

Terraform Up And Running Writing Infrastructure As Code

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Infrastructure as Code (IAC) Cookbook - Stephane Jourdan 2017-02-17

Over 90 practical, actionable recipes to automate, test, and manage your infrastructure quickly and effectively
About This Book Bring down your delivery timeline from days to hours by treating your server configurations and VMs as code, just like you would with software code. Take your existing knowledge and skill set with your existing tools (Puppet, Chef, or Docker) to the next level and solve IT infrastructure challenges. Use practical recipes to use code to provision and deploy servers and applications and have greater control of your infrastructure.
Who This Book Is For This book is for DevOps engineers and developers working in cross-functional teams or operations and would now switch to IAC to manage complex infrastructures. What You Will Learn Provision local and remote development environments with Vagrant Automate production infrastructures with Terraform, Ansible and Cloud-init on AWS, OpenStack, Google Cloud, Digital Ocean, and more Manage and test automated systems using Chef and Puppet Build, ship, and debug optimized Docker containers Explore the best practices to automate and test everything from cloud infrastructures to operating system configuration In Detail Infrastructure as Code (IAC) is a key aspect of the DevOps movement, and this book will show you how to transform the way you work with your infrastructure—by treating it as software. This book is dedicated to helping you discover the essentials of infrastructure automation and its related practices; the over 90 organized practical solutions will demonstrate how to work with some of the very best tools and cloud solutions. You will learn how to deploy repeatable infrastructures and services on AWS, OpenStack, Google Cloud, and Digital Ocean. You will see both Ansible and Terraform in action, manipulate the best bits from cloud-init to easily bootstrap instances, and simulate consistent environments locally or remotely using Vagrant. You will discover how to automate and test a range of system tasks using Chef or Puppet. You will also build, test, and debug various Docker containers having developers' interests in mind. This book will help you to use the right tools, techniques, and approaches to deliver working solutions for today's modern infrastructure challenges. Style and approach This is a recipe-based book that allows you to venture into some of the most cutting-edge practices and techniques about IAC and solve immediate problems when trying to implement them.

Creating Apps in Kivy - Dusty Phillips 2014-04-09

Build mobile apps efficiently with Kivy, the Python-powered graphical toolkit for creating natural user interfaces with elegant multitouch support. With this hands-on guide, you'll learn step-by-step how to build and deploy a complete Kivy app for iOS and Android devices. If you're just beginning to work with Python, but are reasonably familiar with its syntax, you're ready to go. Each chapter includes exercises, using examples that run on Python 3 and Python 2.7. Learn how Kivy simplifies mobile development with its cross-platform API and domain-specific Kv language, and why this free and open source toolkit is ideal for commercial products. Design custom widgets with the Kv language Delve into Kivy events, event handlers, and properties Dynamically change which Kivy widgets are displayed Understand and apply iterative development principles Create basic animations, using

Canvas and graphics primitives Store local data with Kivy's powerful key value store Add basic gestures to switch between app views Improve your app's usability with Kivy's built-in widgets Deploy the app to your Android or iOS device, using Buildozer

Mastering AWS CloudFormation - Karen Tovmasyan 2020-05-08

Build scalable and production-ready infrastructure in Amazon Web Services with CloudFormation Key FeaturesLeverage AWS CloudFormation templates to manage your entire infrastructureGet up and running with writing your infrastructure as code and automating your environmentSimplify infrastructure management and increase productivity with AWS CloudFormationBook Description DevOps and the cloud revolution have forced software engineers and operations teams to rethink how to manage infrastructures. With this AWS book, you'll understand how you can use Infrastructure as Code (IaC) to simplify IT operations and manage the modern cloud infrastructure effectively with AWS CloudFormation. This comprehensive guide will help you explore AWS CloudFormation from template structures through to developing complex and reusable infrastructure stacks. You'll then delve into validating templates, deploying stacks, and handling deployment failures. The book will also show you how to leverage AWS CodeBuild and CodePipeline to automate resource delivery and apply continuous integration and continuous delivery (CI/CD) practices to the stack. As you advance, you'll learn how to generate templates on the fly using macros and create resources outside AWS with custom resources. Finally, you'll improve the way you manage the modern cloud in AWS by extending CloudFormation using AWS serverless application model (SAM) and AWS cloud development kit (CDK). By the end of this book, you'll have mastered all the major AWS CloudFormation concepts and be able to simplify infrastructure management. What you will learnUnderstand modern approaches to IaCDevelop universal and reusable CloudFormation templatesDiscover ways to apply continuous delivery with CloudFormationImplement IaC best practices for the AWS CloudProvision massive applications across multiple regions and accountsAutomate template generation and software provisioning for AWSExtend CloudFormation with custom resources and template macrosWho this book is for If you are a developer who wants to learn how to write templates, a DevOps engineer interested in deployment and orchestration, or a solutions architect looking to understand the benefits of managing infrastructure with ease, this book is for you. Prior understanding of the AWS Cloud is necessary.

