintain that reliability while iterating at the speed demanded by the marketplace. Site Reliability Engineering (SRE) is a proven approach to this challenge. SRE is a large and rich topic to discuss. Google led the way with Site Reliability Engineering, the wildly successful O'Reilly book that described Google's creation of the discipline and the implementation that's allowed them to operate at a planetary scale. Inspired by that earlier work, this book explores a very different part of the SRE space. The more than two dozen chapters in Seeking SRE bring you into some of the important conversations going on in the SRE world right now. Listen as engineers and other leaders in the field discuss: Different ways of implementing SRE and SRE principles in a wide variety of settings How SRE relates to other approaches such as DevOps Specialties on the cutting edge that will soon be commonplace in SRE Best practices and technologies that make practicing SRE easier The important but rarely explored human side of SRE David N. Blank-Edelman is the book's curator and editor.

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DevSecOps provides a clear path to building systems and protocols that promotes taking ownership of software security and supports the DevOps philosophy.

While there is a lot of appreciation for backend and distributed systems challenges, there tends to be less empathy for why mobile development is hard when done at scale. This book collects challenges engineers face when building iOS and Android apps at scale, and common ways to tackle these. By scale, we mean having numbers of users in the millions and being built by large engineering teams. For mobile engineers, this book is a blueprint for modern app engineering approaches. For non-mobile engineers and managers, it is a resource with which to build empathy and appreciation for the complexity of world-class mobile engineering. The book covers iOS and Android mobile app challenges on these dimensions: Challenges due to the unique nature of mobile applications compared to the web, and to the backend. App complexity challenges. How do you deal with increasingly complicated navigation patterns? What about non-deterministic event combinations? How do you localize across several languages, and how do you scale your automated and manual tests? Challenges due to large engineering teams. The larger the mobile team, the more challenging it becomes to ensure a consistent architecture. If your company builds multiple apps, how do you balance not rewriting everything from scratch while moving at a fast pace, over waiting on "centralized" teams? Cross-platform approaches. The tooling to build mobile apps keeps changing. New languages, frameworks, and approaches that all promise to address the pain points of mobile engineering keep appearing. But which approach should you choose? Flutter, React Native, Cordova? Native apps? Reuse business logic written in Kotlin, C#, C++ or other languages? What engineering approaches do "world-class" mobile engineering teams choose in non-functional aspects like code quality, compliance, privacy, compliance, or with experimentation, performance, or app size?

The Phoenix Project wowed over a half-million readers. Now comes the Wall Street Journal Bestselling The Unicorn Project! "The Unicorn Project is amazing, and I loved it 100 times more than The Phoenix Project…"—FERNANDO CORNAGO, Senior Director Platform Engineering, Adidas "Gene Kim does a masterful job of showing how … the efforts of many create lasting business advantages for all."—DR. STEVEN SPEAR, author of The High-Velocity Edge, Sr. Lecturer at MIT, and principal of HVE LLC. "The Unicorn Project is so clever, so good, so crazy enlightening!"—CORNELIA DAVIS, Vice President Of Technology at Pivotal Software, Inc., Author of Cloud Native Patterns This highly anticipated follow-up to the bestselling title The Phoenix Project takes another look at Parts Unlimited, this time from the perspective of software development. In The Unicorn Project, we follow Maxine, a senior lead developer and architect, as she is exiled to the Phoenix Project, to the horror of her friends and colleagues, as

