

Devops For Beginners Devops Software Development Method Guide For Software Developers And It Professionals

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.

DevOps for Developers delivers a practical, thorough introduction to approaches, processes and tools to foster collaboration between software development and operations. Efforts of Agile software development often end at the transition phase from development to operations. This book covers the delivery of software, this means “the last mile”, with lean practices for shipping the software to production and making it available to the end users, together with the integration of operations with earlier project phases (elaboration, construction, transition). DevOps for Developers describes how to streamline the software delivery process and improve the cycle time (that is the time from inception to delivery). It will enable you to deliver software faster, in better quality and more aligned with individual requirements and basic conditions. And above all, work that is aligned with the “DevOps” approach makes even more fun! Provides patterns and toolchains to integrate software development and operations Delivers an one-stop shop for kick-starting with DevOps Provides guidance how to streamline the software delivery process

Harness the power of DevOps to boost your skill set and make your IT organization perform better About This Book Get to know the background of DevOps so you understand the collaboration between different aspects of an IT organization and a software developer Improve your organization's performance to ensure smooth production of software and services Deploy top-quality software and ensure software maintenance and release management with this practical guide Who This Book Is For This book is aimed at developers and system administrators who wish to take on larger responsibilities and understand how the infrastructure that builds today's enterprises works. This book is also great for operations personnel who would like to better support developers. You do not need to have any previous knowledge of DevOps. What You Will Learn Appreciate the merits of DevOps and continuous delivery and see how DevOps supports the agile process Understand how all the systems fit together to form a larger whole Set up and familiarize yourself with all the tools you need to be efficient with DevOps Design an application that is suitable for continuous deployment systems with Devops in mind Store and manage your code effectively using different options such as Git, Gerrit, and Gitlab Configure a job to build a sample CRUD application Test the code using automated regression testing with Jenkins Selenium Deploy your code using tools such as Puppet, Ansible, Palletops, Chef, and Vagrant Monitor the health of your code with Nagios, Munin, and Graphite Explore the workings of Trac—a tool used for issue tracking In Detail DevOps is a practical field that focuses on delivering business value as efficiently as possible. DevOps encompasses all the flows from code through testing environments to production environments. It stresses the cooperation between different roles, and how they can work together more closely, as the roots of the word imply—Development and Operations. After a quick refresher to DevOps and continuous delivery, we quickly move on to looking at how DevOps affects architecture. You'll create a sample enterprise Java application that you'll continue to work with through the remaining chapters. Following this, we explore various code storage and build server options. You will then learn how to perform code testing with a few tools and deploy your test successfully. Next, you will learn how to monitor code for any anomalies and make sure it's running properly. Finally, you will discover how to handle logs and keep track of the issues that affect processes Style and approach This book is primarily a technical guide to DevOps with practical examples suitable for people who like to learn by implementing concrete working code. It starts out with background information and gradually delves deeper into technical subjects.

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 book "Accelerating Software Quality: Machine Learning and Artificial Intelligence in the Age of DevOps" is a complete asset for software developers, testers, and managers that are on their journey to a more mature DevOps workflow, and struggle with better automation and data-driven decision making. DevOps is a mature process across the entire market, however, with existing Non-AI/ML technologies and models, it comes short in expediting release cycle, identifying productivity gaps and addressing them. This book, that was implemented by myself with the help of leaders from the DevOps and test automation space, is covering topics from basic introduction to AI and ML in software development and testing, implications of AI and ML on existing apps, processes, and tools, practical tips in applying commercial and open-source AI/ML tools within existing tool chain, chat-bots testing, visual based testing using AI, automated security scanning for vulnerabilities, automated code reviews, API testing and management using AI/ML, reducing effort and time through test impact analysis (TIA), robotic process automation (RPA), AIOps for smarter code deployments and production defects prevention, and many

more. When properly leveraging such tools, DevOps teams can benefit from greater code quality and functional and non-functional test automation coverage. This increases their release cycle velocity, reduces noise and software waste, and enhances their app quality. The book is divided into 3 main sections: *Section 1 covers the fundamentals of AI and ML in software development and testing. It includes introductions, definitions, 101 for testing AI-Based applications, classifications of AI/ML and defects that are tied to AI/ML, and more.*Section 2 focuses on practical advises and recommendations for using AI/ML based solutions within software development activities. This section includes topics like visual AI test automation, AI in test management, testing conversational AI applications, RPA benefits, API testing and much more.*Section 3 covers the more advanced and future-looking angles of AI and ML with projections and unique use cases. Among the topics in this section are AI and ML in logs observability, AIOps benefits to an entire DevOps teams, how to maintain AI/ML test automation, Test impact analysis with AI, and more. The book is packed with many proven best practices, real life examples, and many other open source and commercial solution recommendations that are set to shape the future of DevOps together with ML/AI