Istio: Up and Running - Lee Calcote 2019-09-27

You did it. You successfully transformed your application into a microservices architecture. But now that you're running services across different environments—public to public, private to public, virtual machine to container—your cloud native software is beginning to encounter reliability issues. How do you stay on top of this ever-increasing complexity? With the Istio service mesh, you'll be able to manage traffic, control access, monitor, report, get telemetry data, manage quota, trace, and more with resilience across your microservice. In this book, Lee Calcote and Zack Butcher explain why your services need a service mesh and demonstrate step-by-step how

Istio fits into the life cycle of a distributed application. You'll learn about the tools and APIs for enabling and managing many of the features found in Istio. Explore the observability challenges Istio addresses Use request routing, traffic shifting, fault injection, and other features essential to running a solid service mesh Generate and collect telemetry information Try different deployment patterns, including A/B, blue/green, and canary Get examples of how to develop and deploy real-world applications with Istio support

HashiCorp Infrastructure Automation Certification Guide - Ravi Mishra 2021-07-15

Leverage Terraform's capabilities to reuse code, write modules, automate deployments, and manage infrastructure state Key FeaturesPerform complex enterprise-grade infrastructure deployments using Terraform v1.0, the latest version of TerraformLearn to scale your infrastructure without introducing added deployment complexitiesUnderstand how to overcome infrastructure deployment challengesBook Description Terraform is a highly sought-after technology for orchestrating infrastructure provisioning. This book is a complete reference guide to enhancing your infrastructure automation skills, offering up-to-date coverage of the HashiCorp infrastructure automation certification exam. This book is written in a clear and practical way with self-assessment questions and mock exams that will help you from a HashiCorp infrastructure automation certification exam perspective. This book covers end-to-end activities with Terraform, such as installation, writing its configuration file, Terraform modules, backend configurations, data sources, and infrastructure provisioning. You'll also get to grips with complex enterprise infrastructures and discover how to create thousands of resources with a single click. As you advance, you'll get a clear understanding of maintaining infrastructure as code (IaC) in Repo/GitHub, along with learning how to create, modify, and remove infrastructure resources as and when needed. Finally, you'll learn about Terraform Cloud and Enterprise and their enhanced features. By the end of this book, you'll have a handy, up-to-date desktop reference guide along with everything you need to pass the HashiCorp Certified: Terraform Associate exam with confidence. What you will learnEffectively maintain the life cycle of your infrastructure using Terraform 1.0Reuse Terraform code to provision any cloud infrastructureWrite Terraform modules on multiple cloud providersUse Terraform workflows with the Azure DevOps pipelineWrite Terraform configuration files for AWS, Azure, and Google CloudDiscover ways to securely store Terraform state filesUnderstand Policy as Code using Terraform SentinelGain an overview of Terraform Cloud and Terraform EnterpriseWho this book is for This book is for experienced cloud engineers, DevOps engineers, system administrators, and solution architects interested in developing industry-grade skills with Terraform. You will also find this book useful if you want to pass the HashiCorp Certified: Terraform Associate exam. Basic command-line skills and prior knowledge of cloud environments and their services are required before getting started with this book.

Excel Dashboards and Reports - Michael Alexander 2010-08-06

The go to resource for how to use Excel dashboards and reports to better conceptualize data Many Excel books do an adequate job of discussing the individual functions and tools that can be used to create an "Excel Report." What they don't offer is the most effective ways to present and report data. Offering a comprehensive review of a wide array of technical and analytical concepts, Excel Reports and Dashboards helps Excel users go from reporting data with simple tables full of dull numbers, to presenting key information through the use of high-impact, meaningful reports and dashboards that will wow management both visually and substantively. Details how to analyze large amounts of data and report the results in a meaningful, eye-catching visualization Describes how to use different perspectives to achieve better visibility into data, as well as how to slice data into various views on the fly Shows how to automate redundant reporting and analyses Part technical manual, part analytical guidebook, Excel Dashboards and Reports is the latest addition to the Mr. Spreadsheet's Bookshelf series and is the leading resource for learning to create dashboard reports in an easy-to-use format that's both visually attractive and effective.

