

## Continuous Delivery And Docker Amazon S3 Aws

**Key concepts, sample applications, best practices, and troubleshooting tips to build highly scalable applications in AWS. Key Features** Design highly available, cost efficient, fault tolerant, and scalable distributed systems A practical guide that will help you build, deploy, and manage applications with ease. Develop effective solutions with AWS SDK and Lambda Book Description Continuous deployment and Agile methodology have enabled huge advances in modern applications. This book will enable the reader to make use of this rapidly evolving technology to build highly scalable applications within AWS using different architectures. You will begin with installation of AWS SDK and you will get hands-on experience on creating an application using AWS Management Console and AWS Command Line Interface (CLI). Next you will be integrating Applications with AWS Services such as DynamoDB, Amazon Kinesis, AWS Lambda, Amazon SQS and Amazon SWF Following this you will get well versed with CI/CD workflow and work with four major phases in Release processes – Source, Build, Test and Production. Next you will learn to apply AWS developer tools in your Continuous Integration (CI) and Continuous Deployment (CD) Workflow. Later you will learn about User Authentication using Amazon Cognito and also how you can evaluate the best architecture as per your infrastructure costs. You will learn about Amazon EC2 service and deploy an app using Amazon EC2. You will also get well versed with container service which is Amazon EC2 Container Service (Amazon ECS) and you will learn to deploy an app using Amazon ECS. Along with EC2 and ECS, you will also developing a practical real-world example of a CI/CD application with the Serverless Application Framework which is known as AWS Lambda. Finally you will learn how to build, develop and deploy the Application using AWS Developer tools like AWS CodeCommit, AWS CodeBuild, AWS CodeDeploy and AWS CodePipeline as per project needs. Also you can develop and deploy applications within minutes using AWS CodeStar from wizard. By the end of this book, the reader will effectively build, deploy, and manage applications on AWS along with scaling and securing applications with best practices and troubleshooting tips. What you will learn Learn how to get up and running with AWS Developer Tools. Integrate the four major phases in the Release Processes. Source, Build, Test and Production. Learn how to integrate Continuous Integration, Continuous Delivery, and Continuous Deployment in AWS. Make secure, scalable and fault tolerant applications. Understand different architectures and deploy complex architectures within minutes Who this book is for This book targets developers who would like to build and manage web and mobile applications and services on the AWS platform. If you are an architect you will be able to take a deep dive and use examples that can be readily applied to real world scenarios. Some prior programming experience is assumed along with familiarity of cloud computing.

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 automate 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

Automate release processes. Deployment, and continuous integration of your application as well as infrastructure automation with the powerful services offered by AWS About This Book Accelerate your infrastructure's productivity by implementing a continuous delivery pipeline within your environment Leverage AWS services and Jenkins 2.0 to perform complete application deployments on Linux servers This recipe-based guide that will help you minimize application deployment downtime Who This Book Is For This book is for developers and system administrators who are responsible for hosting their application and managing instances in AWS. It's also ideal for DevOps engineers looking to provide continuous integration, deployment, and delivery. A basic understanding of AWS, Jenkins, and some scripting knowledge is needed. What You Will Learn Build a sample Maven and NodeJS Application using CodeBuild Deploy the application in EC2/Auto Scaling and see how CodePipeline helps you integrate AWS Services Build a highly scalable and fault tolerant CI/CD pipeline Achieve the CI/CD of a microservice architecture application in AWS ECS using CodePipeline, CodeBuild, ECR, and CloudFormation Automate the provisioning of your infrastructure using CloudFormation and Ansible Automate daily tasks and audit compliance using AWS Lambda Deploy microservices applications on Kubernetes using Jenkins Pipeline 2.0 In Detail AWS CodeDeploy, AWS CodeBuild, and CodePipeline are scalable services offered by AWS that automate an application's build and deployment pipeline. In order to deliver tremendous speed and agility, every organization is moving toward automating an entire application pipeline. This book will cover all the AWS services required to automate your deployment to your instances. You'll begin by setting up and using one of the AWS services for automation – CodeCommit. Next, you'll learn how to build a sample Maven and NodeJS Application using CodeBuild. After you've built the application, you'll see how to use CodeDeploy to deploy the application in EC2/AutoScaling. You'll also build a highly scalable and fault tolerant continuous integration (CI)/continuous deployment (CD) pipeline using some easy-to-follow recipes. Following this, you'll achieve CI/CD for Microservices application and reduce the risk within your software development lifecycle. You'll also learn to set up an infrastructure using CloudFormation Template and Ansible, and see how to automate AWS Resources using AWS Lambda. Finally, you'll learn to automate instances in AWS and automate the deployment lifecycle of applications. By the end of this book, you'll be able to minimize application downtime and implement CI/CD, gaining total control over your software development lifecycle. Style and approach This book takes a "How to do it" approach, providing with easy solutions to automate common maintenance and deployment tasks.

Configure and extend Jenkins to architect, build, and automate efficient software delivery pipelines About This Book Configure and horizontally scale a Jenkins installation to support a development organization of any size Implement Continuous Integration, Continuous Delivery, and Continuous Deployment solutions in Jenkins A step-by-step guide to help you get the most out of the powerful automation orchestration platform that is Jenkins Who This Book Is For If you are a novice or intermediate-level Jenkins user who has used Jenkins before but are not familiar with architecting solutions and implementing it in your organization, then this is the book for you. A basic understanding of the core elements of Jenkins is required to make the best use of this book. What You Will Learn Create and manage various types of build jobs, and implement automation tasks to support a software project of any kind Get to grips with the automated testing architecture, and scalable automated testing techniques Facilitate the delivery of software across the SDLC by creating scalable automated deployment solutions Manage scalable automation pipelines in Jenkins using the latest build, test, and deployment strategies Implement a scalable master / slave build automation platform, which can support Windows, Mac OSX, and Linux software solutions Cover troubleshooting and advanced configuration techniques for Jenkins slave nodes Support a robust build and delivery system by implementing basic infrastructure as code solutions in configuration management tools such as Ansible In Detail With the software industry becoming more and more competitive, organizations are now integrating delivery automation and automated quality assurance practices into their business model. Jenkins represents a complete automation orchestration system, and can help converge once segregated groups into a cohesive product development and delivery team. By mastering the Jenkins platform and learning to architect and implement Continuous Integration, Continuous Delivery, and Continuous Deployment solutions, your organization can learn to manoeuvre and outpace the competition. This book will equip you with the best practices to implement advanced continuous delivery and deployment systems in Jenkins. The book begins with giving you high-level architectural fundamentals surrounding Jenkins and Continuous Integration. You will cover the different installation scenarios for Jenkins, and see how to install it as a service, as well as the advanced XML configurations. Then, you will proceed to learn more about the architecture and implementation of the Jenkins Master/Slave node system, followed by creating and managing Jenkins build jobs effectively. Furthermore, you'll explore Jenkins as an automation orchestration system, followed by implementing advanced automated testing techniques. The final chapters describe in depth the common integrations to Jenkins from third-party tools such as Jira, Artifactory, Amazon EC2, and getting the most out of the Jenkins REST-based API. By the end of this book, you will have all the knowledge necessary to be the definitive resource for managing and implementing advanced Jenkins automation solutions for your organization. Style and approach This book is a step-by-step guide to architecting and implementing automated build solutions, automated testing practices, and automated delivery methodologies. The topics covered are based on industry-proven techniques, and are explained in a simple and easy to understand manner.