Help your organization join the DevOps revolution About This Book Helps you skill up your DevOps knowledge without a strong set of prerequisites Deliver continuously improved software by showcasing the most advanced tools and techniques Acquire a deeper insight into implementing DevOps in your organization and deliver results from day 1 Who This Book Is For This book is written for engineers and companies that want to learn the minimum set of required technologies and processes to be successful in the DevOps world. This book also targets system administrators, developers, and IT professionals who would like to employ DevOps techniques and best practices to manage IT infrastructures or would like to acquire the necessary skills needed to work in DevOps teams. What You Will Learn Master development best practices. Understand how the Agile Delivery Methodology helps you ensure accuracy and quality. Analyze branching strategies such as branch creation, merging, and synchronization. Learn to automate builds to deploy and deliver code faster and more often Explore testing frameworks and how to automate testing Learn to put specific metrics in place to measure ROI of DevOps and monitor logs and events in a system In Detail This book follows a unique approach to modern DevOps using cutting-edge tools and technologies such as Ansible, Kubernetes, and Google Cloud Platform. This book starts by explaining the organizational alignment that has to happen in every company that wants to implement DevOps in order to be effective, and the use of cloud datacenters in combination with the most advanced DevOps tools to get the best out of a small team of skilled engineers. It also delves into how to use Kubernetes to run your applications in Google Cloud Platform, minimizing the friction and hassle of maintaining a cluster but ensuring its high availability. By the end of this book, you will be able to realign teams in your company and create a Continuous Delivery pipeline with Kubernetes and Docker. With strong monitoring in place, you will also be able to react to adverse events in your system, minimizing downtime and improving the overall up-time and stability of your system. Style and approach This book takes a step-by-step practical approach to the implementation of DevOps. This book will teach you how to enable IT organizations to deliver faster and smarter through a unique approach using Code-Build-Test-Release-Configure-Monitor (CBTRCM).

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.

With the rise of DevOps, low-cost cloud computing, and container technologies, the way Java developers approach development today has changed dramatically. This practical guide helps you take advantage of microservices, serverless, and cloud native technologies using the latest DevOps techniques to simplify your build process and create hyperproductive teams. Stephen Chin, Baruch Sadogursky, Ixchel Ruiz, and Melissa McKay help you evaluate an array of options. The list includes source control with Git, build declaration with Maven and Gradle, CI/CD with CircleCI, package management with Artifactory, containerization with Docker and Kubernetes, and much more. Whether you're building applications with Jakarta EE, Spring Boot, Dropwizard, MicroProfile, Micronaut, or Quarkus, this comprehensive guide has you covered. Explore software lifecycle best practices Use DevSecOps methodologies to facilitate software development and delivery Understand the business value of DevSecOps Manage and secure software dependencies Develop and deploy applications using containers and cloud native technologies Manage and administrate source control repositories and development processes Use automation to set up and administer build pipelines Identify common deployment patterns and antipatterns Maintain and monitor software after deployment

Implement real-world DevOps and cloud deployment scenarios using Azure Repos, Azure Pipelines, and other Azure DevOps tools Key Features Improve your application development life cycle with Azure DevOps in a step-by-step manner Apply continuous integration and continuous deployment to reduce application downtime Work with real-world CI/CD scenarios curated by a team of renowned Microsoft MVPs and MCTs Book Description