Infrastructure as Code, Patterns and Practices - Rosemary Wang 2022-09-20

Use Infrastructure as Code (IaC) to automate, test, and streamline infrastructure for business-critical systems. In *Infrastructure as Code, Patterns and Practices* you will learn how to: Optimize infrastructure for modularity and isolate dependencies Test infrastructure configuration Mitigate, troubleshoot, and isolate failed infrastructure changes Collaborate across teams on infrastructure development Update infrastructure with minimal downtime using blue-green deployments Scale infrastructure systems supporting multiple business units Use patterns for provisioning tools, configuration management, and image building Deliver secure infrastructure configuration to production *Infrastructure as Code, Patterns and Practices* teaches you to automate infrastructure by applying changes in a codified manner. You'll learn how to create, test, and deploy infrastructure components in a way that's easy to scale and share across an entire organization. The book is full of flexible automation techniques that work whether you're managing your personal projects or making live network changes across a large enterprise. A system administrator or infrastructure engineer will learn essential software development practices for managing IaC, while developers will benefit from in-depth coverage of assembling infrastructure as part of DevOps culture. While the patterns and techniques are tool agnostic, you'll appreciate the easy-to-follow examples in Python and Terraform. About the technology *Infrastructure as Code* is a set of practices and processes for provisioning and maintaining infrastructure using scripts, configuration, or programming languages. With IaC in place, it's easy to test components, implement features, and scale with minimal downtime. Best of all, since IaC follows good development practices, you can make system-wide changes with just a few code commits! About the book *Infrastructure as Code, Patterns and Practices* teaches flexible techniques for building resilient, scalable infrastructure, including structuring and sharing modules, migrating legacy systems, and more. Learn to build networks, load balancers, and firewalls using Python and Terraform, and confidently update infrastructure while your software is running. You'll appreciate the expert advice on team collaboration strategies to avoid instability, improve security, and manage costs. What's inside Optimize infrastructure for modularity and isolate dependencies Mitigate, troubleshoot, and isolate failed infrastructure changes Update infrastructure with minimal downtime using blue-green deployments Use patterns for provisioning tools, configuration management, and image building About the reader For infrastructure or software engineers familiar with Python, provisioning tools, and public cloud providers. About the author Rosemary Wang is an educator, contributor, writer, and speaker. She has worked on many infrastructure as code projects, and open source tools such as Terraform, Vault, and Kubernetes. Table of Contents PART 1 FIRST STEPS 1 Introducing infrastructure as code 2 Writing infrastructure as code 3 Patterns for infrastructure modules 4 Patterns for infrastructure dependencies PART 2 SCALING WITH YOUR TEAM 5 Structuring and sharing modules 6 Testing 7 Continuous delivery and branching models 8 Security and compliance PART 3 MANAGING PRODUCTION COMPLEXITY 9 Making changes 10 Refactoring 11 Fixing failures 12 Cost of cloud computing 13 Managing tools

Terraform: Up and Running - Yevgeniy Brikman 2022-09-19

Terraform has become a key player in the DevOps world for defining, launching, and managing infrastructure as code (IaC) across a variety of cloud and virtualization platforms, including AWS, Google Cloud, Azure, and more. This hands-on third edition, expanded and thoroughly updated for version 1.0 and beyond, shows you the fastest way to get up and running with Terraform. Gruntwork cofounder Yevgeniy (Jim) Brikman takes you through code examples that demonstrate Terraform's simple, declarative programming language for deploying and managing infrastructure with a few commands. Veteran sysadmins, DevOps engineers, and novice developers will quickly go from Terraform basics to running a full stack that can support a massive amount of traffic and a large team of developers. Compare Terraform with Chef, Puppet, Ansible, CloudFormation, and Pulumi Deploy servers, load balancers, and databases Create reusable infrastructure with Terraform modules Test your Terraform modules

with static analysis, unit tests, and integration tests Configure CI/CD pipelines for both your apps and infrastructure code Use advanced Terraform syntax for loops, conditionals, and zero-downtime deployment Get up to speed on Terraform 0.13 to 1.0 and beyond Work with multiple clouds and providers (including Kubernetes!)

AWS Cookbook - John Culkin 2021-12-02

This practical guide provides over 100 self-contained recipes to help you creatively solve issues you may encounter in your AWS cloud endeavors. If you're comfortable with rudimentary scripting and general cloud concepts, this cookbook will give you what you need to both address foundational tasks and create high-level capabilities. AWS Cookbook provides real-world examples that incorporate best practices. Each recipe includes code that you can safely execute in a sandbox AWS account to ensure that it works. From there, you can customize the code to help construct your application or fix your specific existing problem. Recipes also include a discussion that explains the approach and provides context. This cookbook takes you beyond theory, providing the nuts and bolts you need to successfully build on AWS. You'll find recipes for: Organizing multiple accounts for enterprise deployments Locking down S3 buckets Analyzing IAM roles Autoscaling a containerized service Summarizing news articles Standing up a virtual call center Creating a chatbot that can pull answers from a knowledge repository Automating security group rule monitoring, looking for rogue traffic flows And more.

[Maven: The Definitive Guide](#) - Sonatype Company 2008-09-24

For too long, developers have worked on disorganized application projects, where every part seemed to have its own build system, and no common repository existed for information about the state of the project. Now there's help. The long-awaited official documentation to Maven is here. Written by Maven creator Jason Van Zyl and his team at Sonatype, *Maven: The Definitive Guide* clearly explains how this tool can bring order to your software development projects. Maven is largely replacing Ant as the build tool of choice for large open source Java projects because, unlike Ant, Maven is also a project management tool that can run reports, generate a project website, and facilitate communication among members of a working team. To use Maven, everything you need to know is in this guide. The first part demonstrates the tool's capabilities through the development, from ideation to deployment, of several sample applications -- a simple software development project, a simple web application, a multi-module project, and a multi-module enterprise project. The second part offers a complete reference guide that includes: The POM and Project Relationships The Build Lifecycle Plugins Project website generation Advanced site generation Reporting Properties Build Profiles The Maven Repository Team Collaboration Writing Plugins IDEs such as Eclipse, IntelliJ, and NetBeans Using and creating assemblies Developing with Maven Archetypes Several sources for Maven have appeared online for some time, but nothing served as an introduction and comprehensive reference guide to this tool -- until now. *Maven: The Definitive Guide* is the ideal book to help you manage development projects for software, web applications, and enterprise applications. And it comes straight from the source.

