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Learn how to deploy and test Linux-based Docker containers with the help of real-world use cases
Key Features
Understand how to make a deployment workflow run smoothly with Docker containers
Learn Docker and DevOps concepts such as continuous integration and continuous deployment (CI/CD)
Gain insights into using various Docker tools and

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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 environments effectively. Docker for Developers 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

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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

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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 learn
Get up to speed with creating containers and understand how they work
Package and deploy your containers to a variety of platforms
Work with containers in the cloud and on the Kubernetes platform
Deploy and then monitor the health and logs of running containers
Explore best practices for working with containers from a security perspective
Become familiar with scanning containers and using third-party security tools and libraries
Who this book is for

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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.

Discover how to use Docker to build deployment systems. Learn how to use Jenkins with Docker; review key deployment and

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integration concepts; explore how to create an integration test job; and more.

Explore the high-in demand core DevOps strategies with powerful DevOps tools such as Ansible, Jenkins, and Chef Key Features ●Get acquainted with methodologies and tools of the DevOps framework ●Perform continuous integration, delivery, deployment, and monitoring using DevOps tools ●Explore popular tools such as Git, Jenkins, Maven, Gerrit, Nexus, Selenium, and so on ●Embedded with assessments that will help you revise the concepts you have learned in this book Book Description DevOps is the most widely used

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software engineering culture and practice that aim at software development and operation. Continuous integration is a cornerstone technique of DevOps that merges software code updates from developers into a shared central mainline. This book takes a practical approach and covers the tools and strategies of DevOps. It starts with familiarizing you with DevOps framework and then shows how to perform continuous delivery, integration, and deployment with DevOps. You will explore DevOps process maturity frameworks and progression models with checklist templates for each phase of DevOps. You will also be familiar

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with agile terminology, methodology, and the benefits accrued by an organization by adopting it. You will also get acquainted with popular tools such as Git, Jenkins ,Maven, Gerrit, Nexus, Selenium, and so on.You will learn configuration, automation, and the implementation of infrastructure automation (Infrastructure as Code) with tools such as Chef and Ansible. This book is ideal for engineers, architects, and developers, who wish to learn the core strategies of DevOps. What you will learn

- Get familiar with life cycle models, maturity states, progression and best practices of DevOps frameworks
- Learn to set up Jenkins

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and integrate it with Git ● Know how to build jobs and perform testing with Jenkins
● Implement infrastructure automation (Infrastructure as Code) with tools such as Chef and Ansible ● Understand continuous monitoring process with tools such as Splunk and Nagios ● Learn how Splunk improves the code quality Who this book is for This book is for engineers, architects, and developers, who wish to learn the core strategies of DevOps. Speed up the software delivery process and software productivity using the latest features of Jenkins Key Features Take advantage of a Continuous Integration and Continuous Delivery

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solution to speed up productivity and achieve faster software delivery See all the new features introduced in Jenkins 2.x, such as Pipeline as code, Multibranch pipeline, Docker Plugin, and more Learn to implement Continuous Integration and Continuous Delivery by orchestrating multiple DevOps tools using Jenkins Book Description In past few years, agile software development has seen tremendous growth. There is a huge demand for software delivery solutions that are fast yet flexible to numerous amendments. As a result, Continuous Integration (CI) and Continuous Delivery (CD) methodologies are gaining

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popularity. This book starts off by explaining the concepts of CI and its significance in the Agile. Next, you'll learn how to configure and set up Jenkins in many different ways. The book exploits the concept of "pipeline as code" and various other features introduced in the Jenkins 2.x release to their full potential. We also talk in detail about the new Jenkins Blue Ocean interface and the features that help to quickly and easily create a CI pipeline. Then we dive into the various features offered by Jenkins one by one, exploiting them for CI and CD. Jenkins' core functionality and flexibility allows it to fit in a variety of environments and can help

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streamline the development process for all stakeholders. Next, you'll be introduced to CD and will learn how to achieve it using Jenkins. Through this book's wealth of best practices and real-world tips, you'll discover how easy it is to implement CI and CD using Jenkins. What you will learn Get to know some of the most popular ways to set up Jenkins See all the new features introduced in the latest Jenkins, such as pipeline as code, Multibranch pipeline, and more Manage users, projects, and permissions in Jenkins to ensure better security Leverage the power of plugins in Jenkins Learn how to create a CI pipeline using Jenkins Blue Ocean

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Create a distributed build farm using Docker and use it with Jenkins Implement CI and CD using Jenkins See the difference between CD and Continuous Deployment Understand the concepts of CI Who this book is for The book is for those with little or no previous experience with Agile or CI and CD. It's a good starting point for anyone new to this field who wants to leverage the benefits of CI and CD to increase productivity and reduce delivery time. It's ideal for Build and Release engineers, DevOps engineers, SCM (Software Configuration Management) engineers, developers, testers, and project managers. If you're already using

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Jenkins for CI, you can take your project to the next level—CD.