**Build and Release Quality Software at Scale with Jenkins, Travis CI, and CircleCI**

**Building Serverless Node.js Apps on AWS**

**Spring Microservices in Action, Second Edition**

**Apply continuous integration models, deploy applications quicker, and scale at large by putting Docker to work**

**Continuous Delivery with Jenkins, Kubernetes, and Terraform**

**Deploying Rails with Docker, Kubernetes and ECS**

Continuous delivery adds enormous value to the business and the entire software delivery lifecycle, but adopting this practice means mastering new skills typically outside of a developer's comfort zone. In this practical book, Daniel Bryant and Abraham Marin-Pérez provide guidance to help experienced Java developers master skills such as architectural design, automated quality assurance, and application packaging and deployment on a variety of cloud-native development environments. You'll learn how to create a comprehensive build pipeline and deploy applications to production environments. Get advice for beginning or completing your migration to continuous delivery. Design architecture to enable the continuous delivery of Java applications Build application artifacts including fat JARs, virtual machine images, and operating system container (Docker) images Use continuous integration tooling like Jenkins, PMD, and find-secc-bugs to automate code quality checks Create a comprehensive build pipeline and design software to separate the deploy and release processes Explore why functional and system quality attribute testing is vital from development to delivery Learn how to effectively build and test applications locally and observe your system while it runs in production Create a complete Continuous Delivery process using modern DevOps tools such as Docker, Kubernetes, Jenkins, Docker Hub, Ansible, GitHub and many more. Key Features Build reliable and secure applications using Docker containers. Create a highly available environment to scale a Docker servers using Kubernetes Implement advanced continuous delivery process by parallelizing the pipeline tasks Book Description Continuous Delivery with Docker and Jenkins, Second Edition will explain the advantages of combining Jenkins and Docker to improve the continuous integration and delivery process of an app development. It will start with setting up a Docker server and configuring Jenkins on it. It will then provide steps to build applications on Docker files and integrate them with Jenkins using continuous delivery processes such as continuous integration, automated acceptance testing, and configuration management. Moving on, you will learn how to ensure quick application deployment with Docker containers along with scaling Jenkins using Kubernetes. Next, you will get to know how to deploy applications using Docker images and testing them with Jenkins. Towards the end, the book will touch base with missing parts of the CD pipeline, which are the environments and infrastructure, application versioning, and nonfunctional testing. By the end of the book, you will be enhancing the DevOps workflow by integrating the functionalities of Docker and Jenkins. What you will learn How to get to grips with docker fundamentals and how to dockerize an application for the CD process Learn how to use Jenkins on the Cloud environments Scale a pool of Docker servers using Kubernetes Create multi-container applications using Docker Compose Write acceptance tests using Cucumber and run them in the Docker ecosystem using Jenkins Publish a built Docker image to a Docker Registry and deploy cycles of Jenkins pipelines using community best practices Who this book is for The book targets DevOps engineers, system administrators, docker professionals or any stakeholders who would like to explore the power of working with Docker and Jenkins together.

No prior knowledge of DevOps is required for this book. Deploy serverless and scalable cloud-native applications with Jakarta EE KEY FEATURES ? Example-driven approach crafted specially for developers and architects. ? Covers all core areas for cloud-native development. ? Step-by-step implementation of core concepts, including application scalability and security, serverless, and containerization. DESCRIPTION The book helps readers to get a basic understanding of features provided by the latest cloud-native development. A hands-on approach makes sure that after reading the book, one can straight away implement the concepts in their daily design and development activities. The book starts with the basics of cloud computing and moves on to understanding the core concepts to create a production-ready cloud-native application. The book helps readers to develop a code that is testable and maintainable to support Agile cloud native development. This book also talks about the security and scalability aspects of applications which are the backbone of any large-scale application. The book covers advanced cloud-native application development approaches using containers and serverless approaches. The book will help readers to get ready for a cloud-native development journey. Whether one is creating a small application or a large-scale application, core concepts explained in this book remain relevant and will work as a guiding light for developers and architects. WHAT YOU WILL LEARN ? Explains the core features that are fast to market due to testability and maintainability. ? Build applications that are secured against vulnerabilities. ? Build applications that are easy to scale. WHO THIS BOOK IS FOR The book is meant for software developers, architects, and technical readers who want to learn about Cloud-based application development. Basic knowledge of the Java programming language or Jakarta EE platform is expected to understand code examples used in the book. TABLE OF CONTENTS 1. Introduction to Cloud Computing 2. Design for Cloud 3. Major Players in Cloud Computing 4. Sample Application Using Jakarta EE 5. Testing Cloud-Native Applications 6. Continuous Integration and Continuous Delivery 7. Securing Cloud-Based Applications 8. Scalability 9. Monitoring, Alerting, and Reporting 10. Containers 11. Serverless Computing 12. Best Practices for Developing Cloud-Native Applications

Docker for Developers/Develop and run your application with Docker containers using DevOps tools for continuous deliveryPackt Publishing Ltd

Enabling IT organizations to deliver faster and smarter

Getting Started with Containerization

Reduce the operational burden on your system by automating and managing your containers

Docker on Amazon Web Services

A Practical Guide to Delivering Data Science and Machine Learning Products

Cloud Native Applications with Jakarta EE

**Scale and maintain outstanding performance in your AWS-based infrastructure using DevOps principles** Key FeaturesImplement continuous integration and continuous deployment pipelines on AWSGain insight from an expert who has worked with Silicon Valley's most high-profile companiesImplement DevOps principles to take full advantage of the AWS stack and servicesBook 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 will 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 learnImplement automatic AWS instance provisioning using CloudFormationDeploy your application on a provisioned infrastructure with AnsibleManage infrastructure using TerraformBuild and deploy a CI/CD pipeline with Automated Testing on AWSUnderstand the container journey for a CI/CD pipeline using AWS ECSMonitor and secure your AWS environmentWho 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.