The Terraform Book - James Turnbull 2016-12-31

A hands-on, introductory book about managing infrastructure with Terraform. Start small and then build on what you learn to scale up to complex infrastructure. Written for both developers and sysadmins. Focuses on how to build infrastructure and applications with Terraform. The book contains: Chapter 1: An Introduction to Terraform Chapter 2: Installing Terraform Chapter 3: Building our first application Chapter 4: Provisioning and Terraform Chapter 5: Collaborating with Terraform Chapter 6: Building a multi-environment architecture Chapter 7: Infrastructure testing Updated for Terraform 0.12!

97 Things Every Cloud Engineer Should Know - Emily Freeman 2020-12-04

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer--even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book,

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

Terraform: Up and Running - Yevgeniy Brikman 2019-09-04

Terraform has become a key player in the DevOps world for defining, launching, and managing infrastructure as code (IAC) across a variety of cloud and virtualization platforms, including Azure, Google Cloud, DigitalOcean, and others. The updated second edition of this hands-on guide is fastest way to get up and running with Terraform.

Microservices: Up and Running - Ronnie Mitra 2020-11-25

Microservices architectures offer faster change speeds, better scalability, and cleaner, evolvable system designs. But implementing your first microservices architecture is difficult. How do you make myriad choices, educate your team on all the technical details, and navigate the organization to a successful execution to maximize your chance of success? With this book, authors Ronnie Mitra and Irakli Nadareishvili provide step-by-step guidance for building an effective microservices architecture. Architects and engineers will follow an implementation journey based on techniques and architectures that have proven to work for microservices systems. You'll build an operating model, a microservices design, an infrastructure foundation, and two working microservices, then put those pieces together as a single implementation. For anyone tasked with building microservices or a microservices architecture, this guide is invaluable. Learn an effective and explicit end-to-end microservices system design Define teams, their responsibilities, and guidelines for working together Understand how to slice a big application into a collection of microservices Examine how to isolate and embed data into corresponding microservices Build a simple yet powerful CI/CD pipeline for infrastructure changes Write code for sample microservices Deploy a working microservices application on Amazon Web Services

Terraform: Up & Running - Yevgeniy Brikman 2019-09-06

Terraform has become a key player in the DevOps world for defining, launching, and managing infrastructure as code (IaC) across a variety of cloud and virtualization platforms, including AWS, Google Cloud, Azure, and more. This hands-on second edition, expanded and thoroughly updated for Terraform version 0.12 and beyond, shows you the fastest way to get up and running. Gruntwork cofounder Yevgeniy (Jim) Brikman walks you through code examples that demonstrate Terraform's simple, declarative programming language for deploying and managing infrastructure with a few commands. Veteran sysadmins, DevOps engineers, and novice developers will quickly go from Terraform basics to running a full stack that can support a massive amount of traffic and a large team of developers. Explore changes from Terraform 0.9 through 0.12, including backends, workspaces, and first-class expressions Learn how to write production-grade Terraform modules Dive into manual and automated testing for Terraform code Compare Terraform to Chef, Puppet, Ansible, CloudFormation, and Salt Stack Deploy server clusters, load balancers, and databases Use Terraform to manage the state of your infrastructure Create reusable infrastructure with Terraform modules Use advanced Terraform syntax to achieve zero-downtime deployment

Ansible: Up and Running - Lorin Hochstein 2014-12-08

Among the many configuration management tools available, Ansible has some distinct advantages—it's minimal in nature, you don't need to install anything on your nodes, and it has an easy learning curve. This practical guide shows you how to be productive with this tool quickly, whether you're a developer deploying code to production or a system administrator looking for a better automation solution. Author Lorin Hochstein shows you how to write playbooks (Ansible's configuration management scripts), manage remote servers, and explore the tool's real power: built-in declarative modules. You'll discover that Ansible has the functionality you need and the simplicity you desire. Understand how Ansible differs from other configuration management systems Use the YAML file format to write your own playbooks Learn Ansible's support for variables and facts Work with a complete example to deploy a non-trivial application Use roles to simplify and reuse playbooks Make playbooks run faster with ssh multiplexing, pipelining, and parallelism Deploy applications to Amazon EC2 and other cloud platforms Use Ansible to create Docker images and deploy Docker containers

Jenkins 2: Up and Running - Brent Laster 2018-05-02

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, 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 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

DevOps with OpenShift - Stefano Picozzi 2017-07-10

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

Ansible for DevOps - Jeff Geerling 2020-08-05

Ansible is a simple, but powerful, server and configuration management tool. Learn to use Ansible effectively, whether you manage one server--or thousands.

Terraform - Yevgeniy Brikman 2019

Terraform has become a key player in the DevOps world for defining, launching, and managing infrastructure as code (IaC) across a variety of cloud and virtualization platforms, including AWS, Google Cloud, Azure, and more. This hands-on second edition, expanded and thoroughly updated for Terraform version 0.12 and beyond, shows you the fastest way to get up and running. Gruntwork cofounder Yevgeniy (Jim) Brikman walks you through code examples that demonstrate Terraform's simple, declarative programming language for deploying and managing infrastructure with a few commands. Veteran sysadmins, DevOps engineers, and novice developers will quickly go from Terraform basics to running a full stack that can support a massive amount of traffic and a large team of developers. Explore changes from Terraform 0.9 through 0.12, including backends, workspaces, and first-class expressions Learn how to write production-grade Terraform modules Dive into manual and automated testing for Terraform code Compare Terraform to Chef, Puppet, Ansible, CloudFormation, and Salt Stack Deploy server clusters, load balancers, and databases Use Terraform to manage the state of your infrastructure Create reusable infrastructure with Terraform modules Use advanced Terraform syntax to achieve zero-downtime deployment.