Jenkins 2: Up and Running

Pro Continuous Delivery

Build, test, and deploy cloud-native applications in the cloud-native way

Build, deploy, and manage your container applications at scale

Continuous Integration for the Masses

Create secure applications by building complete CI/CD pipelines

With Docker, Jenkins, and Kubernetes

This course teaches concepts by deep-dive on-hand exercises. Throughout the course, you will

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learn the required toolset by using both on-premise, open-source, and hosted cloud solutions. You'll find checklists, best practices, and critical points mentioned throughout the lessons, making things more interesting. Key Features
Explains in detail cloud-native continuous integration and delivery
Demonstrates how to run a build in a CI/CD system
Shows continuous delivery to Docker Registry and continuous deployment to Kubernetes
Book Description
Cloud-native software development is based on developing distributed applications focusing on speed,

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stability, and high availability. With this paradigm shift, software development has changed substantially and converted into a more agile environment where distributed teams develop distributed applications. In addition, the environment where the software is built, tested and deployed has changed from bare-metal servers to cloud systems. In this course, the new concepts of cloud-native Continuous Integration and Delivery are discussed in depth. Cloud-native tooling and services such as cloud providers (AWS, Google Cloud) containerization with Docker, container-orchestrators such as

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Kubernetes will be a part of this course to teach how to analyze and design modern software delivery pipelines. What you will learn
Learn the basics of DevOps patterns for cloud-native architecture
Learn the cloud-native way of designing CI/CD systems
Create multi-stage builds and tests for Docker.
Apply the best practices for Docker container images
Experiment using GitLab CI/CD pipelines for continuous integration
Build and test their applications on cloud
Learn how to continuously deliver to Docker registry
Learn how to continuously deploy to Kubernetes
Experiment using GitLab CI/CD

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pipelines for Continuous Delivery Configure and deploy software to Kubernetes using HelmWho this book is for This book is ideal for professionals interested in cloud-native software development. To benefit the most from this book, you must be familiar with developing, building, testing, integrating, and deploying containerized microservices into cloud systems. Automating the Continuous Deployment Pipeline with Containerized MicroservicesAbout This Book* First principles of devops, Ansible, Docker, Kubernetes, microservices* Architect your software in a better and more efficient way with

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microservices packed as immutable containers* Practical guide describing an extremely modern and advanced devops toolchain that can be improved continuouslyWho This Book Is ForIf you are an intermediate-level developer who wants to master the whole microservices development and deployment lifecycle using some of the latest and greatest practices and tools, this is the book for you. Familiarity with the basics of Devops and Continuous Deployment will be useful.What You Will Learn * Get to grips with the fundamentals of Devops* Architect efficient software in a better and more efficient way with

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the help of microservices* Use Docker, Kubernetes, Ansible, Ubuntu, Docker Swarm and more* Implement fast, reliable and continuous deployments with zero-downtime and ability to roll-back* Learn about centralized logging and monitoring of your cluster* Design self-healing systems capable of recovery from both hardware and software failuresIn DetailBuilding a complete modern devops toolchain requires not only the whole microservices development and a complete deployment lifecycle, but also the latest and greatest practices and tools. Victor Farcic argues from first principles how to build a

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devops toolchain. This book shows you how to chain together Docker, Kubernetes, Ansible, Ubuntu, and other tools to build the complete devops toolkit. Style and approach This book follows a unique, hands-on approach familiarizing you to the Devops 2.0 toolkit in a very practical manner. Although there will be a lot of theory, you won't be able to complete this book by reading it in a metro on a way to work. You'll need to be in front of your computer and get your hands dirty. Configure and extend Jenkins to architect, build, and automate efficient software delivery

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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

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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**

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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

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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 outmanoeuvre 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

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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-

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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.

Create a complete Continuous Delivery process

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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 advance 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

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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

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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

- 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**

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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.