Developing applications for the cloud involves changing development methodologies and procedures. Continuous integration and continuous deployment (CI/CD) processes are a must today, but are often difficult to implement and adopt. Azure DevOps is a Microsoft Azure cloud service that enhances your application development life cycle and enables DevOps capabilities. Starting with a comprehensive product overview, this book helps you to understand Azure DevOps and apply DevOps techniques to your development projects. You'll find out how to adopt DevOps techniques for your development processes by using built-in Azure DevOps tools. Throughout the course of this book, you'll also discover how to manage a project with the help of project management techniques such as Agile and Scrum, and then progress toward development aspects such as source code management, build pipelines, code testing and artifacts, release pipelines, and GitHub integration. As you learn how to implement DevOps practices, this book will also provide you with real-world examples and scenarios of DevOps adoption. By the end of this DevOps book, you will have learned how to adopt and implement Azure DevOps features in your real-world development processes. What you will learn Get to grips with Azure DevOps Find out about project management with Azure Boards Understand source code management with Azure Repos Build and release pipelines Run quality tests in build pipelines Use artifacts and integrate Azure DevOps in the GitHub flow Discover real-world CI/CD scenarios with Azure DevOps Who this book is for This book is for developers, solutions architects, and DevOps engineers interested in getting started with cloud DevOps practices on Azure. Prior understanding of Azure architecture and services is necessary. Some knowledge of DevOps principles and techniques will be useful.

Learn to implement DevOps using Docker & Kubernetes. About This Book Learning DevOps, container, and Kubernetes within one book. Leverage Kubernetes as a platform to deploy, scale, and run containers efficiently. A practical guide towards container management and orchestration Who This Book Is For This book is targeted for anyone, who wants to learn containerization and clustering in a practical way using Kubernetes. No prerequisite skills required, however, essential DevOps skill and public/private Cloud knowledge will accelerate the reading speed. If you're advanced readers, you can also get a deeper understanding of all the tools and technique described in the book. What You Will Learn Learn fundamental and advanced DevOps skills

and tools Get a comprehensive understanding for container Learn how to move your application to container world Learn how to manipulate your application by Kubernetes Learn how to work with Kubernetes in popular public cloud Improve time to market with Kubernetes and Continuous Delivery Learn how to monitor, log, and troubleshoot your application with Kubernetes In Detail Containerization is said to be the best way to implement DevOps. Google developed Kubernetes, which orchestrates containers efficiently and is considered the frontrunner in container orchestration. Kubernetes is an orchestrator that creates and manages your containers on clusters of servers. This book will guide you from simply deploying a container to administrate a Kubernetes cluster, and then you will learn how to do monitoring, logging, and continuous deployment in DevOps. The initial stages of the book will introduce the fundamental DevOps and the concept of containers. It will move on to how to containerize applications and deploy them into. The book will then introduce networks in Kubernetes. We then move on to advanced DevOps skills such as monitoring, logging, and continuous deployment in Kubernetes. It will proceed to introduce permission control for Kubernetes resources via attribute-based access control and role-based access control. The final stage of the book will cover deploying and managing your container clusters on the popular public cloud Amazon Web Services and Google Cloud Platform. At the end of the book, other orchestration frameworks, such as Docker Swarm mode, Amazon ECS, and Apache Mesos will be discussed. Style and approach Readers will be taken through fundamental DevOps skills and Kubernetes concept and administration with detailed examples. It introduces comprehensive DevOps topics, including microservices, automation tools, containers, monitoring, logging, continuous delivery, and popular public cloud environments. At each step readers will learn how to leverage Kubernetes in their everyday lives and transform their original delivery pipeline for fast and efficient delivery.

For many organizations, a big part of DevOps' appeal is software automation using infrastructure-as-code techniques. This book presents developers, architects, and infra-ops engineers with a more practical option. You'll learn how a container-centric approach from OpenShift, Red Hat's cloud-based PaaS, can help your team deliver quality software through a self-service view of IT infrastructure. Three OpenShift experts at Red Hat explain how to configure Docker application containers and the Kubernetes cluster manager with OpenShift's developer- and operational-centric tools. Discover how this infrastructure-agnostic container management platform can help companies navigate the murky area where infrastructure-as-code ends and application automation begins. Get an application-centric view of automation—and understand why it's important Learn patterns and practical examples for managing continuous deployments such as rolling, A/B, blue-green, and canary Implement continuous integration pipelines with OpenShift's Jenkins capability Explore mechanisms for separating and managing configuration from static runtime software Learn how to use and customize OpenShift's source-to-image capability Delve into management and operational considerations when working with OpenShift-based application workloads Install a self-contained local version of the OpenShift environment on your computer

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.