Kubernetes Best Practices - Brendan Burns 2019-11-14

In this practical guide, four Kubernetes professionals with deep experience in distributed systems, enterprise application development, and open source will guide you through the process of building applications with this container orchestration system. Based on the experiences of companies that are running Kubernetes in production successfully, many of the methods are also backed by concrete code examples. This book is ideal for those already familiar with basic Kubernetes concepts who want to learn common best practices. You'll learn exactly what you need to know to build your best app with Kubernetes the first time. Set up and develop applications in Kubernetes Learn patterns for monitoring, securing your systems, and managing upgrades, rollouts, and rollbacks Understand Kubernetes networking policies and where service mesh fits in Integrate services and legacy applications and develop higher-level platforms on top of Kubernetes Run machine learning workloads in Kubernetes

Python for DevOps - Noah Gift 2019-12-12

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

Running HashiCorp Vault in Production - Bryan Krausen 2020-10-24

Flexibility and security. Two characteristics that cannot be compromised in the age of multi-cloud and DevOps, yet most secrets management tools were designed around the idea that both cannot be achieved together. Enter HashiCorp Vault, built around the philosophy that securing secrets is more effective when the interaction of a secrets management service aligns with other DevOps tools available today. Vault has quickly become the de-facto solution in secrets management over recent years, finding its way into many Global 2000 companies. This book will cover multiple aspects of Vault, from planning the service, architectural design, and deployment of Vault, to

managing the service once it is up and running. With a combined 40 years of experience working in technology and more than three years working specifically with Vault, Bryan and Dan walk users through the process of designing and building a production-ready Vault service.

PostgreSQL: Up and Running - Regina O. Obe 2012-07-06

Thinking of migrating to PostgreSQL? This updated guide helps you quickly understand and use the 9.3 release of this open source database system. You'll not only learn about its unique enterprise-class features, but also discover that PostgreSQL is more than just a database system—it's also an impressive application platform. Using numerous examples, this book shows you how to achieve tasks that are difficult or impossible in other databases. The second edition covers LATERAL queries, augmented JSON support, materialized views, and other key topics. If you're an existing PostgreSQL user, you'll pick up gems you may have missed along the way. Learn basic administration tasks, such as role management, database creation, backup, and restore Apply the psql command-line utility and the pgAdmin graphical administration tool Explore PostgreSQL tables, constraints, and indexes Learn powerful SQL constructs not generally found in other databases Use several different languages to write database functions Tune your queries to run as fast as your hardware will allow Query external and variegated data sources with Foreign Data Wrappers Learn how to replicate data, using built-in replication features

Terraform Cookbook - Mikael Krief 2020-10-15

Discover how to manage and scale your infrastructure using Infrastructure as Code (IaC) with Terraform Key Features Get up and running with the latest version of Terraform, v0.13 Design and manage infrastructure that can be shared, tested, modified, provisioned, and deployed Work through practical recipes to achieve zero-downtime deployment and scale your infrastructure effectively Book Description HashiCorp Configuration Language (HCL) has changed how we define and provision a data center infrastructure with the launch of Terraform—one of the most popular and powerful products for building Infrastructure as Code. This practical guide will show you how to leverage HashiCorp's Terraform tool to manage a complex infrastructure with ease. Starting with recipes for setting up the environment, this book will gradually guide you in configuring, provisioning, collaborating, and building a multi-environment architecture. Unlike other books, you'll also be able to explore recipes with real-world examples to provision your Azure infrastructure with Terraform. Once you've covered topics such as Azure Template, Azure CLI, Terraform configuration, and Terragrunt, you'll delve into manual and automated testing with Terraform configurations. The next set of chapters will show you how to manage a balanced and efficient infrastructure and create reusable infrastructure with Terraform modules. Finally, you'll explore the latest DevOps trends such as continuous integration and continuous delivery (CI/CD) and zero-downtime deployments. By the end of this book, you'll have developed the skills you need to get the most value out of Terraform and manage your infrastructure effectively. What you will learn Understand how to install Terraform for local development Get to grips with writing Terraform configuration for infrastructure provisioning Use Terraform for advanced infrastructure use cases Understand how to write and use Terraform modules Discover how to use Terraform for Azure infrastructure provisioning Become well-versed in testing Terraform configuration Execute Terraform configuration in CI/CD pipelines Explore how to use Terraform Cloud Who this book is for This book is for developers, operators, and DevOps engineers looking to improve their workflow and use Infrastructure as Code. Experience with Microsoft Azure, Jenkins, shell scripting, and DevOps practices is required to get the most out of this Terraform book.