The complete guide to accelerate collaboration with Jenkins, Kubernetes, Terraform and Azure DevOps

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GitOps and Kubernetes

Reliable Software Releases through Build, Test, and Deployment Automation (Adobe Reader)

Pro DevOps with Google Cloud Platform

Build and release quality software at scale with Jenkins, Travis CI, and CircleCI

Fundamentals of Continuous Delivery Pipeline

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

Simplify your DevOps roles with DevOps tools and techniques Key Features Learn to utilize business resources effectively to

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increase productivity and collaborationLeverage 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 downtimeBook 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

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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

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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

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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

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processes and applications using DevSecOps toolsWho this book is for If you are a developer or a system administrator interested in understanding continuous integration, continuous delivery, and containerization with DevOps tools and techniques, this book is for you.

"The combination of Docker and Jenkins improves your Continuous Delivery pipeline using fewer resources. It also helps you scale up your builds, automate tasks, and speed up Jenkins performance with the benefits of Docker containerization. This

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course explains continuous delivery pipelines in depth and improve the continuous integration and delivery process of app development. It starts with managing configuration using Ansible. Then we build a complete Continuous Delivery pipeline. Finally we present a mixture of different aspects related to the Continuous Delivery process."--Resource description page.

Streamline software development with Jenkins, the popular Java-based open source tool that has revolutionized the

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way teams think about Continuous Integration (CI). This complete guide shows you how to automate your build, integration, release, and deployment processes with Jenkins—and demonstrates how CI can save you time, money, and many headaches. Ideal for developers, software architects, and project managers, Jenkins: The Definitive Guide is both a CI tutorial and a comprehensive Jenkins reference. Through its wealth of best practices and real-world tips, you'll discover how easy it is to set up a CI service with Jenkins.

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Learn how to install, configure, and secure your Jenkins server Organize and monitor general-purpose build jobs Integrate automated tests to verify builds, and set up code quality reporting Establish effective team notification strategies and techniques Configure build pipelines, parameterized jobs, matrix builds, and other advanced jobs Manage a farm of Jenkins servers to run distributed builds Implement automated deployment and continuous delivery Start thinking about your development

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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,

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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

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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

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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*

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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.

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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

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MANAGING, SCALING, AND MONITORING JENKINS

13 Collecting continuous delivery metrics

14 Jenkins administration and best practices

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

A Practical Guide to Continuous Delivery Pipeline as Code

Continuous Delivery with Docker and Jenkins

Dive into the core DevOps strategies

Hands-On Continuous Integration and

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Delivery

Pro Java Clustering and Scalability

Using Continuous Delivery, you can bring software into production more rapidly, with greater reliability. A Practical Guide to Continuous Delivery is a 100% practical guide to building Continuous Delivery pipelines that automate rollouts, improve reproducibility, and dramatically reduce risk. Eberhard Wolff introduces a proven Continuous Delivery technology stack, including Docker, Chef, Vagrant, Jenkins, Graphite, the ELK stack, JBehave, and Gatling. He guides you through applying these technologies throughout build, continuous integration, load testing,

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acceptance testing, and monitoring. Wolff ' s start-to-finish example projects offer the basis for your own experimentation, pilot programs, and full-fledged deployments. A Practical Guide to Continuous Delivery is for everyone who wants to introduce Continuous Delivery, with or without DevOps. For managers, it introduces core processes, requirements, benefits, and technical consequences. Developers, administrators, and architects will gain essential skills for implementing and managing pipelines, and for integrating Continuous Delivery smoothly into software architectures and IT organizations. Understand the problems that Continuous Delivery solves, and how it solves them Establish an

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infrastructure for maximum software automation
Leverage virtualization and Platform as a Service (PAAS)
cloud solutions Implement build automation and
continuous integration with Gradle, Maven, and Jenkins
Perform static code reviews with SonarQube and
repositories to store build artifacts Establish automated
GUI and textual acceptance testing with behavior-driven
design Ensure appropriate performance via capacity
testing Check new features and problems with
exploratory testing Minimize risk throughout automated
production software rollouts Gather and analyze metrics
and logs with Elasticsearch, Logstash, Kibana (ELK), and
Graphite Manage the introduction of Continuous

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Delivery into your enterprise Architect software to facilitate Continuous Delivery of new capabilities GitOps and Kubernetes teaches you how to use Git and the GitOps methodology to manage a Kubernetes cluster. Summary GitOps and Kubernetes introduces a radical idea—managing your infrastructure with the same Git pull requests you use to manage your codebase. In this in-depth tutorial, you ' ll learn to operate infrastructures based on powerful-but-complex technologies such as Kubernetes with the same Git version control tools most developers use daily. With these GitOps techniques and best practices, you ' ll accelerate application development without