Learn how to use the AWS Cloud and Kubernetes to build applications that are resilient and efficiently Deploying Rails with Docker, Kubernetes and ECS shows you how to set up the project, push it to DockerHub, manage services and set up an efficient continuous integration environment. Every concept is clearly explained alongside a full Ruby on Rails application deployment. You'll also learn how to deploy via Docker using Amazon EC2 Container Service. Docker and Kubernetes are increasing in popularity every day, but what if you want to leverage their benefits for your Rails application? This is the quick guide you need. What You Will Learn Create a Rails API application using Rails 5 and PostgreSQL, and Dockerize it Write and test templates to run the application with Kubernetes Create a Kubernetes cluster in Amazon Web Services and run your inspect and troubleshoot problems in the cluster Automate the whole deployment process with Jenkins Who This Book Is For This book is for anyone who wants to understand how to effectively deploy a Rails application using Docker and Kubernetes. You will need to understand Rails and have basic knowledge of what Docker and Kubernetes are used for. Follow this step-by-step guide for creating a continuous delivery pipeline using all of the new features in Jenkins 2.0 such as Pipeline as a Code, multi-branch pipeline, and more. You will learn three crucial elements for achieving a faster software delivery pipeline: a fungible build/test environment, manageable and reproducible pipelines, and a scalable build/test infrastructure. Pro Continuous Delivery demonstrates how to create a highly available, active/passive Jenkins server using some niche technologies. What You'll Learn Create a highly available, active/passive Jenkins server using CoreOS and Docker, and using Pacemaker and Corosync Use a Jenkins multi-branch pipeline to automatically perform continuous integration whenever there is a new branch in your source control system Describe your continuous delivery pipeline with Jenkinsfile Host Jenkins server on a cloud solution Run Jenkins inside a container using Docker Discover how the distributed nature of Git and the "merge before build" feature of Jenkins can be used to implement gated check-in Implement a scalable build farm using Docker and Kubernetes Who This Book Is For You have experience implementing continuous integration and continuous delivery using Jenkins freestyle jobs and wish to use the new Pipeline as a Code feature introduced in Jenkins 2.0 Your source code is on a Git-like version control system (Git, GitHub, GitLab, etc.) and you wish to leverage the advantages of a multi-branch pipeline in Jenkins Your infrastructure is on a Unix-like platform and you wish to create a scalable, distributed build/test farm using Docker or Kubernetes You are in need of a highly available system for your Jenkins Server using open source tools and technologies

Understand various tools and practices for building a continuous integration and delivery pipeline effectively Key Features Get up and running with the patterns of continuous integration Learn Jenkins UI for developing plugins and build an effective Jenkins pipeline Automate CI/CD with command-line tools and scripts Book Description Hands-On Continuous Integration and Delivery starts with the fundamentals of continuous integration (CI) and continuous delivery (CD) and where it fits in the DevOps ecosystem. You will explore the importance of stakeholder collaboration as part of CI/CD. As you make your way through the chapters, you will get to grips with Jenkins UI, and learn to install Jenkins on different platforms, add plugins, and write freestyle scripts. Next, you will gain hands-on experience of developing plugins with Jenkins UI, building the Jenkins 2.0 pipeline, and performing Docker integration. In the concluding chapters, you will install Travis CI and Circle CI and carry out scripting, logging, and debugging, helping you to acquire a broad knowledge of CI/CD with Travis CI and CircleCI. By the end of this book, you will have a detailed understanding of best practices for CI/CD systems and be able to implement them with confidence. What you will learn Install Jenkins on multiple operating systems Work with Jenkins freestyle scripts, pipeline syntax, and methodology Explore Travis CI build life cycle events and multiple build languages Master the Travis CI CLI (command-line interface) and automate tasks with the CLI Use CircleCI CLI jobs and work with pipelines Automate tasks using CircleCI CLI and learn to debug and troubleshoot Learn open source tooling such as Git and GitHub Install Docker and learn concepts in shell scripting Who this book is for Hands-On Continuous Integration and Delivery is for system administrators, DevOps engineers, and build and release engineers who want to understand the concept of CI and gain hands-on experience working with prominent tools in the CI ecosystem. Basic knowledge of software delivery is an added advantage.

With Jenkins 2.0

**DevOps: Puppet, Docker, and Kubernetes**

**Build, deploy, and manage your container applications at scale**

**Mastering Jenkins**

**Create secure CI/CD pipelines using Chaos and AIOps**

**Kubernetes - A Complete DevOps Cookbook**

**Complete Guide to Get Started with DevOps**DevOps is powerful set of collaborative practices that can take your project to the next level faster than you expect, but only if you understand it and properly implement it! Want to master DevOps quickly?There are so many uses for DevOps and so many compelling reasons to implement DevOps in your business or for your own projects. With this guide in your hands, it is easier than ever to maximize your efficiency and productivity in business and in other projects! When you understand how to use DevOps to its maximum potential, you unlock greater efficiency and make better use of your time and your team's time. Easily implement DevOps by following the simple instructions fully explained inside this guide. It doesn't matter if you have never used DevOps before, this book gives you detailed chapters on the principles of DevOps, all of its features, and exactly how to implement them! This step-by-step guide gives you everything you need to know to unlock the power of DevOps and do more in your business and with your team than you ever thought possible!Here is a preview of what you will learn in this guide: What is DevOps? History and Development of Dev Ops Basic Ideas of DevOps Dev Ops Toolchains Stages of Dev Ops Planning Creating Verification Packaging Release Configuration Monitoring Why Use DevOps? Understanding and Implementing the CALMS Framework of Dev Ops Culture Automation Learn Measurement Sharing What Tools Are Used in DevOps? Source Code Repository Git Build Server Jenkins Amazon CodeBuild Configuration Management Puppet Virtual Infrastructure Docker Amazon Web Services Integrating Amazon Cloud Computing into Dev Ops Microsoft Azure Integrating Azure Cloud Computing into Dev Ops Test Automation EC2 Systems Manager Patch Manager Automation Pipeline Orchestration CodePipeline CodeDeploy Serverless Services Continuous Delivery Continuous Delivery vs. Continuous Deployment Continuous Delivery Benefits Continuous Integration Why is Continuous Integration Needed? How does Continuous Integration Work? Continuous Integration Benefits Infrastructure as a Service (IaaS) Platform as a Service (PaaS) Software as a Service (SaaS) Dev Ops as a Service (Daas) Dev Ops as a managed cloud service Monitoring and Logging Amazon CloudWatch Communication and Collaboration And so much more! Even if you have never used DevOps before have no fear! With this guide in your hands that will not be a barrier for you any longer. Learn to master all the best features of DevOps easily when you grab this guide now!

Leverage Kubernetes and container architecture to successfully run production-ready workloads Key FeaturesImplement Kubernetes to orchestrate and scale applications proficientlyLeverage the latest features of Kubernetes to resolve common as well as complex problems in a cloud-native environmentGain hands-on experience in securing, monitoring, and troubleshooting your applicationBook Description Kubernetes is a popular open source orchestration platform for managing containers in a cluster environment. With this Kubernetes cookbook, you'll learn how to implement Kubernetes using a recipe-based approach. The book will prepare you to create highly available Kubernetes clusters on multiple clouds such as Amazon Web Services (AWS), Google Cloud Platform (GCP), Azure, Alibaba, and on-premises data centers. Starting with recipes for installing and configuring Kubernetes instances, you'll discover how to work with Kubernetes clients, services, and key metadata. You'll then learn how to build continuous integration/continuous delivery (CI/CD) pipelines for your applications, and understand various methods to manage containers. As you advance, you'll delve into Kubernetes' integration with Docker and Jenkins, and even perform a batch process and configure data volumes. You'll get to grips with methods for scaling, security, monitoring, logging, and troubleshooting. Additionally, this book will take you through the latest updates in Kubernetes, including volume snapshots, creating high availability clusters with kops, running workload operators, new inclusions around kubectl and more. By the end of this book, you'll have developed the skills required to implement Kubernetes in production and manage containers proficiently. What you will learnDeploy cloud-native applications on KubernetesAutomate testing in the DevOps workflowDiscover and troubleshoot common storage issuesDynamically scale containerized services to manage fluctuating traffic needsUnderstand how to monitor your containerized DevOps environmentBuild DevSecOps into CI/CD pipelinesWho this book is for This Kubernetes book is for developers, IT professionals, and DevOps engineers and teams who want to use Kubernetes to manage, scale, and orchestrate applications in their organization. Basic understanding of Kubernetes and containerization is necessary.