Infrastructure as Code - Kief Morris 2020-12-08

Six years ago, Infrastructure as Code was a new concept. Today, as even banks and other conservative organizations plan moves to the cloud, development teams for companies worldwide are attempting to build large infrastructure codebases. With this practical book, Kief Morris of ThoughtWorks shows you how to effectively use principles,

practices, and patterns pioneered by DevOps teams to manage cloud-age infrastructure. Ideal for system administrators, infrastructure engineers, software developers, team leads, and architects, this updated edition demonstrates how you can exploit cloud and automation technology to make changes easily, safely, quickly, and responsibly. You'll learn how to define everything as code and apply software design and engineering practices to build your system from small, loosely coupled pieces. This book covers: Foundations: Use Infrastructure as Code to drive continuous change and raise the bar of operational quality, using tools and technologies to build cloud-based platforms Working with infrastructure stacks: Learn how to define, provision, test, and continuously deliver changes to infrastructure resources Working with servers and other platforms: Use patterns to design provisioning and configuration of servers and clusters Working with large systems and teams: Learn workflows, governance, and architectural patterns to create and manage infrastructure elements

Pipeline as Code - Mohamed Labouardy 2021-11-23

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

Getting Started with Terraform - Kirill Shirinkin 2017-07-31

Build, Manage and Improve your infrastructure effortlessly. About This Book An up-to-date and comprehensive resource on Terraform that lets you quickly and efficiently launch your infrastructure Learn how to implement your infrastructure as code and make secure, effective changes to your infrastructure Learn to build multi-cloud fault-tolerant systems and simplify the management and orchestration of even the largest scale and most complex cloud infrastructures Who This Book Is For This book is for developers and operators who already have some exposure to working with infrastructure but want to improve their workflow and introduce infrastructure as a code practice. Knowledge of essential Amazon Web Services components (EC2, VPC, IAM) would help contextualize the examples provided. Basic understanding of Jenkins and Shell scripts will be helpful for the chapters on the production usage of Terraform. What You Will Learn Understand what Infrastructure as Code (IaC) means and why it matters Install, configure, and deploy Terraform Take full control of your infrastructure in the form of code Manage complete infrastructure, starting with a single server and scaling beyond any limits Discover a great set of production-ready practices to manage infrastructure Set up CI/CD pipelines to test and deliver Terraform stacks Construct templates to simplify more complex provisioning tasks In Detail Terraform is a tool used to efficiently build, configure, and improve the production infrastructure. It can manage the existing infrastructure as well as create custom in-house solutions. This book shows you when and how to implement infrastructure as a code practices with Terraform. It covers everything necessary to set up the complete management of infrastructure with Terraform, starting with the basics of using providers and resources. It is a comprehensive guide that begins with very small infrastructure templates and takes you all the way to managing complex systems, all using concrete examples that evolve over the course of the book. The book ends with the complete workflow of managing a production infrastructure as code—this is achieved with the help of version control and continuous integration. The readers will also learn how to combine multiple providers in a single template and manage different code bases with many complex modules. It focuses on how to set up continuous integration for the infrastructure code. The readers will be able to use Terraform to build, change, and combine infrastructure safely and efficiently. Style and approach This book will help and guide you to implement Terraform in your infrastructure. The readers will start by working on very small infrastructure templates and then slowly move on to manage complex systems, all by using concrete examples that will evolve during the course of the book.

Terraform - Brian Merchant 2022-08-16

An anthology of near future science fiction from VICE's acclaimed, innovative digital speculative story destination, Terraform—in print for the first time. Terraform hones the predictive capacity of science fiction and seeks new, vivid, and visceral ways to depict the future we're hurtling toward, translating the decay and anxiety that surround us into something else, something unexpected, something that burns like a beacon and upends the conventional ideas of where we'll end up next. Section by section—Watch/Worlds/Burn—the book takes on surveillance, artificial intelligence, and climate collapse. With a potent roster of established names and rising talents—from Bruce Sterling, Ellen Ullman, Cory Doctorow, Jeff VanderMeer, and Omar El Akkad, to E. Lily Yu, Elvia Wilk, Fernando Flores, Tochi Onyebuchi, and Gus Moreno—it confronts the issues that orbit our everyday existence, and takes them to unsettling dimensions.

Infrastructure as Code - Kief Morris 2016-06-09

Virtualization, cloud, containers, server automation, and software-defined networking are meant to simplify IT operations. But many organizations adopting these technologies have found that it only leads to a faster-growing sprawl of unmanageable systems. This is where infrastructure as code can help. With this practical guide, author Kief Morris of ThoughtWorks shows you how to effectively use principles, practices, and patterns pioneered through the DevOps movement to manage cloud age infrastructure. Ideal for system administrators, infrastructure

engineers, team leads, and architects, this book demonstrates various tools, techniques, and patterns you can use to implement infrastructure as code. In three parts, you'll learn about the platforms and tooling involved in creating and configuring infrastructure elements, patterns for using these tools, and practices for making infrastructure as code work in your environment. Examine the pitfalls that organizations fall into when adopting the new generation of infrastructure technologies Understand the capabilities and service models of dynamic infrastructure platforms Learn about tools that provide, provision, and configure core infrastructure resources Explore services and tools for managing a dynamic infrastructure Learn specific patterns and practices for provisioning servers, building server templates, and updating running servers