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compromising on security, easily roll back infrastructure changes, and seamlessly introduce new team members to your automation process. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology With GitOps you use the Git version control system to organize and manage your infrastructure just like any other codebase. It ' s an excellent model for applications deployed as containers and pods on Kubernetes. About the book GitOps and Kubernetes teaches you how to use Git and the GitOps methodology to manage a Kubernetes cluster. The book interleaves theory with practice, presenting core Ops concepts

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alongside easy-to-implement techniques so you can put GitOps into action. Learn to develop pipelines that trace changes, roll back mistakes, and audit container deployment. What's inside Managing secrets the GitOps way Controlling access with Git, Kubernetes, and Pipeline Branching, namespaces, and configuration About the reader For developers and operations engineers familiar with continuous delivery, Git, and Kubernetes. About the author Billy Yuen, Alexander Matyushentsev, Todd Ekenstam, and Jesse Suen are principal engineers at Intuit. They are widely recognized for their work in GitOps for Kubernetes. Table of Contents PART 1 - BACKGROUND 1 Why GitOps? 2

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Kubernetes & GitOps PART 2 - PATTERNS & PROCESSES
3 Environment Management 4 Pipelines 5 Deployment Strategies 6 Access Control & Security 7 Secrets 8 Observability PART 3 - TOOLS 9 Argo CD 10 Jenkins X 11 Flux

Viktor Farcic's latest book, *The 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 thought leader, Viktor Farcic Build, test, deploy, and monitor services inside Docker Swarm clusters Translate your understanding to different hosting providers like AWS, Azure, and DigitalOcean Go beyond simple

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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

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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

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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 failover. 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

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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,

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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.

Updated for Docker Community Edition v18.09! Docker book designed for SysAdmins, SREs, Operations staff,

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Developers and DevOps who are interested in deploying the open source container service Docker. In this book, we'll walk you through installing, deploying, managing, and extending Docker. We're going to do that by first introducing you to the basics of Docker and its components. Then we'll start to use Docker to build containers and services to perform a variety of tasks. We're going to take you through the development lifecycle, from testing to production, and see where Docker fits in and how it can make your life easier. We'll make use of Docker to build test environments for new projects, demonstrate how to integrate Docker with continuous integration workflow, and then how to build

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application services and platforms. Finally, we'll show you how to use Docker's API and how to extend Docker yourself. We'll teach you how to:

- * Install Docker.
- * Take your first steps with a Docker container.
- * Build Docker images.
- * Manage and share Docker images.
- * Run and manage more complex Docker containers.
- * Deploy Docker containers as part of your testing pipeline.
- * Build multi-container applications and environments.
- * Learn about orchestration using Compose and Swarm for the orchestration of Docker containers and Consul for service discovery.
- * Explore the Docker API.
- * Getting Help and Extending Docker.

A beginner's guide to implementing Continuous

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Integration and Continuous Delivery using Jenkins 2,
2nd Edition

Docker for Developers

The DevOps 2.0 Toolkit

Learning Continuous Integration with Jenkins

Containerization Is the New Virtualization

Bootstrapping Microservices with Docker, Kubernetes,
and Terraform

Create a complete continuous delivery process using
modern DevOps tools such as Docker, Jenkins,
Kubernetes, Ansible, Terraform, and many more Key
Features • Build reliable and secure applications using

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Docker containers • Create a highly available environment to scale Jenkins and your services using Kubernetes • Automate your release process end-to-end

Book Description This updated third edition of Continuous Delivery with Docker and Jenkins will explain the advantages of combining Jenkins and Docker to improve the continuous integration and delivery process of app development. You'll start by setting up a Docker server and configuring Jenkins on it. Next, you'll discover steps for building applications and microservices on Dockerfiles and integrating them with Jenkins using continuous delivery processes such as continuous integration, automated acceptance testing, configuration

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management, and Infrastructure as Code. Moving ahead, you'll learn how to ensure quick application deployment with Docker containers, along with scaling Jenkins using Kubernetes. Later, you'll explore how to deploy applications using Docker images and test them with Jenkins. Toward the concluding chapters, the book will focus on missing parts of the CD pipeline, such as the environments and infrastructure, application versioning, and non-functional testing. By the end of this continuous integration and continuous delivery book, you'll have gained the skills you need to enhance the DevOps workflow by integrating the functionalities of Docker and Jenkins. What you will learn • Grasp Docker

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fundamentals and dockerize applications for the CD process • Understand how to use Jenkins on-premises and in the cloud • Scale a pool of Docker servers using Kubernetes • Write acceptance tests using Cucumber • Run tests in the Docker ecosystem using Jenkins • Provision your servers and infrastructure using Ansible and Terraform • Publish a built Docker image to a Docker registry • Deploy cycles of Jenkins pipelines using community best practices

Who this book is for The book is for DevOps engineers, system administrators, Docker professionals, or anyone who wants to explore the power of working with Docker and Jenkins together. No prior knowledge of DevOps is required to get started.