A practical guide to rapidly and efficiently mastering Docker containers, along with tips and tricks learned in the field. About This Book Use Docker containers, horizontal node scaling, modern orchestration tools (Docker Swarm, Kubernetes, and Mesos) and Continuous Integration/Continuous Delivery to manage your infrastructure. Increase service density by turning often-idle machines into hosts for numerous Docker services. Learn what it takes to build a true container infrastructure that is scalable, reliable, and resilient in the face of increased complexities from using container infrastructures. Find out how to identify, debug, and mitigate most real-world, undocumented issues when deploying your own Docker infrastructure. Learn tips and tricks of the trade from existing Docker infrastructures running in production environments. Who This Book Is For This book is aimed at system administrators, developers, DevOps engineers, and software engineers who want to get concrete, hands-on experience deploying multi-tier web applications and containerized microservices using Docker. This book is also for anyone who has worked on deploying services in some fashion and wants to take their small-scale setups to the next level (or simply to learn more about the process). What You Will Learn Set up a working development environment and create a simple web service to demonstrate the basics Learn how to make your service more usable by adding a database and an app server to process logic Add resilience to your services by learning how to horizontally scale with a few containers on a single node Master layering isolation and messaging to simplify and harden the connectivity between containers Learn about numerous issues encountered at scale and their workarounds, from the kernel up to code versioning Automate the most important parts of your infrastructure with continuous integration In Detail Deploying Docker into production is considered to be one of the major pain points in developing large-scale infrastructures, and the documentation available online leaves a lot to be desired. With this book, you will learn everything you wanted to know to effectively scale your deployments globally and build a resilient, scalable, and containerized cloud platform for your own use. The book starts by introducing you to the containerization ecosystem with some concrete and easy-to-digest examples; after that, you will delve into examples of launching multiple instances of the same container. From there, you will cover orchestration, multi-node setups, volumes, and almost every relevant component of this new approach to deploying services. Using intertwined approaches, the book will cover battle-tested tooling, or issues likely to be encountered in real-world scenarios, in detail. You will also learn about the other supporting components required for a true PaaS deployment and discover common options to tie the whole infrastructure together. At the end of the book, you learn to build a small, but functional, PaaS (to appreciate the power of the containerized service approach) and continue to explore real-world approaches to implementing even larger global-scale services. Style and approach This in-depth learning guide shows you how to deploy your applications in production using Docker (from the basic steps to advanced concepts) and how to overcome challenges in Docker-based infrastructures. The book also covers practical use-cases in real-world examples, and provides tips and tricks on the various topics.

Victor Farcic, DevOps 2.1 Toolkit: Docker Swarm, shows you how to successfully integrate Docker Swarm into your DevOps toolset. About This Book Expand your DevOps Toolkit with the DevOps 2.0 Toolkit book Who This Book Is For This book is for professionals interested in the full microservices life cycle combined with continuous deployment and containers. Provides like AWS, Azure, and DigitalOcean Go beyond simple deployment to explore how to create a continuous deployment process. Extend the deep understanding you gained from Viktor's DevOps 2.0 Toolkit book Who This Book Is For This book is for professionals interested in the full microservices life cycle combined with continuous deployment and containers. Target audience could be architects who want to know how to design their systems around microservices. It could be DevOps wanting to know how to apply modern configuration management practices and continuously deploy applications packed in containers. It is for developers who would like to take the process back into their hands as well as for managers who would like to gain a better understanding of the process used to deliver software from the beginning to the end. This book is for everyone wanting to know more about the software development life cycle starting from requirements and design, through the development and testing all the way until deployment and post-deployment phases. We'll create the processes taking into account the best practices developed by and for some of the biggest companies. What You Will Learn Learn all aspects of Docker Swarm from building, testing, deploying, and monitoring services inside Docker Swarm clusters, available since Docker 1.12. Master the deeper logic of DevOps with Viktor, so that you can successfully apply that logic across any specific set of tools you're working with. Translate a deep understanding to different hosting providers like AWS, Azure, DigitalOcean, among others. You'll go beyond simple deployment: you will explore with Viktor how to create a continuous deployment process. Accomplish zero downtime deployments, and what to do in case of a fallover. Know how to run services at scale, how to monitor the systems, and how to make it heal itself. In Detail Viktor Farcic's latest book, The DevOps 2.1 Toolkit: Docker Swarm, takes you deeper into one of the major subjects of his international best seller, The DevOps 2.0 Toolkit, and shows you how to successfully integrate Docker Swarm into your DevOps toolset. Viktor shares with you his expert knowledge in all aspects of building, testing, deploying, and monitoring services inside Docker Swarm clusters. You'll go through all the tools required for running a cluster. You'll travel through the whole process with clusters running locally on a laptop. Once you're confident with that outcome, Viktor shows you how to translate your experience to different hosting providers like AWS, Azure, and DigitalOcean. Viktor has updated his DevOps 2.0 framework in this book to use the latest and greatest features and techniques introduced in Docker. We'll go through many practices and even more tools. While there will be a lot of theory, this is a hands-on book. You won't be able to complete it by reading it on the metro on your way to work. You'll have to read this book while in front of the computer and get your hands dirty. Style and approach We'll go through many practices and even more tools. While there will be a lot of theory, this is a hands-on book. You'll have to read this book while in front of the computer and get your hands dirty. The goal is not to master one particular set of tools, but to learn the logic behind them so that you can apply it to your job in various contexts.

DevOps with Kubernetes

AWS Certified Developer Official Study Guide, Associate Exam

Effective DevOps with AWS

DevOps Bootcamp

A Brief Guide on Where to Start

Build, Design, and Deploy Cloud-Native Applications and Microservices with Jakarta EE (English Edition)

Get hands-on recipes to automate and manage Linux containers with the Docker 1.6 environment and jump-start your Puppet development About This Book Successfully deploy DevOps with proven solutions and recipes Automate your infrastructure with Puppet and combine powerful DevOps methods Deploy and manage highly scalable applications using Kubernetes streamline the way you manage your applications Who This Book Is For This Learning Path is for developers, system administrators, and DevOps engineers who want to use Puppet, Docker, and Kubernetes in their development, QA, or production environments. This Learning Path assumes experience with Linux administration and requires some experience with command-line usage and basic text file editing. What You Will Learn Discover how to build high availability Kubernetes clusters Deal with inherent issues with container virtualization and container concepts Create services with Docker to enable the swift development and deployment of applications Make optimum use of Docker in a testing environment Create efficient manifests to streamline your deployments Automate Puppet master deployment using Git hooks, 10k, Puppet, and Ansible Deal with many IT management and DevOps tools on both operations and development side, both operationally and developmentally. It's difficult to know when to start. DevOps is incredibly powerful when implemented correctly, and here's how to get it done.This Learning Path covers three broad areas: Puppet, Docker, and Kubernetes. This Learning Path is a large reservoir of recipes to ease your daily DevOps tasks. We begin with recipes that help you develop a complete and expert understanding of Puppet's latest and most advanced features. Then we provide recipes that help you efficiently work with the Docker environment. Finally, we show you how to better manage containers in different scenarios in production using Kubernetes. This course is based on these books: Puppet Cookbook, Third Edition Docker Cookbook Kubernetes Cookbook Style and approach This easy-to-follow tutorial-style guide teaches you precisely how to configure complex systems in Puppet and manage your containers using Kubernetes.