Docker: Up & Running - Sean P. Kane 2018-09-07

Docker is rapidly changing the way organizations deploy software at scale. However, understanding how Linux containers fit into your workflow—and getting the integration details right—is not a trivial task. With the updated edition of this practical guide, you'll learn how to use Docker to package your applications with all of their dependencies and then test, ship, scale, and support your containers in production. This edition includes significant updates to the examples and explanations that reflect the substantial changes that have occurred over the past couple of years. Sean Kane and Karl Matthias have added a complete chapter on Docker Compose, deeper coverage of Docker Swarm mode, introductions to both Kubernetes and AWS Fargate, examples on how to optimize your Docker images, and much more. Learn how Docker simplifies dependency management and deployment workflow for your applications Start working with Docker images, containers, and command line tools Use practical techniques to deploy and test Docker containers in production Debug containers by understanding their composition and internal processes Deploy production containers at scale inside your data center or cloud environment Explore advanced Docker topics, including deployment tools, networking, orchestration, security, and configuration

Terraform: Up & Running - Yevgeniy Brikman 2019-09-06

Terraform has become a key player in the DevOps world for defining, launching, and managing infrastructure as code (IaC) across a variety of cloud and virtualization platforms, including AWS, Google Cloud, Azure, and more. This hands-on second edition, expanded and thoroughly updated for Terraform version 0.12 and beyond, shows you the fastest way to get up and running. Gruntwork cofounder Yevgeniy (Jim) Brikman walks you through code examples that demonstrate Terraform's simple, declarative programming language for deploying and managing infrastructure with a few commands. Veteran sysadmins, DevOps engineers, and novice developers will quickly go from Terraform basics to running a full stack that can support a massive amount of traffic and a large team of developers. Explore changes from Terraform 0.9 through 0.12, including backends, workspaces, and first-class expressions Learn how to write production-grade Terraform modules Dive into manual and automated testing for Terraform code Compare Terraform to Chef, Puppet, Ansible, CloudFormation, and Salt Stack Deploy server clusters, load balancers, and databases Use Terraform to manage the state of your infrastructure Create reusable infrastructure with Terraform modules Use advanced Terraform syntax to achieve zero-downtime deployment

Cloud Native DevOps with Kubernetes - John Arundel 2019-03-08

Kubernetes is the operating system of the cloud native world, providing a reliable and scalable platform for running containerized workloads. In this friendly, pragmatic book, cloud experts John Arundel and Justin Domingus show you what Kubernetes can do—and what you can do with it. You'll learn all about the Kubernetes ecosystem, and use battle-tested solutions to everyday problems. You'll build, step by step, an example cloud native application and its supporting infrastructure, along with a development environment and continuous deployment pipeline that you can use for your own applications. Understand containers and Kubernetes from first principles; no experience necessary Run your own clusters or choose a managed Kubernetes service from Amazon, Google,

and others Use Kubernetes to manage resource usage and the container lifecycle Optimize clusters for cost, performance, resilience, capacity, and scalability Learn the best tools for developing, testing, and deploying your applications Apply the latest industry practices for security, observability, and monitoring Adopt DevOps principles to help make your development teams lean, fast, and effective

Kubernetes: Up and Running - Kelsey Hightower 2017-09-07

Legend has it that Google deploys over two billion application containers a week. How's that possible? Google revealed the secret through a project called Kubernetes, an open source cluster orchestrator (based on its internal Borg system) that radically simplifies the task of building, deploying, and maintaining scalable distributed systems in the cloud. This practical guide shows you how Kubernetes and container technology can help you achieve new levels of velocity, agility, reliability, and efficiency. Authors Kelsey Hightower, Brendan Burns, and Joe Beda—who've worked on Kubernetes at Google and other organizations—explain how this system fits into the lifecycle of a distributed application. You will learn how to use tools and APIs to automate scalable distributed systems, whether it is for online services, machine-learning applications, or a cluster of Raspberry Pi computers. Explore the distributed system challenges that Kubernetes addresses Dive into containerized application development, using containers such as Docker Create and run containers on Kubernetes, using the docker image format and container runtime Explore specialized objects essential for running applications in production Reliably roll out new software versions without downtime or errors Get examples of how to develop and deploy real-world applications in Kubernetes

Terraform in Action - Scott Winkler 2021-08-24

Terraform in Action shows you how to automate and scale infrastructure programmatically using the Terraform toolkit. Summary In Terraform in Action you will learn: Cloud architecture with Terraform Terraform module sharing and the private module registry Terraform security in a multitenant environment Strategies for performing blue/green deployments Refactoring for code maintenance and reusability Running Terraform at scale Creating your own Terraform provider Using Terraform as a continuous development/continuous delivery platform Terraform in Action introduces the infrastructure-as-code (IaC) model that lets you instantaneously create new components and respond efficiently to changes in demand. You'll use the Terraform automation tool to design and manage servers that can be provisioned, shared, changed, tested, and deployed with a single command. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Provision, deploy, scale, and clone your entire stack to the cloud at the touch of a button. In Terraform, you create a collection of simple declarative scripts that define and manage application infrastructure. This powerful infrastructure-as-code approach automates key tasks like versioning and testing for everything from low-level networking to cloud services. About the book Terraform in Action shows you how to automate and scale infrastructure programmatically using the Terraform toolkit. Using practical, relevant examples, you'll use Terraform to provision a Kubernetes cluster, deploy a multiplayer game, and configure other hands-on projects. As you progress to advanced techniques like zero-downtime deployments, you'll discover how to think in Terraform rather than just copying and pasting scripts. What's inside Cloud architecture with Terraform Terraform module sharing and the private module registry Terraform security in a multitenant environment Strategies for performing blue/green deployments About the reader For readers experienced with a major cloud platform such as AWS. Examples in JavaScript and Golang. About the author Scott Winkler is a DevOps engineer and a distinguished Terraform expert. He has spoken multiple times at HashiTalks and HashiConf, and was selected as a HashiCorp Ambassador and Core Contributor in 2020. Table of Contents PART 1 TERRAFORM BOOTCAMP 1 Getting started with Terraform 2 Life cycle of a Terraform resource 3 Functional programming 4 Deploying a multi-tiered web application in AWS PART 2 TERRAFORM IN THE WILD 5 Serverless made easy 6