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For any software developer who has spent days in “ integration hell, ” cobbling together myriad software components, Continuous Integration: Improving Software Quality and Reducing Risk illustrates how to transform integration from a necessary evil into an everyday part of the development process. The key, as the authors show, is to integrate regularly and often using continuous integration (CI) practices and techniques. The authors first examine the concept of CI and its practices from the ground up and then move on to explore other effective processes performed by CI systems, such as database integration, testing, inspection, deployment, and feedback. Through more than forty CI-related practices

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using application examples in different languages, readers learn that CI leads to more rapid software development, produces deployable software at every step in the development lifecycle, and reduces the time between defect introduction and detection, saving time and lowering costs. With successful implementation of CI, developers reduce risks and repetitive manual processes, and teams receive better project visibility. The book covers How to make integration a “ non-event ” on your software development projects How to reduce the amount of repetitive processes you perform when building your software Practices and techniques for using CI effectively with your teams Reducing the risks of late

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defect discovery, low-quality software, lack of visibility, and lack of deployable software Assessments of different CI servers and related tools on the market The book ' s companion Web site, www.integratebutton.com, provides updates and code examples.

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 FeaturesThe 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

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userGuides readers through the continuous deployment process using Jenkins in a Kubernetes clusterProvides an overview of the best practices for building, testing, and deploying applications through fully automated pipelines. Book Description 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

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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 learnGain an understanding of continuous deploymentLearn how to build, test, and deploy applications into KubernetesExecute continuous integration inside

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containersWho this book is for Readers with an intermediate level understanding of Kubernetes and hands-on experience.

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

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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

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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

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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,

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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.

Designing Fine-Grained Systems
With Jenkins 2.0

Accelerating software delivery with container
orchestrators

DevOps: Continuous Delivery, Integration, and
Deployment with DevOps

Cloud Deployments Made Easy

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Continuous Delivery in Java

Evolve Your Deployment Pipeline for Next Generation Automation

Build clustered and scalable Java-based, real-time applications using Spring Framework, Boot, WebSocket, Cassandra, Redis and RabbitMQ. In this book, you'll tie all this together with a dive-in case study, a real-time scalable chat application under differing scenarios. Pro Java Clustering and Scalability also discusses how to horizontally scale the WebSocket chat application using a full STOMP broker such as RabbitMQ. Although this is a programming book, it also discusses many interesting infrastructure topics and tips about continuous delivery, Docker, NoSQL (Cassandra and Redis)

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and other related technologies. What You Will Learn Handle clustering and scalability using various open source Java, microservices, and web services tools and technologies Use Spring Framework, Boot, and other Spring technologies Integrate with Redis, RabbitMQ, Cassandra, NoSQL, and much more Test the case study code under various scenarios and stresses Who This Book Is For Experienced Java developers with at least some prior experience with Java, especially Spring Framework, Boot and other tools, and some web services.

Unleash the combination of Docker and Jenkins in order to enhance the DevOps workflow About This Book Build reliable and secure applications using Docker containers.* Create a complete Continuous Delivery pipeline using Docker, Jenkins,*

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and Ansible. Deliver your applications directly on the Docker Swarm cluster.* Create more complex solutions using multi-containers and database migrations.*Who This Book Is ForThis book is indented 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 programming and computer science 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

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Continuous Delivery pipeline Create a complete 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 such as Cucumber and Flyweight* Build 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 practices*

*In Detail*The combination of Docker and Jenkins improves your Continuous Delivery pipeline using fewer resources. It also helps you scale up your builds, automate tasks and speed up Jenkins performance with the

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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 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 Docker Swarm. Next, you will get to know how to deploy applications using Docker images and testing them with Jenkins. By the end of the book, you will be enhancing the DevOps workflow by integrating the

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functionalities of Docker and Jenkins. Style and approach The book is aimed at DevOps Engineers, developers and IT Operations who want to enhance the DevOps culture using Docker and Jenkins.

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

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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)

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approach using AWS CloudFormation. By the end of this book, you'll not only understand how to run Docker on AWS, but also 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 Exploit 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.

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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.