Run Docker on AWS and build real-world, secure, and scalable container platforms on cloud Key Features Configure Docker for the ECS environment Integrate Docker with different AWS tools Implement container networking and deployment at scale Book Description Over the last few years, Docker has been the gold standard for building and distributing container applications. Amazon Web Services (AWS) is a leader in public cloud computing, and was the first to offer a managed container platform in the form of the Elastic Container Service (ECS). Docker on Amazon Web Services starts with the basics of containers, Docker, and AWS, before teaching you how to install Docker on your local machine and establish access to your AWS account. You'll then dig deeper into the ECS, a native container management platform provided by AWS that simplifies management and operation of your Docker clusters and applications for no additional cost. Once you have got to grips with the basics, you'll solve key operational challenges, including secrets management and auto-scaling your infrastructure and applications. You'll explore alternative strategies for deploying and running your Docker applications on AWS, including Fargate and ECS Service Discovery, Elastic Beanstalk, Docker Swarm and Elastic Kubernetes Service (EKS). In addition to this, there will be a strong focus on adopting an Infrastructure as Code (IaC) approach using AWS CloudFormation. By the end of this book, you will not only be able to build real-world, secure, and scalable container platforms in the cloud, What you will learn Build, deploy, and operate Docker applications using AWS Solve key operational challenges, such as secrets management Explore the powerful capabilities and tight integration of other AWS services Design and operate Docker applications running on ECS Deploy Docker applications quickly, consistently, and reliably using IaC Manage and operate Docker clusters and applications for no additional cost Who this book is for Docker on Amazon Web Services is for you if you want to build, deploy, and operate applications using the power of containers, Docker, and Amazon Web Services. Basic understanding of containers and Amazon Web Services or any other cloud provider will be helpful, although no previous experience of working with these is required.

There are varying ways one can pursue starting a new or converting an existing project to a Serverless architecture. One of the many arguments heard is that developers typically don't know where to begin. This book is intended for those seeking to leverage the Serverless Framework with a project written in Node.js. Expanding on the AWS Serverless App tutorial series, this book provides a step-by-step guide for building Node.js Serverless projects on AWS. It aims to solve one of the more predominant causes of delaying the transition to Serverless by providing engineers with an outline of where to begin on their Serverless journey. Example projects are provided to demonstrate several avenues that can be taken as well as some housekeeping items like formatting and building the continuous integration and delivery pipeline. Readers also get end-of-chapter quizzes, cheat sheets, and access to the full source code from the examples in this book. Learn how to deploy and test Linux-based Docker containers with the help of real-world use cases Key FeaturesUnderstand how to make a deployment workflow run smoothly with Docker containersLearn Docker and DevOps concepts such as continuous integration and continuous deployment (CI/CD)Gain insights into using various Docker tools and librariesBook Description Docker is the de facto standard for containerizing apps, and with an increasing number of software projects migrating to containers, it is crucial for engineers and DevOps teams to understand how to build, deploy, and secure Docker containers effectively. Docker for DevOps will help you understand Docker containers from scratch while taking you through best practices and showing you how to address security concerns. Starting with an introduction to Docker, you'll learn how to use containers and VirtualBox for development. You'll explore how containers work and develop projects within them after you've explored different ways to deploy and run containers. The book will also show you how to use Docker containers in production in both single-host set-ups and in clusters and deploy them using Jenkins, Kubernetes, and Spinnaker. As you advance, you'll get to grips with monitoring, securing, and scaling Docker using tools such as Prometheus and Grafana. Later, you'll be able to deploy Docker containers to a variety of environments, including the cloud-native Amazon Elastic Kubernetes Service (Amazon EKS), before finally delving into Docker security concepts and best practices. By the end of the Docker book, you'll be able to not only work in a container-driven environment confidently but also use Docker for both new and existing projects. What you will learnGet up to speed with creating containers and understand how they workPackage and deploy your containers to a variety of platformsWork with containers in the cloud and on the Kubernetes platformDeploy and then monitor the health and logs of running containersExplore best practices for working with containers from a security perspectiveBecome familiar with scanning containers and using third-party security tools and librariesWho this book is for If you're a software engineer new to containerization or a DevOps engineer responsible for deploying Docker containers in the cloud and building DevOps pipelines for container-based projects, you'll find this book useful. This Docker containers book is also a handy reference guide for anyone working with a Docker-based DevOps ecosystem or interested in understanding the security implications and best practices for working in container-driven environments.

Driving Digital Transformation through Data and AI

Continuous Delivery with Docker and Jenkins

The DevOps 2. 4 Toolkit

Associate (DVA-C01) Exam

An exploration of continuous deployment to a Kubernetes cluster, using a wide range of Kubernetes platforms with instructions on how to develop a pipeline on a few of the most commonly used CI/CD platforms.Key Features\* The fifth book of DevOps expert Viktor Farcic's bestselling DevOps Toolkit series, with a discussion of the difference between continuous delivery vs. continuous deployment, and which is best for the user\* Guides readers through the continuous deployment process using Jenkins in a Kubernetes cluster\* Provides an overview of the best practices for building, testing, and deploying applications through fully automated pipelines.Building on the DevOps 2.3 Toolkit: Kubernetes, Viktor Farcic brings his latest exploration of the Docker technology as he records his journey to continuously deploying applications with Jenkins into a Kubernetes cluster.The DevOps 2.4 Toolkit: Continuously Deploying Applications with Jenkins to a Kubernetes Cluster is the latest book in Viktor Farcic's series that helps you build a full DevOps Toolkit. This book guides readers through the process of building, testing, and deploying applications through fully automated pipelines.Within this book, Viktor will cover a wide-range of emerging topics, including an exploration of continuous delivery and deployment in Kubernetes using Jenkins. It also shows readers how to perform continuous integration inside these clusters, and discusses the distribution of Kubernetes applications, as well as installing and setting up Jenkins.Work with Viktor and dive into the creation of self-adaptive and self-healing systems within Docker.What you will learn\* Gain an understanding of continuous deployment\* Learn how to build, test, and deploy applications into Kubernetes\* Execute continuous integration inside containersWho this book is forReaders with an intermediate level understanding of Kubernetes and hands-on experience.