punishment for contributing to a payroll outage. She tries to survive in what feels like a heartless and uncaring bureaucracy and to work within a system where no one can get anything done without endless committees, paperwork, and approvals. One day, she is approached by a ragtag bunch of misfits who say they want to overthrow the existing order, to liberate developers, to bring joy back to technology work, and to enable the business to win in a time of digital disruption. To her surprise, she finds herself drawn ever further into this movement, eventually becoming one of the leaders of the Rebellion, which puts her in the crosshairs of some familiar and very dangerous enemies. The Age of Software is here, and another mass extinction event looms—this is a story about rebel developers and business leaders working together, racing against time to innovate, survive, and thrive in a time of unprecedented uncertainty...and opportunity. "The Unicorn Project provides insanely useful insights on how to improve your technology business."—DOMINICA DEGRANDIS, author of Making Work Visible and Director of Digital Transformation at Tasktop ——— "My goal in writing The Unicorn Project was to explore and reveal the necessary but invisible structures required to make developers (and all engineers) productive, and reveal the devastating effects of technical debt and complexity. I hope this book can create common ground for technology and business leaders to leave the past behind, and co-create a better future together."—Gene Kim, November 2019

Winner of the 2011 Jolt Excellence Award! Getting software released to users is often a painful, risky, and time-consuming process. This groundbreaking new book sets out the principles and technical practices that enable rapid, incremental delivery of high quality, valuable new functionality to users. Through automation of the build, deployment, and testing process, and improved collaboration between developers, testers, and operations, delivery teams can get changes released in a matter of hours— sometimes even minutes–no matter what the size of a project or the complexity of its code base. Jez Humble and David Farley begin by presenting the foundations of a rapid, reliable, low-risk delivery process. Next, they introduce the "deployment pipeline," an automated process for managing all changes, from check-in to release. Finally, they discuss the "ecosystem" needed to support continuous delivery, from infrastructure, data and configuration management to governance. The authors introduce state-of-the-art techniques, including automated infrastructure management and data migration, and the use of virtualization. For each, they review key issues, identify best practices, and demonstrate how to mitigate risks. Coverage includes • Automating all facets of building, integrating, testing, and deploying software • Implementing deployment pipelines at team and organizational levels • Improving collaboration between developers, testers, and operations • Developing features incrementally on large and distributed teams • Implementing an effective configuration management strategy • Automating acceptance testing, from analysis to implementation • Testing capacity and other non-functional requirements • Implementing continuous deployment and zero-downtime releases • Managing infrastructure, data, components and dependencies • Navigating risk management, compliance, and auditing Whether you're a developer, systems administrator, tester, or manager, this book will help your organization move from idea to release faster than ever—so you can deliver value to your business rapidly and reliably.

"There's an incredible amount of depth and thinking in the practices described here, and it's impressive to see it all in one place." —Win Treese, coauthor of Designing Systems for Internet Commerce The Practice of Cloud System Administration, Volume 2, focuses on "distributed" or "cloud" computing and brings a DevOps/SRE sensibility to the practice of system administration. Unsatisfied with books that cover either design or operations in isolation, the authors created this authoritative reference centered on a comprehensive approach. Case studies and examples from Google, Etsy, Twitter, Facebook, Netflix, Amazon, and other industry giants are explained in practical ways that are useful to all enterprises. The new companion to the best-selling first volume, The Practice of System and Network Administration, Second Edition, this guide offers expert coverage of the following and many other crucial topics: Designing and building modern web and distributed systems Fundamentals of large system design Understand the new software engineering implications of cloud administration Make systems that are resilient to failure and grow and scale dynamically Implement DevOps principles and cultural changes IaaS/PaaS/SaaS and virtual platform selection Operating and running systems using the latest DevOps/SRE strategies Upgrade production systems with zero down-time What and how to automate; how to decide what not to automate On-call best practices that improve uptime Why distributed systems require fundamentally different system administration techniques Identify and resolve resiliency problems before they surprise you Assessing and evaluating your team's operational effectiveness Manage the scientific process of continuous improvement A forty-page, pain-free assessment system you can start using today