Do you want to improve your operational support and get faster fixes? Do you want your team to be more agile and flexible? DevOps could be the answer you've been searching for! We all want to be better at what we do. Leaner, faster, more productive and able to adapt to changing demands all help us towards the path to success. DevOps is a relatively new concept and set of practices that aims to reduce the time between committing a change to a system and that change being implemented. Now, with DEVOPS, you can discover why so many people are enthusing about this idea, with chapters covering: - What DevOps really means- How the lifecycle and workflow could benefit you- The exciting tools that will be at your disposal- How to adopt DevOps into your current practices- The future that DevOps is looking towards and how it will affect you- And more... That DevOps can achieve its aims without suffering any loss of quality in the end product, is just one of the main reasons why so many people are turning to it to help their business change to a more streamlined and efficient model. If you want a happier team, more improvement and a new-found respect from senior management, DevOps could be the book that will get that for you! Get a copy and see what difference it could make to you!

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

DevOps For Dummies John Wiley & Sons

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

Discover DevOps secrets from leading experts. Viktor Farcic interviews DevOps industries voices including Mike Kail, Greg Bledsoe, Jeff Sussna, James Turnbull, Kohsuke Kawaguchi, Liz Keogh, and more. Key Features Leading DevOps experts share their insights into modern DevOps practice Engage with the real-world challenges of putting DevOps to work Strengthen your DevOps practices now and prepare for future DevOps trends Book Description DevOps promises to break down silos, uniting organizations to deliver high quality output in a cross-functional way. In reality it often results in confusion and new silos: pockets of DevOps practitioners fight the status quo, senior decision-makers demand DevOps paint jobs without committing to true change. Even a clear definition of what DevOps is remains elusive. In DevOps Paradox, top DevOps consultants, industry leaders, and founders reveal their own approaches to all aspects of DevOps implementation and operation. Surround yourself with expert DevOps advisors. Viktor Farcic draws on experts from across the industry to discuss how to introduce DevOps to chaotic organizations, align incentives between teams, and make use of the latest tools and techniques. With each expert offering their own opinions on what DevOps is and how to make it work, you will be able to form your own informed view of the importance and value of DevOps as we enter a new decade. If you want to see how real DevOps experts address the challenges and resolve the paradoxes, this book is for you. What you will learn Expert opinions on: Introducing DevOps into real-world, chaotic business environments Deciding between adopting cutting edge tools or sticking with tried-and-tested methods Initiating necessary business change without positional power Managing and overcoming fear of change in DevOps implementations Anticipating future trends in DevOps and how to prepare for them Getting the most from Kubernetes, Docker, Puppet, Chef, and Ansible Creating the right incentives for DevOps success across an organization The impact of new techniques, such as Lambda, serverless, and schedulers, on DevOps practice Who this book is for Anybody interested in DevOps will gain a lot from this book. If you want to get beyond the simplistic ideals and engage with the deep challenges of putting DevOps to work in the real world, this book is for you.

Software affects everything in our lives. Imagine that software could be constantly updated without our involvement! No need to figure out hardware specifications. Nothing to interrupt our digital activities. No waiting for lengthy downloads and reboots. What if it all just happened in the background, and we could simply enjoy the benefits? Liquid Software explores a future in which developers code high-quality applications that securely flow to end-users with zero downtime. The authors bring insights from their more than 50 years of collective experience in building software in modern development environments. They explain that what sounds like Software Utopia is possible and practical! We're at the dawn of the next great leap forward in computing - the achievement of continuous software updates. The Liquid Software revolution has begun!

Gain in-depth insight into DevOps relative to your field of expertise and implement effective DevOps culture and processes within your organization Key Features Packed with step-by-step explanations and practical examples to help you get started with DevOps Develop the skills and knowledge you need to tackle the deployment of DevOps tools Discover technology trends such as FinOps and DevSecOps to get more value from DevOps Book Description DevOps is a set of best practices enabling operations and development teams to work together to produce higher-quality work and, among other things, quicker releases. This book helps you to understand the fundamentals needed to get started with DevOps, and prepares you to start deploying technical tools confidently. You will start by learning the key steps for implementing successful DevOps transformations. The book will help you to understand how aspects of culture, people, and process are all connected, and that without any one of these elements DevOps is unlikely to be successful. As you make progress, you will discover how to measure and quantify the success of DevOps in your organization, along with exploring the pros and cons of the main tooling involved in DevOps. In the concluding chapters, you will learn about the latest trends in DevOps and find out how the tooling changes when you work with these specialties. By the end of this DevOps book, you will have gained a clear understanding of the connection between culture, people, and processes within DevOps, and learned why all three are critically important. What you will learn Understand the importance of culture in DevOps Build, foster, and develop a successful DevOps culture Discover how to implement a successful DevOps framework Measure and define the success of DevOps transformation Get to grips with techniques for continuous feedback and iterate process changes Discover the tooling used in different stages of the DevOps life cycle Who this book is for This book is for IT professionals such as support engineers and systems engineers and developers looking to learn DevOps and for those going through DevOps transformation. General knowledge of IT and business processes will be helpful. You'll also find this book useful if you are in a business or service role within technology such as service delivery management. Basic familiarity with DevOps and transformational methods such as value streams and process are needed to get the most out of this book.