"The combination of Docker and Jenkins improves your Continuous Delivery pipeline using fewer resources. It also helps you scale up your builds, automate tasks, and speed up Jenkins' performance with the benefits of Docker containerization. This course will explain the advantages of combining Jenkins and Docker to improve the continuous integration and delivery process of app development. We start with setting up a Docker server and configuring Jenkins on it. Next, you'll work through the steps to build applications on Docker files and integrate them with Jenkins using continuous delivery processes such as continuous integration and

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automated acceptance testing."--Resource description page.

Jenkins: The Definitive Guide

Docker: Continuous Delivery

Continuous Deployment with Argo CD, Jenkins X, and Flux

Continuous Integration

Cloud-Native Continuous Integration and Delivery

Learning DevOps

*Continuous Deployment to Kubernetes: Continuously
deploying applications with Jenkins to a Kubernetes cluster*

Summary Docker in Practice, Second Edition presents over 100 practical techniques, hand-picked to help you get the most out of Docker. Following a Problem/Solution/Discussion format, you'll walk through specific examples that you can use

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immediately, and you'll get expert guidance on techniques that you can apply to a whole range of scenarios. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Docker's simple idea-wrapping an application and its dependencies into a single deployable container-created a buzz in the software industry. Now, containers are essential to enterprise infrastructure, and Docker is the undisputed industry standard. So what do you do after you've mastered the basics? To really streamline your applications and transform your dev process, you need relevant examples and experts who can walk you through them. You need this book. About the Book Docker in Practice, Second Edition teaches

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you rock-solid, tested Docker techniques, such as replacing VMs, enabling microservices architecture, efficient network modeling, offline productivity, and establishing a container-driven continuous delivery process. Following a cookbook-style problem/solution format, you'll explore real-world use cases and learn how to apply the lessons to your own dev projects. What's inside Continuous integration and delivery The Kubernetes orchestration tool Streamlining your cloud workflow Docker in swarm mode Emerging best practices and techniques About the Reader Written for developers and engineers using Docker in production. About the Author Ian Miell and Aidan Hobson Sayers are seasoned infrastructure architects working in the UK. Together, they used Docker to

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transform DevOps at one of the UK's largest gaming companies. Table of Contents

PART 1 - DOCKER FUNDAMENTALS Discovering Docker Understanding Docker: Inside the engine room

PART 2 - DOCKER AND DEVELOPMENT Using Docker as a lightweight virtual machine Building images Running containers Day-to-day Docker Configuration management: Getting your house in order

PART 3 - DOCKER AND DEVOPS Continuous integration: Speeding up your development pipeline Continuous delivery: A perfect fit for Docker principles Network simulation: Realistic environment testing without the pain

PART 4 - ORCHESTRATION FROM A SINGLE MACHINE TO THE CLOUD A primer on container

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orchestration The data center as an OS with Docker Docker platforms PART 5 - DOCKER IN PRODUCTION Docker and security Plain sailing: Running Docker in production Docker in production: Dealing with challenges 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 Mar í n-P é rez 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 platforms. Not only will you learn how to create a comprehensive build pipeline for

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continually delivering effective software, but you ' It also explore how Java application architecture and deployment platforms have affected the way we rapidly and safely deliver new software 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-sec-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

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development to delivery Learn how to effectively build and test applications locally and observe your system while it runs in production

Continuous Delivery with Docker and Jenkins

Summary The best way to learn microservices development is to build something! Bootstrapping Microservices with Docker, Kubernetes, and Terraform guides you from zero through to a complete microservices project, including fast prototyping, development, and deployment. You ' ll get your feet wet using industry-standard tools as you learn and practice the practical skills you ' ll use for every microservices application. Following a true bootstrapping approach, you ' ll begin with a simple, familiar application and build up your knowledge and skills as

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you create and deploy a real microservices project. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Taking microservices from proof of concept to production is a complex, multi-step operation relying on tools like Docker, Terraform, and Kubernetes for packaging and deployment. The best way to learn the process is to build a project from the ground up, and that 's exactly what you ' ll do with this book! About the book In Bootstrapping Microservices with Docker, Kubernetes, and Terraform, author Ashley Davis lays out a comprehensive approach to building microservices. You ' ll start with a simple design and work layer-by-layer until you ' ve created your own video streaming application. As you

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go, you ' ll learn to configure cloud infrastructure with Terraform, package microservices using Docker, and deploy your finished project to a Kubernetes cluster. What's inside Developing and testing microservices applications Working with cloud providers Applying automated testing Implementing infrastructure as code and setting up a continuous delivery pipeline Monitoring, managing, and troubleshooting About the reader Examples are in JavaScript. No experience with microservices, Kubernetes, Terraform, or Docker required. About the author Ashley Davis is a software developer, entrepreneur, stock trader, and the author of Manning ' s Data Wrangling with JavaScript. Table of Contents 1 Why microservices? 2 Creating your first