Success on the web is measured by usage and growth. Web-based companies live or die by the ability to scale their infrastructure to accommodate increasing demand. This book is a hands-on and practical guide to planning for such growth, with many techniques and considerations to help you plan, deploy, and manage web application infrastructure. The Art of Capacity Planning is written by the manager of data operations for the world-famous photo-sharing site Flickr.com, now owned by Yahoo! John Allspaw combines personal anecdotes from many phases of Flickr's growth with insights from his colleagues in many other industries to give you solid guidelines for measuring your growth, predicting trends, and making cost-effective preparations. Topics include: Evaluating tools for measurement and deployment Capacity analysis and prediction for storage, database, and application servers Designing architectures to easily add and measure capacity Handling sudden spikes Predicting exponential and explosive growth How cloud services such as EC2 can fit into a capacity strategy In this book, Allspaw draws on years of valuable experience, starting from the days when Flickr was relatively small and had to deal with the typical growth pains and cost/performance trade-offs of a typical company with a Web presence. The advice he offers in The Art of Capacity Planning will not only help you prepare for explosive growth, it will save you tons of grief.

The overwhelming majority of a software system's lifespan is spent in use, not in design or implementation. So, why does conventional wisdom insist that software engineers focus primarily on the design and development of large-scale computing systems? In this collection of essays and articles, key members of Google's Site Reliability Team explain how and why their commitment to the entire lifecycle has enabled the company to successfully build, deploy, monitor, and maintain some of the largest software systems in the world. You'll learn the principles and practices that enable Google engineers to make systems more scalable, reliable, and efficient—lessons directly applicable to your organization. This book is divided into four sections: Introduction—Learn what site reliability engineering is and why it differs from conventional IT industry practices Principles—Examine the patterns, behaviors, and areas of concern that influence the work of a site reliability engineer (SRE) Practices—Understand the theory and practice of an SRE's day-to-day work: building and operating large distributed computing systems Management—Explore Google's best practices for training, communication, and meetings that your organization can use

Develop faster with DevOps DevOps embraces a culture of unifying the creation and distribution of technology in a way that allows for faster release cycles and more resource-efficient product updating. DevOps For Dummies provides a guidebook for those on the development or operations side in need of a primer on this way of working. Inside, DevOps evangelist Emily Freeman provides a roadmap for adopting the management and technology tools, as well as the culture changes, needed to dive head-first into DevOps. Identify your organization's needs Create a DevOps framework Change your organizational structure Manage projects in the DevOps world DevOps For Dummies is essential reading for developers and operations professionals in the

early stages of DevOps adoption.

Some companies think that adopting devops means bringing in specialists or a host of new tools. With this practical guide, you'll learn why devops is a professional and cultural movement that calls for change from inside your organization. Authors Ryn Daniels and Jennifer Davis provide several approaches for improving collaboration within teams, creating affinity among teams, promoting efficient tool usage in your company, and scaling up what works throughout your organization's inflection points. Devops stresses iterative efforts to break down information silos, monitor relationships, and repair misunderstandings that arise between and within teams in your organization. By applying the actionable strategies in this book, you can make sustainable changes in your environment regardless of your level within your organization. Explore the foundations of devops and learn the four pillars of effective devops Encourage collaboration to help individuals work together and build durable and long-lasting relationships Create affinity among teams while balancing differing goals or metrics Accelerate cultural direction by selecting tools and workflows that complement your organization Troubleshoot common problems and misunderstandings that can arise throughout the organizational lifecycle Learn from case studies from organizations and individuals to help inform your own devops journey