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

Isn't it surprising to see the application development team and the operations team working together? It is definitely is, as they are always in seclusion for a very long time. But now when they have started working together, the results are even more stunning. This concept of making the development team and operations team work together was introduced by DevOps process.

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.

Learn to design, implement, measure, and improve DevOps programs that are tailored to your organization. This concise guide assists leaders who are accountable for the rapid development of high-quality software applications. In *DevOps for Digital Leaders*, deep collective experience on both sides of the dev–ops divide informs the global thought leadership and penetrating insights of the authors, all three of whom are cross-portfolio DevOps leaders at CA Technologies. Aruna Ravichandran, Kieran Taylor, and Peter Waterhouse analyze the organizational benefits, costs, freedoms, and constraints of DevOps. They chart the coordinated strategy of organizational change, metrics, lean thinking, and investment that an enterprise must undertake to realize the full potential of DevOps and reach the sweet spot where accelerating code deployments drive increasing customer satisfaction, revenue, and profitability. Digital leaders are charged to bridge the dev–ops disconnect if their organizations are to survive and flourish in a business world increasingly differentiated by the degree to which dynamic application software development harmonizes with operational resilience and reliability. This short book applies the DevOps perspective to the competitive challenge, faced by every high-performance IT organization today, of integrating and automating open source, cloud, and enterprise tools, processes, and techniques across the software development life cycle from requirements to release. **What You Will Learn:** Remove dependencies and constraints so that parallel practices can accelerate the development of defect-free software Automate continuous delivery across the software life cycle to eliminate release bottlenecks, manual labor waste, and technical debt accumulation Generate virtualized production-style testing of applications through real-time behavioral analytics Adopt agile practices so operations teams can support developer productivity with automated feedback, streamline infrastructure monitoring, spot and resolve operations issues before they impact production, and improve customer experience Identify the DevOps metrics appropriate to your organization and integrate DevOps with your existing best practices and investment **Who This Book Is For:** IT leaders in large companies and government agencies who have any level of responsibility for the rapid development of high-quality software applications. The secondary readership is members of development and operations teams, security professionals, and service managers.

Have you been looking for a way to boost your skills and become a master in DevOps for your business or career in software development but lack an excellent, high-quality guide to assist you get there? And are you looking for a guide that is simple, assuring and easy to follow? If you've answered YES, keep reading... You Are About To Discover The Ins And Outs Of Dev-Ops, Including How To Leverage Its Power To Your Advantage In Your Business Or Career! It goes without saying that DevOps is one of the greatest inventions in software development. It came to satisfy a need to get away from the traditional software design for efficiency, collaboration and productivity in development processes, and by extension to boost business growth. Did you know that businesses that adopt DevOps enjoy up to 60% more revenue rates and profit than their reticent counterparts? Unfortunately, great as it is, DevOps remains one of the most misunderstood concepts- even by tutors across the world! Similarly, for someone who's just getting into the software development scene or someone who has drowned in the "Waterfall" methodology a couple of times before, it may seem like something a little complex or one that requires some skill, or lots of effort and time to master. If you can relate, you must have wondered: What's DevOps all about, and is there a way to learn it quickly? What does DevOps entail? How exactly would I benefit from learning DevOps? How and where do I get started? Is DevOps agile? How does it work? So if such questions have been keeping you from making the next important step in your career or business with DevOps, then this simple, clear and straightforward guide is here for you. With it, you'll learn: What DevOps is and why you need it The features of DevOps architecture The potential benefits and risks of using DevOps What you need to know about the DevOps lifecycle The ins and outs of the DevOps architecture The workflow and principles of DevOps The DevOps tools you need to know and use How DevOps automation works Who DevOps engineers are, and the roles they play The methodologies and pipelines of DevOps you need to familiarize yourself with The DevOps Amazon Web Services The tools and tutorials for DevOps, including their features and benefits How to install GIT on Mac, Linux and Windows ...And much more! Do you prefer practical guides that you can implement as you go (not ones that are heavy on theory- that require taking loads of caffeine to complete)? Do you want a beginners' book that is exciting to follow and well-structured for quick comprehension? Then don't let this one slip away. Even if this is your first time actually wanting to learn DevOps, this book will hold you by the hand until you feel confident about it! Don't wait... Scroll up and click Buy Now With 1-Click or Buy Now to get started!