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microservice 3 Publishing your first microservice 4 Data management for microservices 5 Communication between microservices 6 Creating your production environment 7 Getting to continuous delivery 8 Automated testing for microservices 9 Exploring FlixTube 10 Healthy microservices 11 Pathways to scalability

Continuous Delivery with Jenkins, Kubernetes, and Terraform
Improving Software Quality and Reducing Risk

DevOps with Kubernetes

Building Microservices

Continuous Delivery

Docker on Amazon Web Services

DevOps with OpenShift

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A beginner's guide to implementing Continuous Integration and Continuous Delivery using Jenkins About This Book Speed up and increase software productivity and software delivery using Jenkins Automate your build, integration, release, and deployment processes with Jenkins—and learn how continuous integration (CI) can save you time and money Explore the power of continuous delivery using Jenkins through powerful real-life examples Who This Book Is For This book is for anyone who wants to exploit the power of Jenkins. This book servers a great starting point for those who are in the field DevOps and would like to leverage the benefits of CI and continuous delivery in order to increase productivity and reduce delivery time. What You Will

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Learn Take advantage of a continuous delivery solution to achieve faster software delivery Speed up productivity using a continuous Integration solution through Jenkins Understand the concepts of CI and continuous delivery Orchestrate many DevOps tools using Jenkins to automate builds, releases, deployment, and testing Explore the various features of Jenkins that make DevOps activities a piece of cake Configure multiple build machines in Jenkins to maintain load balancing Manage users, projects, and permissions in Jenkins to ensure better security Leverage the power of plugins in Jenkins In Detail In past few years, Agile software development has seen tremendous growth across the world. There is huge demand for software delivery

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solutions that are fast yet flexible to frequent amendments. As a result, CI and continuous delivery methodologies are gaining popularity. Jenkins' core functionality and flexibility allows it to fit in a variety of environments and can help streamline the development process for all stakeholders. This book starts off by explaining the concepts of CI and its significance in the Agile world with a whole chapter dedicated to it. Next, you'll learn to configure and set up Jenkins. You'll gain a foothold in implementing CI and continuous delivery methods. We dive into the various features offered by Jenkins one by one exploiting them for CI. After that, you'll find out how to use the built-in pipeline feature of Jenkins. You'll see how to integrate Jenkins with code

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analysis tools and test automation tools in order to achieve continuous delivery. Next, you'll be introduced to continuous deployment and learn to achieve it using Jenkins. Through this book's wealth of best practices and real-world tips, you'll discover how easy it is to implement a CI service with Jenkins. Style and approach This is a step-by-step guide to setting up a CI and continuous delivery system loaded with hands-on examples

Annotation Over the past 10 years, distributed systems have become more fine-grained. From the large multi-million line long monolithic applications, we are now seeing the benefits of smaller self-contained services. Rather than heavy-weight, hard to change Service

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Oriented Architectures, we are now seeing systems consisting of collaborating microservices. Easier to change, deploy, and if required retire, organizations which are in the right position to take advantage of them are yielding significant benefits. This book takes an holistic view of the things you need to be cognizant of in order to pull this off. It covers just enough understanding of technology, architecture, operations and organization to show you how to move towards finer-grained systems. Unleash the combination of Docker and Jenkins in order to enhance the DevOps workflow About This Book Build reliable and secure applications using Docker containers. Create a complete Continuous Delivery pipeline using Docker, Jenkins, and Ansible. Deliver your applications

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directly on the Docker Swarm cluster. Create more complex solutions using multi-containers and database migrations. Who This Book Is For This 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 programming and computer science 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

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technical aspects of a successful Continuous Delivery pipeline Create a complete 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 such as Cucumber and Flyweight Build 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 practices In Detail The combination of Docker and Jenkins improves your Continuous Delivery pipeline using fewer resources. It

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also helps you scale up your builds, automate tasks and speed up Jenkins 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 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 Docker Swarm. Next, you will get to know how to deploy

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applications using Docker images and testing them with Jenkins. By the end of the book, you will be enhancing the DevOps workflow by integrating the functionalities of Docker and Jenkins. Style and approach The book is aimed at DevOps Engineers, developers and IT Operations who want to enhance the DevOps culture using Docker and Jenkins.