Summary Securing DevOps explores how the techniques of DevOps and security should be applied together to make cloud services safer. This introductory book reviews the latest practices used in securing web applications and their infrastructure and teaches you techniques to integrate security directly into your product. You'll also learn the core concepts of DevOps, such as continuous integration, continuous delivery, and infrastructure as a service. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An application running in the cloud can benefit from incredible efficiencies, but they come with unique security threats too. A DevOps team's highest priority is understanding those risks and hardening the system against them. About the Book Securing DevOps teaches you the essential techniques to secure your cloud services. Using compelling case studies, it shows you how to build security into automated testing, continuous delivery, and other core DevOps processes. This experience-rich book is filled with mission-critical strategies to protect web applications against attacks, deter fraud attempts, and make your services safer when operating at scale. You'll also learn to identify, assess, and secure the unique vulnerabilities posed by cloud deployments and automation tools commonly used in modern infrastructures. What's inside An approach to continuous security Implementing test-driven security in DevOps Security techniques for cloud services Watching for fraud and responding to incidents Security testing and risk assessment About the Reader Readers should be comfortable with Linux and standard DevOps practices like CI, CD, and unit testing. About the Author Julien Vehent is a security architect and DevOps advocate. He leads the Firefox Operations Security team at Mozilla, and is responsible for the security of Firefox's high-traffic cloud services and public websites. Table of Contents Securing DevOps PART 1 - Case study: applying layers of security to a simple DevOps pipeline Building a barebones DevOps pipeline Security layer 1: protecting web applications Security layer 2: protecting cloud infrastructures Security layer 3: securing communications Security layer 4: securing the delivery pipeline PART 2 - Watching for anomalies and protecting services against attacks Collecting and storing logs Analyzing logs for fraud and attacks Detecting intrusions The Caribbean breach: a case study in incident response PART 3 - Maturing DevOps security Assessing risks Testing security Continuous security

Many organizations are facing the uphill battle of modernizing their legacy IT infrastructure. Most have evolved over the years by taking lessons from traditional or legacy manufacturing: creating a production process that puts the emphasis on the process instead of the people performing the tasks, allowing the organization to treat people like resources to try to achieve high-quality outcomes. But those practices and ideas are failing modern IT, where collaboration and creativeness are required to achieve high-performing, high-quality success. Mirco Hering, a thought leader in managing IT within legacy organizations, lays out a roadmap to success for IT managers, showing them how to create the right ecosystem, how to empower people to bring their best to work every day, and how to put the right technology in the driver's seat to propel their organization to success. But just having the right methods and tools will not magically transform an organization; the cultural change that is the hardest is also the most impactful. Using principles from Agile, Lean, and DevOps as well as first-hand examples from the enterprise world, Hering addresses the different challenges that legacy organizations face as they transform into modern IT departments.

In 2016, Google's Site Reliability Engineering book ignited an industry discussion on what it means to run production services today—and why reliability considerations are fundamental to service design. Now, Google engineers who worked on that bestseller introduce The Site Reliability Workbook, a hands-on companion that uses concrete examples to show you how to put SRE principles and practices to work in your environment. This new workbook not only combines practical examples from Google's experiences, but also provides case studies from Google's Cloud Platform customers who underwent this journey. Evernote, The Home Depot, The New York Times, and other companies outline hard-won experiences of what worked for them and what didn't. Dive into this workbook and learn how to flesh out your own SRE practice, no matter what size your company is. You'll learn: How to run reliable services in environments you don't completely control—like cloud Practical applications of how to create, monitor, and run your services via Service Level Objectives How to convert existing ops teams to SRE—including how to dig out of operational overload Methods for starting SRE from either greenfield or brownfield

Kubernetes is the operating system of the cloud native world, providing a reliable and scalable platform for running containerized workloads. In this friendly, pragmatic book, cloud experts John Arundel and Justin Domingus show you what Kubernetes can do—and what you can do with it. You'll learn all about the Kubernetes ecosystem, and use battle-tested solutions to everyday problems. You'll build, step by step, an example cloud native application and its supporting infrastructure, along with a development environment and continuous deployment pipeline that you can use for your own applications. Understand containers and Kubernetes from first principles; no experience necessary Run your own clusters or choose a managed Kubernetes service from Amazon, Google, and others Use Kubernetes to manage resource usage and the container lifecycle Optimize clusters for cost, performance, resilience, capacity, and scalability Learn the best tools for developing, testing, and deploying your applications Apply the latest industry practices for security, observability, and monitoring Adopt DevOps principles to help make your development teams lean, fast, and effective