It can be tough to roll out a pre-configured environment if you don't know what you're doing. We'll show you how to streamline your service options with Docker, so that you can scale in an agile, responsive manner. **Key Features** Learn how to structure your own Docker containers Create and manage multiple configuration images Understand how to scale and deploy bespoke environments **Book Description** Making sure that your application runs across different systems as intended is quickly becoming a standard development requirement. With Docker, you can ensure that what you build will behave the way you expect it to, regardless of where it's deployed. By guiding you through Docker from start to finish (from installation, to the Docker Registry, all the way through to working with Docker Swarms), we'll equip you with the skills you need to migrate your workflow to Docker with complete confidence. **What you will learn** Learn to design and build containers for different kinds of applications Create a testing environment to identify issues that may cause production deployments to fail Discover how you can correctly structure and manage a multi-tier environment Run, debug, and experiment with example applications in Docker containers **Who this book is for** This book is ideal for developers, system architects and site reliability engineers (SREs) who wish to adopt a Docker-based workflow for consistency, speed and isolation of system resources within their applications. You'll need to be comfortable working with the command line.

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 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.

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 its 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

DevOps is a cultural and professional movement that's trying to break these walls. Focused on automation, collaboration, tool sharing and knowledge sharing, DevOps has been revealing that developers and system engineers have a lot to learn from one another. In this book, Danilo Sato will show you how to implement DevOps and Continuous Delivery practices so as to raise your system's deployment frequency at the same time as increasing the production application's stability and robustness. You will learn how to automate a web application's build and deploy phases and the infrastructure management, how to monitor the system deployed to production, how to evolve and migrate an architecture to the cloud and still get to know several other tools that you can use on your company

Hello! How are you and how is your Continuous Improvement journey going on? Are there any new skills that you want to acquire this year? My earlier books were on the following topics: DevOps, Microservices, and Kubernetes & Site Reliability Engineering. In the last four months, I have been heavily involved in the recruitment process of various DevOps related jobs in my current project. I have come across multiple Entry Level and Mid-Level career professionals inquisitive about expectations of the role and how their earlier experience would contribute to the DevOps role. Also, I have received several emails from readers asking how to switch from their existing roles (development, sys admin, etc.). Based on the interactions, I have included "DevOps Engineer" related queries in the below categories and in this book, I will give you complete information about the position, career path and skill set required. The main queries were the following: Why DevOps? What are the job duties and day-to-day activities of a DevOps Engineer? What did DevOps engineers do before DevOps? What technical and soft skills are required to be an expert-level DevOps Engineer? What are some standard tools a DevOps engineer uses? What are other similar roles from where one can make the transition to the DevOps world? What are the Certifications/Courses one can do to become a DevOps Engineer? How can I get DevOps interviews with top companies? What are the average Salary, companies to work for, and designations/roles? How is the career path of a "DevOps Engineer"? How is the career advancement of a DevOps engineer? The book covers most of this information. Over the course of the book, you will gather information on what DevOps is, and how you can use it to improve your processes. You will also identify the different roles that are linked to DevOps. If you are keen on becoming a DevOps engineer, the last few chapters include information on what skills you need to develop and what path you need to choose. Also, the last chapter contains sample interview questions, which are the most common ones asked during a DevOps interview. Overall, this book is aimed at professionals looking for DevOps role overview in limited timeframe. If you have to connect the dots regarding your existing experience, credentials and its fitment/relationship with the DevOps role, it would provide you much needed clarity. It also talks about other similar and related roles and its relationship with DevOps role. Also, if you are part of Project Management Team or Business Development Team or recruitment team (HR) this book will provide you required information about the DevOps role. The Continuous Delivery is here to stay and evolve. The nomenclature would change; new buzzwords would come and go. So, if you are into this space, adapt to it and make it your growth engine. Cheers!