Sharpen your DevOps knowledge with DevOps Bootcamp About This Book Improve your organization's performance to ensure smooth production of software and services. Learn how Continuous Integration and Continuous Delivery practices will be utilized to cultivate the DevOps culture. A fast-paced guide filled with illustrations and best practices to help you consistently ship quality software. Who This Book Is For The book is aimed at IT Developers and Operations—administrators who want to quickly learn and implement the DevOps culture in their organization. What You Will Learn Static Code Analysis using Sonarqube Configure a Maven-based JEE Web Application Perform Continuous Integration using Jenkins and VSTS Install and configure Docker Converge a Chef node using a Chef workstation Accomplish Continuous Delivery in Microsoft Azure VM and Microsoft Azure App Services (Azure Web Apps) using Jenkins Perform Load Testing using Apache JMeter Build and Release Automation using Visual Studio Team Services Monitor Cloud-based resources In Detail DevOps Bootcamp delivers practical learning modules in manageable chunks. Each chunk is delivered in a day, and each day is a productive one. Each day builds your competency in DevOps. You will be able to take the task you learn every day and apply it to cultivate the DevOps culture. Each chapter presents core concepts and key takeaways about a topic in DevOps and provides a series of hands-on exercises. You will not only learn the importance of basic concepts or practices of DevOps but also how to use different tools to automate application lifecycle management. We will start off by building the foundation of the DevOps concepts. On day two, we will perform Continuous Integration using Jenkins and VSTS both by configuring Maven-based JEE Web Application?. We will also integrate Jenkins and Sonar qube for Static Code Analysis. Further, on day three, we will focus on Docker containers where we will install and configure Docker and also create a Tomcat Container to deploy our Java based web application. On day four, we will create and configure the environment for application deployment in AWS and Microsoft Azure Cloud for which we will use Infrastructure as a Service and Open Source Configuration Management tool Chef. For day five, our focus would be on Continuous Delivery. We will automate application deployment in Docker container using Jenkins Plugin, AWS EC2 using Script, AWS Elastic Beanstalk using Jenkins Plugin, Microsoft Azure VM using script, and Microsoft Azure App Services Using Jenkins. We will also configure Continuous Delivery using VSTS. We will then learn the concept of Automated Testing on day six using Apache JMeter and URL-based Tests in VSTS. Further, on day seven, we will explore various ways to automate application lifecycle management using orchestration. We will see how Pipeline can be created in Jenkins and VSTS, so the moment Continuous? Integration is completed successfully, Continuous Delivery will start and application will be deployed. On the final day, our focus would be on Security access to Jenkins and Monitoring of CI resources, and cloud-based resources in AWS and Microsoft Azure Platform as a Service. Style and Approach This book is all about fast and intensive learning. This means we don't waste time in helping readers get started. The new content is basically about filling with highly-effective examples to build new things, solving problems in newer and unseen ways, and solving real-world examples.

Learn how 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 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 orchestration 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.

Summary Amazon Web Services in Action, Second Edition is a comprehensive introduction to computing, storing, and networking in the AWS cloud. You'll find clear, relevant coverage of all the essential AWS services you to know, emphasizing best practices for security, high availability and scalability. Foreword by Ben Whaley, AWS community hero and author. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology The largest and most mature of the cloud platforms, AWS offers over 100 prebuilt services, practically limitless compute resources, bottomless secure storage, as well as top-notch automation capabilities. This book shows you how to develop, host, and manage applications on AWS. About the Book Amazon Web Services in Action, Second Edition is a comprehensive introduction to deploying web applications in the AWS cloud. You'll find clear, relevant coverage of all essential AWS services, with a focus on automation, security, high availability, and scalability. This thoroughly revised edition covers the latest additions to AWS, including serverless infrastructure with AWS Lambda, sharing data with EFS, and in-memory storage with ElastiCache. What's inside Completely revised bestseller Secure and scale distributed applications Deploy applications on AWS Design for failure to achieve high availability Automate your infrastructure About the Reader Written for mid-level developers and DevOps engineers. About the Author Andreas Wittig and Michael Wittig are software engineers and DevOps consultants focused on AWS. Together, they migrated the first bank in Germany to AWS in 2013. Table of Contents PART 1 - GETTING STARTED What is Amazon Web Services? A simple example: WordPress in five minutes PART 2 - BUILDING VIRTUAL INFRASTRUCTURE CONSISTING OF COMPUTERS AND NETWORKING Using virtual machines: EC2 Programming your infrastructure: The command-line, SDKs, and CloudFormation Automating deployment: CloudFormation, Elastic Beanstalk, and OpsWorks Securing your system: IAM, security groups, and VPC Automating operational tasks with Lambda PART 3 - STORING DATA IN THE CLOUD Storing your objects: S3 and Glacier Storing data on hard drives: EBS and instance store Sharing data volumes between machines: EFS Using a relational database service: RDS Caching data in memory: Amazon ElastiCache Programming for the NoSQL database service: DynamoDB PART 4 - ARCHITECTING ON AWS Achieving high availability: availability zones, auto-scaling, and CloudWatch Decoupling your infrastructure: Elastic Load Balancing and Simple Queue Service Designing for fault tolerance Scaling up and down: auto-scaling and CloudWatch

Pro Continuous Delivery

Continuous Deployment to Kubernetes: Continuously Deploying Applications with Jenkins to a Kubernetes Cluster

Amazon Web Services in Action

Docker for Developers

Build and manage your applications, orchestrate containers, and deploy cloud-native services

The Quickstart DevOps Handbook

Build high-performance CI/CD pipelines that are powered by AWS and the most cutting-edge tools and techniques Key FeaturesMaster the full AWS developer toolchain for building high-performance, resilient, and powerful CI/CD pipelinesGet to grips with Chaos engineering, DevSecOps, and AIOps as applied to CI/CDEmploy the latest tools and techniques to build a CI/CD pipeline for application and infrastructureBook Description Continuous integration and continuous delivery (CI/CD) has never been simple, but these days the landscape is more bewildering than ever; its terrain riddled with blind alleys and pitfalls that seem almost designed to trap the less-experienced developer. If you're determined enough to keep your balance on the cutting edge, this book will help you navigate the landscape with ease. This book will guide you through the most modern ways of building CI/CD pipelines with AWS, taking you step-by-step from the basics right through to the most advanced topics in this domain. The book starts by covering the basics of CI/CD with AWS. Once you're well-versed with tools such as AWS CodeStar, Proton, CodeGuru, App Mesh, SecurityHub, and CloudFormation, you'll focus on chaos engineering, the latest trend in testing the fault tolerance of your system. Next, you'll explore the advanced concepts of AIOps and DevSecOps, two highly sought-after skill sets for securing and optimizing your CI/CD systems. All along, you'll cover the full range of AWS CI/CD features, gaining real-world expertise. By the end of this AWS book, you'll have the confidence you need to create resilient, secure, and performant CI/CD pipelines using the best techniques and technologies that AWS has to offer. What you will learnUse AWS CodeStar to design and implement a full branching strategyEnforce Policy as Code using CloudFormation Guard and HashiCorp SentinelMaster app and infrastructure deployment at scale using AWS Proton and review app code using CodeGuruDeploy and manage production-grade clusters using AWS EKS, App Mesh, and X-RayHarness AWS Fault Injection Simulator to test the resiliency of your appWield the full arsenal of AWS Security Hub and Systems Manager for infrastructure security automationEnhance CI/CD pipelines with the AI-powered DevOps Guru serviceWho this book is for This book is for DevOps engineers, engineering managers, cloud developers, and cloud architects. Basic experience with the software development life cycle, DevOps, and AWS is all you need to get started.