Design, implement, and execute continuous delivery pipelines with a level of flexibility, control, and ease of maintenance that was not possible with Jenkins before. With this practical book, build administrators, developers, testers, and other professionals will learn how the features in Jenkins 2 let you define pipelines as code, leverage integration with other key technologies,

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and create automated, reliable pipelines to simplify and accelerate your DevOps environments. Author Brent Laster shows you how Jenkins 2 is significantly different from the more traditional, web-only versions of this popular open source automation platform. If you're familiar with Jenkins and want to take advantage of the new technologies to transform your legacy pipelines or build new modern, automated continuous delivery environments, this is your book. Create continuous delivery pipelines as code with the Jenkins domain-specific language Get practical guidance on how to migrate existing jobs and pipelines Harness best practices and new methods for controlling access and security Explore the structure, implementation, and use

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of shared pipeline libraries Learn the differences between declarative syntax and scripted syntax Leverage new and existing project types in Jenkins Understand and use the new Blue Ocean graphical interface Take advantage of the capabilities of the underlying OS in your pipeline Integrate analysis tools, artifact management, and containers

Containerizing Continuous Delivery in Java

Mastering Jenkins

Deployment with Docker

The Docker Book

Advanced Continuous Delivery Pipeline

Essential Tools and Best Practices for Deploying Code to Production

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The DevOps 2.4 Toolkit

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

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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

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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

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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

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Server using open source tools and technologies

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-

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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

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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

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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

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

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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

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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

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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

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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

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in the CI ecosystem. Basic knowledge of software delivery is an added advantage.

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.

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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

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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

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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

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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

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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

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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

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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

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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.

Create secure applications by building complete CI/CD pipelines, 2nd Edition
The DevOps 2.1 Toolkit: Docker Swarm
Docker in Practice

A project-based guide
Building Real-Time Apps with Spring,
Cassandra, Redis, WebSocket and

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RabbitMQ

Docker Integration for Build Pipelines
and Application Architecture

Winner of the 2011 Jolt Excellence Award! Getting software released to users is often a painful, risky, and time-consuming process. This groundbreaking new book sets out the principles and technical practices that enable rapid, incremental delivery of high quality, valuable new functionality to users. Through automation of the build, deployment, and testing process, and improved collaboration between developers, testers, and operations, delivery teams can get changes released in a matter of

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hours— sometimes even minutes—no matter what the size of a project or the complexity of its code base. Jez Humble and David Farley begin by presenting the foundations of a rapid, reliable, low-risk delivery process. Next, they introduce the “deployment pipeline,” an automated process for managing all changes, from check-in to release. Finally, they discuss the “ecosystem” needed to support continuous delivery, from infrastructure, data and configuration management to governance. The authors introduce state-of-the-art techniques, including automated infrastructure management and data migration, and the use of

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virtualization. For each, they review key issues, identify best practices, and demonstrate how to mitigate risks. Coverage includes • Automating all facets of building, integrating, testing, and deploying software • Implementing deployment pipelines at team and organizational levels • Improving collaboration between developers, testers, and operations • Developing features incrementally on large and distributed teams • Implementing an effective configuration management strategy • Automating acceptance testing, from analysis to implementation • Testing capacity and other non-functional requirements • Implementing continuous

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deployment and zero-downtime releases • Managing infrastructure, data, components and dependencies • Navigating risk management, compliance, and auditing Whether you're a developer, systems administrator, tester, or manager, this book will help your organization move from idea to release faster than ever—so you can deliver value to your business rapidly and reliably.

Use DevOps principles with Google Cloud Platform (GCP) to develop applications and services. This book builds chapter by chapter to a complete real-life scenario, explaining how to build, monitor, and maintain a complete application using DevOps in practice. Starting

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with core DevOps concepts, continuous integration, and continuous delivery, you'll cover common tools including Jenkins, Docker, and Kubernetes in the context of a real microservices application to deploy in the cloud. You will also create a monitor for your cloud and see how to use its data to prevent errors and improve the stability of the system. By the end of Pro DevOps with Google Cloud Platform, you will be able to deploy, maintain, and monitor a real application with GCP. What You Will Learn Build and deploy applications and services using DevOps on Google Cloud Platform Maintain a complete continuous integration (CI) and continuous delivery (CD)

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pipeline Use containerization with Docker and Kubernetes Carry out CD with GCP and Jenkins Create microservices with Jenkins, Docker, and Kubernetes Monitor your newly deployed application and its deployment and performance Set up security and manage your network with GCP Who This Book Is For Developers and software architects who want to implement DevOps in practice. Some prior programming experience is recommended as well as a basic knowledge of a Linux command-line environment.