Explore site reliability engineering practices and learn key Google Cloud Platform (GCP) services such as Cloud Build, Container Registry, GKE, and Cloud Operations to implement DevOps Key Features Learn GCP services for version control, building code, creating artifacts, and deploying secured containerized applications Explore Cloud Operations features such as Metrics Explorer, Logs Explorer, and debug logpoints Prepare for the certification exam using practice questions and mock tests Book Description DevOps is a set of practices that help remove barriers between developers and system administrators, and is implemented by Google through site reliability engineering (SRE). With the help of this book, you'll explore the evolution of DevOps and SRE, before delving into SRE technical practices such as SLA, SLO, SLI, and error budgets that are critical to building reliable software faster and balance new feature deployment with system reliability. You'll then explore SRE cultural practices such as incident management and being on-call, and learn the building blocks to form SRE teams. The second part of the book focuses on Google Cloud services to implement DevOps via continuous integration and continuous delivery (CI/CD). You'll learn how to add source code via Cloud Source Repositories, build code to create deployment artifacts via Cloud Build, and push it to Container Registry. Moving on, you'll understand the need for container orchestration via Kubernetes, comprehend Kubernetes essentials, apply via Google Kubernetes Engine (GKE), and secure the GKE cluster. Finally, you'll explore Cloud Operations to monitor, alert, debug, trace, and profile deployed applications. By the end of this SRE book, you'll be well-versed with the key concepts necessary for gaining Professional Cloud

DevOps Engineer certification with the help of mock tests. What you will learn Categorize user journeys and explore different ways to measure SLIs Explore the four golden signals for monitoring a user-facing system Understand psychological safety along with other SRE cultural practices Create containers with build triggers and manual invocations Delve into Kubernetes workloads and potential deployment strategies Secure GKE clusters via private clusters, Binary Authorization, and shielded GKE nodes Get to grips with monitoring, Metrics Explorer, uptime checks, and alerting Discover how logs are ingested via the Cloud Logging API Who this book is for This book is for cloud system administrators and network engineers interested in resolving cloud-based operational issues. IT professionals looking to enhance their careers in administering Google Cloud services and users who want to learn about applying SRE principles and implementing DevOps in GCP will also benefit from this book. Basic knowledge of cloud computing, GCP services, and CI/CD and hands-on experience with Unix/Linux infrastructure is recommended. You'll also find this book useful if you're interested in achieving Professional Cloud DevOps Engineer certification.

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.

Scale and maintain outstanding performance in your AWS-based infrastructure using DevOps principles Key Features Implement continuous integration and continuous deployment pipelines on AWS Gain insight from an expert who has worked with Silicon Valley's most high-profile companies Implement DevOps principles to take full advantage of the AWS stack and services Book Description The DevOps movement has transformed the way modern tech companies work. Amazon Web Services (AWS), which has been at the forefront of the cloud computing revolution, has also been a key contributor to the DevOps movement, creating a huge range of managed services that help you implement DevOps principles. Effective DevOps with AWS, Second Edition will help you to understand how the most successful tech start-ups launch and scale their services on AWS, and will teach you how you can do the same. This book explains how to treat infrastructure as code, meaning you can bring resources online and offline as easily as you control your software. You will also build a continuous integration and continuous deployment pipeline to keep your app up to date. Once you have gotten to grips with all this, we'll move on to how to scale your applications to offer maximum performance to users even when traffic spikes, by using the latest technologies, such as containers. In addition to this, you'll get insights into monitoring and alerting, so you can make sure your users have the best experience when using your service. In the concluding chapters, we'll cover inbuilt AWS tools such as CodeDeploy and CloudFormation, which are used by many AWS administrators to perform DevOps. By the end of this book, you'll have learned how to ensure the security of your platform and data, using the latest and most prominent AWS tools. What you will learn Implement automatic AWS instance provisioning using CloudFormation Deploy your application on a provisioned infrastructure with Ansible Manage infrastructure using Terraform Build and deploy a CI/CD pipeline with Automated Testing on AWS Understand the container journey for a CI/CD pipeline using AWS ECS Monitor and secure your AWS environment Who this book is for Effective DevOps with AWS is for you if you are a developer, DevOps engineer, or you work in a team which wants to build and use AWS for software infrastructure. Basic computer science knowledge is required to get the most out of this book.