Foreword by Werner Vogels, Vice President and Corporate Technology Officer, Amazon The AWS exam has been updated. Your study guide should be, too. The AWS Certified Developer Official Study Guide-Associate Exam is your ultimate preparation resource for the latest exam! Covering all exam objectives, this invaluable resource puts a team of AWS experts at your side with expert guidance, clear explanations, and the wisdom of experience with AWS best practices. You'll master core services and basic architecture, and equip yourself to develop, deploy, and debug cloud-based applications using AWS. The AWS Developer certification is earned by those who demonstrate the technical knowledge and skill associated with best practices for building secure, reliable cloud-based applications using AWS technology. This book is your official exam prep companion, providing everything you need to know to pass with flying colors. Study the AWS Certified Developer Exam objectives Gain expert insight on core AWS services and best practices Test your understanding of key concepts with challenging chapter questions Access online study tools including electronic flashcards, a searchable glossary, practice exams, and more Cloud computing offers businesses the opportunity to replace up-front capital infrastructure expenses with low, variable costs that scale as they grow. This customized responsiveness has negated the need for far-future infrastructure planning, putting thousands of servers at their disposal as needed—and businesses have responded, propelling AWS to the number-one spot among cloud service providers. Now these businesses need qualified AWS developers, and the AWS certification validates the exact skills and knowledge they're looking for. When you're ready to get serious about your cloud credentials, the AWS Certified Developer Official Study Guide-Associate Exam is the resource you need to pass the exam with flying colors. NOTE: As of October 7, 2019, the accompanying code for hands-on exercises in the book is available for downloading from the secure Resources area in the online test bank. You'll find code for Chapters 1, 2, 11, and 12.

Start thinking about your development pipeline as a mission-critical application. Discover techniques for implementing code-driven infrastructure and CI/CD workflows using Jenkins, Docker, Terraform, and cloud-native services. In Pipeline as Code, you will master: Building and deploying a Jenkins cluster from scratch Writing pipeline as code for cloud-native applications Automating the deployment of Dockerized and Serverless applications Containerizing applications with Docker and Kubernetes Deploying Jenkins on AWS, GCP and Azure Managing, securing and monitoring a Jenkins cluster in production Key principles for a successful DevOps culture Pipeline as Code is a practical guide to automating your development pipeline in a cloud-native, service-driven world. You'll use the latest infrastructure-as-code tools like Packer and Terraform to develop reliable CI/CD pipelines for numerous cloud-native applications. Follow this book's insightful best practices, and you'll soon be delivering software that's quicker to market, faster to deploy, and with less last-minute production bugs. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Treat your CI/CD pipeline like the real application it is. With the Pipeline as Code approach, you create a collection of scripts that replace the tedious web UI wrapped around most CI/CD systems. Code-driven pipelines are easy to use, modify, and maintain, and your entire CI pipeline becomes more efficient because you directly interact with core components like Jenkins, Terraform, and Docker. About the book In Pipeline as Code you'll learn to build reliable CI/CD pipelines for cloud-native applications. With Jenkins as the backbone, you'll programmatically control all the pieces of your pipeline via modern APIs. Hands-on examples include building CI/CD workflows for distributed Kubernetes applications, and serverless functions. By the time you're finished, you'll be able to swap manual UI-based adjustments with a fully automated approach! What's inside Build and deploy a Jenkins cluster on scale Write pipeline as code for cloud-native applications Automate the deployment of Dockerized and serverless applications Deploy Jenkins on AWS, GCP, and Azure Grasp key principles of a successful DevOps culture About the reader For developers familiar with Jenkins and Docker. Examples in Go. About the author Mohamed Labouardy is the CTO and co-founder of Crew, work, a Jenkins contributor, and a DevSecOps evangelist. Table of Contents PART 1 GETTING STARTED WITH JENKINS 1 What's CI/CD? 2 Pipeline as code with Jenkins PART 2 OPERATING A SELF-HEALING JENKINS CLUSTER 3 Defining Jenkins architecture 4 Baking machine images with Packer 5 Discovering Jenkins as code with Terraform 6 Deploying HA Jenkins on multiple cloud providers PART 3 HANDS-ON CI/CD PIPELINES 7 Defining a pipeline as code for microservices 8 Running automated tests with Jenkins 9 Building Docker images within a CI pipeline 10 Cloud-native applications on Docker Swarm 11 Dockerized microservices on K8s 12 Lambda-based serverless functions PART 4 MANAGING, SCALING, AND MONITORING JENKINS 13 Collecting continuous delivery metrics 14 Jenkins administration and best practices

Leading tech companies such as Netflix, Amazon and Uber use data science and machine learning at scale in their core business processes, whereas most traditional companies struggle to expand their machine learning projects beyond a small pilot scope. This book enables organizations to truly embrace the benefits of digital transformation by anchoring data and AI products at the core of their business. It provides executives with the essential tools and concepts to establish a data and AI portfolio strategy as well as the organizational setup and agile processes that are required to deliver machine learning products at scale. Key consideration is given to advancing the data architecture and governance, balancing stakeholder needs and breaking organizational silos through new ways of working. Each chapter includes templates, common pitfalls and global case studies covering industries such as insurance, fashion, consumer goods, finance, manufacturing and automotive. Covering a holistic perspective on strategy, technology, product and company culture, Driving Digital Transformation through Data and AI guides the organizational transformation required to get ahead in the age of AI.

Implement continuous delivery and integration in the AWS environment, 2nd Edition

Create secure applications by building complete CI/CD pipelines, 2nd Edition

Essential Tools and Best Practices for Deploying Code to Production

DevOps for Web Development

Accelerating DevSecOps on AWS

Achieve the Continuous Integration and Continuous Delivery of your web applications with ease About This Book Overcome the challenges of implementing DevOps for web applications, familiarize yourself with diverse third-party modules, and learn how to integrate them with bespoke code to efficiently complete tasks Understand how to do Cloud platforms such as Amazon EC2, AWS Elastic Beanstalk, Microsoft Azure, Azure Web Apps, and Docker Container Understand how to monitor applications deployed in Amazon EC2, AWS Elastic Beanstalk, Microsoft Azure, Azure Web Apps using Nagios, New Relic, Microsoft Azure, and AWS default monitoring features Who This Book Is For application and web application developer with a basic knowledge of programming and want to get hands-on with tools such as Jenkins 2 and Chef, and Cloud platforms such as AWS and Microsoft Azure, Docker, New Relic, Nagios, and their modules to host, deploy, monitor, and manage their web applications, then this book is for you. What Integration for a JEE application—create and configure a build job for a Java application with Maven and with Jenkins 2.0 Create built-in delivery pipelines of Jenkins 2 and build a pipeline configuration for end-to-end automation to manage the lifecycle of Continuous Integration Get to know all about configuration management using Chef to instance provisioning in AWS and Microsoft Azure and manage virtual machines on different cloud platforms—install Knife plugins for Amazon EC2 and Microsoft Azure Deploy an application in Amazon EC2, AWS Elastic Beanstalk, Microsoft Azure Web Apps, and a Docker container Monitor infrastructure, application servers, web servers, and a source monitoring solutions and New Relic Orchestrate multiple build jobs to achieve application deployment automation—create parameterized build jobs for end-to-end automation In Detail The DevOps culture is growing at a massive rate, as many organizations are adopting it. However, implementing it for web applications is one of the big developers and admins, which this book will help you overcome using various tools, such as Chef, Docker, and Jenkins. On the basis of the functionality of these tools, the book is divided into three parts. The first part shows you how to use Jenkins 2.0 for Continuous Integration of a sample JEE application. The second part explains the Chef provides an overview of Docker containers, resource provisioning in cloud environments using Chef, and Configuration Management in a cloud environment. The third part explores Continuous Delivery and Continuous Deployment in AWS, Microsoft Azure, and Docker, all using Jenkins 2.0. This book combines the skills of both web application configuration as each chapter contains one or more practical hands-on projects. You will be exposed to real-world project scenarios that are progressively presented from easy to complex solutions. We will teach you concepts such as hosting web applications, configuring a runtime environment, monitoring and hosting on various cloud platform show you how to essentially host and manage web applications along with Continuous Integration, Cloud Computing, Configuration Management, Continuous Monitoring, Continuous Delivery, and Deployment. Style and approach This is a learning guide for those who have a basic knowledge of application deployment, configuration management are eager to leverage it to implement DevOps for web applications using end-to-end automation and orchestration.