Terraform with friends 7 CI/CD pipelines as code 8 A multi-cloud MMORPG PART 3 MASTERING TERRAFORM 9 Zero-downtime deployments 10 Testing and refactoring 11 Extending Terraform by writing a custom provider 12 Automating Terraform 13 Security and secrets management

Hello, Startup - Yevgeniy Brikman 2015-10-21

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

Kubernetes in Action - Marko Luksa 2017-12-14

Summary Kubernetes in Action is a comprehensive guide to effectively developing and running applications in a Kubernetes environment. Before diving into Kubernetes, the book gives an overview of container technologies like Docker, including how to build containers, so that even readers who haven't used these technologies before can get up and running. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Kubernetes is Greek for "helmsman," your guide through unknown waters. The Kubernetes container orchestration system safely manages the structure and flow of a distributed application, organizing containers and services for maximum efficiency. Kubernetes serves as an operating system for your clusters, eliminating the need to factor the underlying network and server infrastructure into your designs. About the Book Kubernetes in Action teaches you to use Kubernetes to deploy container-based distributed applications. You'll start with an overview of Docker and Kubernetes before building your first Kubernetes cluster. You'll gradually expand your initial application, adding features and deepening your knowledge of Kubernetes architecture and operation. As you navigate this comprehensive guide, you'll explore high-value topics like monitoring, tuning, and scaling. What's Inside Kubernetes' internals Deploying containers across a cluster Securing clusters Updating applications with zero downtime About the Reader Written for intermediate software developers with little or no familiarity with Docker or container orchestration systems. About the Author Marko Luksa is an engineer at Red Hat working on Kubernetes and OpenShift. Table of Contents PART 1 - OVERVIEW Introducing Kubernetes First steps with Docker and Kubernetes PART 2 - CORE CONCEPTS Pods: running containers in Kubernetes Replication and other controllers: deploying managed pods Services: enabling clients to discover and talk to pods Volumes: attaching disk storage to containers ConfigMaps and Secrets: configuring applications Accessing pod metadata and other resources from applications Deployments: updating applications declaratively StatefulSets: deploying replicated stateful applications PART 3 - BEYOND THE BASICS Understanding Kubernetes internals Securing the Kubernetes API server Securing cluster nodes and the network Managing pods' computational resources Automatic scaling of pods and cluster nodes Advanced scheduling Best practices for developing apps Extending Kubernetes

If You Meet the Buddha on the Road, Kill Him - Sheldon Kopp 2013-05-22

A fresh, realistic approach to altering one's destiny and accepting the responsibility that grows with freedom. No meaning that comes from outside of ourselves is real. The Buddhahood of each of us has already been obtained. We only need to recognize it. "The most important things that each man must learn no one can teach him. Once he accepts this disappointment, he will be able to stop depending on the therapist, the guru who turns out to be just

another struggling human being.” Using the myth of Gilgamesh, Siddhartha, The Wife of Bath, Don Quizote . . . the works of Buber, Ginsberg, Shakespeare, Kafka, Nietzsche, Dante and Jung . . . a brilliant psychotherapist, guru and pilgrim shares the epic tales and intimate revelations that help to shape Everyman's journey through life.

Bootstrapping Microservices with Docker, Kubernetes, and Terraform - Ashley Davis 2021-01-23

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 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 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

Learning Helm

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 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

- Matt Butcher 2021-01-20

Get up to speed with Helm, the preeminent package manager for the Kubernetes container orchestration system. This practical guide shows you how to efficiently create, install, and manage the applications running inside your containers. Helm maintainers Matt Butcher, Matt Farina, and Josh Dolitsky explain how this package manager fits into the Kubernetes ecosystem and provide an inside look at Helm's design and best practices. More than 70% of the organizations that work with Kubernetes use Helm today. While the Helm community provides thousands of packages, or charts, to help you get started, this book walks developers and DevOps engineers through the process of creating custom charts to package applications. If you have a working understanding of Kubernetes, you're ready to go. Explore primary features including frequently used Helm commands Learn how to build and deploy Helm charts from scratch Use Helm to manage complexity and achieve repeatable deployments Package an application and its dependencies for easy installation Manage the entire lifecycle of applications on Kubernetes Explore ways to extend Helm to add features and functionality Learn features for testing, handling dependencies, and providing security