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.

Much has changed in technology over the past decade. Data is hot, the cloud is ubiquitous, and many organizations need some form of automation. Throughout these transformations, Python has become one of the most popular languages in the world. This practical resource shows you how to use Python for everyday Linux systems administration tasks with today's most useful DevOps tools, including Docker, Kubernetes, and Terraform. Learning how to interact and automate with Linux is essential for millions of professionals. Python makes it much easier. With this book, you'll learn how to develop software and solve problems using containers, as well as how to monitor, instrument, load-test, and operationalize your software. Looking for effective ways to "get stuff done" in Python? This is your guide. Python foundations, including a brief introduction to the language How to automate text, write command-line tools, and automate the filesystem Linux utilities, package management, build systems, monitoring and instrumentation, and automated testing Cloud computing, infrastructure as code, Kubernetes, and serverless Machine learning operations and data engineering from a DevOps perspective Building, deploying, and operationalizing a machine learning project

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.

Learn, understand, and apply people-, process-, and technology-related practices to make OpenShift and DevOps adoption a success within your organization.

This book is an exploration of DevOps (Developer Operations). It begins by explaining to the user what DevOps is. As a reader, you will come to understand the importance of DevOps in software development processes. The process of setting up a Linux web server to run on an android platform has been explored in detail so that you will understand how to do it. The process of apps made in Ruby has been complex for a long time. However, a tool named Ansible can help you do this much more easily. This book explores this by guiding you in how to install your Ruby app with Ansible. Software apps are usually released in versions. Once a particular update has been made to the software, the version is changed to a higher one. In this book, you will be guided on how to control these versions and you will be shown how to change from one version to another. The process of updating software, which may be difficult on the part of the development team, will also be explored. The process of continuous integration is essential in agile software development and there are several tools that can help you with this as a software development team. However, amongst the available tools, Jenkins has been found to be the best tool for this. This book guides you on how to use Jenkins for continuous integration of your software. This book will also demonstrate how to prepare your Ubuntu box before deploying it, as well as how to store tree data structures when working with MongoDB, a NoSQL database. The following topics are discussed in this book: - What is DevOps? - How to Run a Linux Web Server on Android Device - Deployment of a Ruby App with Ansible - A Gift-Flow Releasing Model - Setting Up and Configuring Jenkins for the Team - How to Prepare and Secure Ubuntu Box for Deployment - Enabling Virtualization in ESXi virtual machine - Securing Deployment Secrets with vault - Tree Structures and MongoDB

Design IT Organizations for Agility at Scale Aspiring digital businesses need overall IT agility, not just development team agility. In Agile IT Organization Design , IT management consultant and ThoughtWorks veteran Sriram Narayan shows how to infuse agility throughout your organization. Drawing on more than fifteen years' experience working with enterprise clients in IT-intensive industries, he introduces an agile approach to "Business-IT Effectiveness" that is as practical as it is valuable. The author shows how structural, political, operational, and cultural facets of organization design influence overall IT agility—and how you can promote better collaboration across diverse functions, from sales and marketing to product development, and engineering to IT operations. Through real examples, he helps you evaluate and improve organization designs that enhance autonomy, mastery, and purpose: the key ingredients for a highly motivated workforce. You'll find "close range" coverage of team design, accountability, alignment, project finance, tooling, metrics, organizational norms, communication, and culture. For each, you'll gain a deeper understanding of where your organization stands, and clear direction for making improvements. Ready to optimize the performance of your IT organization or digital business? Here are practical solutions for the long term, and for right now. Govern for value over predictability Organize for responsiveness, not lowest cost Clarify accountability for outcomes and for decisions along the way Strengthen the alignment of autonomous teams Move beyond project teams to capability teams Break down tool-induced silos Choose financial practices that are free of harmful side effects Create and retain great teams despite today's "talent crunch" Reform metrics to promote (not prevent) agility Evolve culture through improvements to structure, practices, and leadership—and careful, deliberate interventions

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