Choose the smarter way to learn about containerizing your applications and running them in production. Key FeaturesDeploy and manage highly scalable, containerized applications with KubernetesBuild high-availability Kubernetes clustersSecure your applications via encapsulation, networks, and secretsBook Description Kubernetes is an open managing containers in a cluster environment. This Learning Path introduces you to the world of containerization, in addition to providing you with an overview of Docker fundamentals. As you progress, you will be able to understand how Kubernetes works with containers. Starting with creating Kubernetes clusters and running applications authorization, you'll learn how to create high-availability Kubernetes clusters on Amazon Web Services (AWS), and also learn how to use kubeconfig to manage different clusters. Whether it is learning about Docker containers and Docker Compose, or building a continuous delivery pipeline for your application, this Learning Path will equip you techniques to get started with containerization. By the end of this Learning Path, you will have gained hands-on experience of working with Docker containers and orchestrators, including SwarmKit and Kubernetes. This Learning Path includes content from the following Packt products: Kubernetes Cookbook - Second Edition by Hideto Saito Carol HsuLearn Docker - Fundamentals of Docker 18.x by Gabriel N. SchenkerWhat you will learnBuild your own container clusterRun a highly distributed application with Docker Swarm or KubernetesUpdate or rollback a distributed application with zero downtimeContainerize your traditional or microservice-based applicationBuild a continuous applicationTrack metrics and logs for every container in your clusterImplement container orchestration to streamline deploying and managing applicationsWho this book is for This beginner-level Learning Path is designed for system administrators, operations engineers, DevOps engineers, and developers who want to get started with Docker experience with Docker is required, basic knowledge of Kubernetes and containers will be helpful.

Unleash the combination of Docker and Jenkins in order to enhance the DevOps workflowAbout This Book\* Build reliable and secure applications using Docker containers.\* Create a complete Continuous Delivery pipeline using Docker, Jenkins, and Ansible.\* Deliver your applications directly on the Docker Swarm cluster.\* Create more complex se database migrationsWho This Book Is ForThis book is intended to provide a full overview of deep learning. From the beginner in deep learning and artificial intelligence to the data scientist who wants to become familiar with Theano and its supporting libraries, or have an extended understanding of deep neural nets.Some basic skills in Python will help, as well as skills in elementary algebra and calculus.What You Will Learn\* Get to grips with docker fundamentals and how to dockerize an application for the Continuous Delivery process\* Configure Jenkins and scale it using Docker-based agents\* Understand the principles and the technical aspects of a successful Continuous Delivery Continuous Delivery process using modern tools: Docker, Jenkins, and Ansible\* Write acceptance tests using Cucumber and run them in the Docker ecosystem using Jenkins\* Create multi-container applications using Docker Compose\* Managing database changes inside the Continuous Delivery process and understand effective frameworks su clustering applications with Jenkins using Docker Swarm\* Publish a built Docker image to a Docker Registry and deploy cycles of Jenkins pipelines using community best practicesIn DetailThe combination of Docker and Jenkins improves your Continuous Delivery pipeline using fewer resources. It also helps you scale up your builds, automate t performance with the benefits of Docker containerization.This book will explain the advantages of combining Jenkins and Docker to improve the continuous integration and delivery process of app development. It will start with setting up a Docker server and configuring Jenkins on it. It will then provide steps to build applications on Docker f using continuous delivery processes such as continuous integration, automated acceptance testing, and configuration management.Moving on you will learn how to ensure quick application deployment with Docker containers along with scaling Jenkins using Docker Swarm. Next, you will get to know how to deploy applications using Docker the end of the book, you will be enhancing the DevOps workflow by integrating the functionalities of Docker and Jenkins.Style and approachThe book is aimed at DevOps Engineers, developers and IT Operations who want to enhance the DevOps culture using Docker and Jenkins.

Spring Microservices in Action, Second Edition teaches you to build microservice-based applications using Java and Spring. Summary By dividing large applications into separate self-contained units, Microservices are a great step toward reducing complexity and increasing flexibility. Spring Microservices in Action, Second Edition teaches you h applications using Java and the Spring platform. This second edition is fully updated for the latest version of Spring, with expanded coverage of API routing with Spring Cloud Gateway, logging with the ELK stack, metrics with Prometheus and Grafana, security with the Hashicorp Vault, and modern deployment practices with Kubernetes and includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Building and deploying microservices can be easy in Spring! Libraries like Spring Boot, Spring Cloud, and Spring Cloud Gateway reduce the boilerplate code in REST-based services. They provide an effective toolbox to get your microservices and private clouds. About the book Spring Microservices in Action, Second Edition teaches you to build microservice-based applications using Java and Spring. You'll start by creating basic services, then move to efficient logging and monitoring. Learn to refactor Java applications with Spring's intuitive tooling, and master API management with even deploy Spring Cloud applications with AWS and Kubernetes. What's inside Microservice design principles and best practices Configuration with Spring Cloud Config and Hashicorp Vault Client-side resiliency with Resilience4j, and Spring Cloud Load Balancer Metrics monitoring with Prometheus and Grafana Distributed tracing with Spring Stack About the reader For experienced Java and Spring developers. About the author John Carnell is a senior cloud engineer with 20 years of Java experience. Ilary Huaylupo Sánchez is a software engineer with over 13 years of experience. Table of Contents 1 Welcome to the cloud, Spring 2 Exploring the microservices world with Spring Cl Spring Boot 4 Welcome to Docker 5 Controlling your configuration with the Spring Cloud Configuration Server 6 On service discovery 7 When bad things happen: Resiliency patterns with Spring Cloud and Resilience4j 8 Service routing with Spring Cloud Gateway 9 Securing your microservices 10 Event-driven architecture with Spring Cloud S Spring Cloud Sleuth and Zipkin 12 Deploying your microservices

Develop and run your application with Docker containers using DevOps tools for continuous delivery

AWS Automation Cookbook

Efficiently develop, deploy, and manage your enterprise apps on the Amazon Web Services platform

Hands-On Continuous Integration and Delivery

Continuous Delivery in Java

Implementing Modern DevOps