

Infrastructure As Code Iac Cookbook

Automate release processes, deployment, and continuous integration of your application as well as infrastructure automation with the powerful services offered by AWS About This Book Accelerate your infrastructure's productivity by implementing a continuous delivery pipeline within your environment Leverage AWS services and Jenkins 2.0 to perform complete application deployments on Linux servers This recipe-based guide that will help you minimize application deployment downtime Who This Book Is For This book is for developers and system administrators who are responsible for hosting their application and managing instances in AWS. It's also ideal for DevOps engineers looking to provide continuous integration, deployment, and delivery. A basic understanding of AWS, Jenkins, and some scripting knowledge is needed. What You Will Learn Build a sample Maven and NodeJS Application using CodeBuild Deploy the application in EC2/Auto Scaling and see how CodePipeline helps you integrate AWS services Build a highly scalable and fault tolerant CI/CD pipeline Achieve the CI/CD of a microservice architecture application in AWS ECS using CodePipeline, CodeBuild, ECR, and CloudFormation Automate the provisioning of your infrastructure using CloudFormation and Ansible Automate daily tasks and audit compliance using AWS Lambda Deploy microservices applications on Kubernetes using Jenkins Pipeline 2.0 In Detail AWS CodeDeploy, AWS CodeBuild, and CodePipeline are scalable services offered by AWS that automate an application's build and deployment pipeline. In order to deliver tremendous speed and agility, every organization is moving toward automating an entire application pipeline. This book

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will cover all the AWS services required to automate your deployment to your instances. You'll begin by setting up and using one of the AWS services for automation – CodeCommit. Next, you'll learn how to build a sample Maven and NodeJS Application using CodeBuild. After you've built the application, you'll see how to use CodeDeploy to deploy the application in EC2/Autoscaling. You'll also build a highly scalable and fault tolerant continuous integration (CI)/continuous deployment (CD) pipeline using some easy-to-follow recipes. Following this, you'll achieve CI/CD for Microservices application and reduce the risk within your software development lifecycle. You'll also learn to set up an infrastructure using CloudFormation Template and Ansible, and see how to automate AWS resources using AWS Lambda. Finally, you'll learn to automate instances in AWS and automate the deployment lifecycle of applications. By the end of this book, you'll be able to minimize application downtime and implement CI/CD, gaining total control over your software development lifecycle. Style and approach This book takes a "How to do it" approach, providing with easy solutions to automate common maintenance and deployment tasks.

This book constitutes the revised selected papers of the 7th International Conference on Cloud Computing and Big Data, JCC&BD 2019, held in La Plata, Buenos Aires, Argentina, in June 2019. The 12 full papers presented were carefully reviewed and selected from a total of 31 submissions. They are dealing with such topics as cloud computing and HPC; Big Data and data intelligence; mobile computing.

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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 production infrastructure. It can manage 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 complete management of infrastructure with Terraform, starting with the basics of using providers and resources. This book 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. It finishes with the complete workflow of managing a production infrastructure as code – this is achieved with the help of version control and continuous integration. At the end of this book, you will be familiar with advanced techniques such as multi-provider support and multiple remote modules. Style and approach This book focuses on providing the practical skills required to make full use of Terraform. It will take the readers slowly from very small infrastructure templates to the managing complex systems, all by using concrete examples, evolving over the course of the book.

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Contains a variety of cloud computing technologies and explores how the cloud can enhance business operations Cloud Technologies offers an accessible guide to cloud-based systems and clearly explains how these technologies

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have changed the way organizations approach and implement their computing infrastructure. The author—a noted expert on the topic—includes an overview of cloud computing and addresses business-related considerations such as service level agreements, elasticity, security, audits, and practical implementation issues. In addition, the book covers important topics such as automation, infrastructure as code, DevOps, orchestration, and edge computing. Cloud computing fundamentally changes the way organizations think about and implement IT infrastructure. Any manager without a firm grasp of basic cloud concepts is at a huge disadvantage in the modern world. Written for all levels of managers working in IT and other areas, the book explores cost savings and enhanced capabilities, as well as identifies different models for implementing cloud technologies and tackling cloud business concerns. This important book: Demonstrates a variety of cloud computing technologies and ways the cloud can enhance business operations Addresses data security concerns in cloud computing relevant to corporate data owners Shows ways the cloud can save money for a business Offers a companion website hosting PowerPoint slides Written for managers in the fields of business, IT and cloud computing, Cloud Technologies describes cloud computing concepts and related strategies and operations in accessible language.

This book constitutes the refereed proceedings of the ACM/IFIP/USENIX 14th International Middleware Conference, held in Beijing, China, in December 2013. The 24 revised full papers presented were carefully reviewed and selected from 189 submissions. The papers cover a wide range of topics including design, implementation, deployment and evaluation of middleware for next-generation platforms such as cloud computing, social networks and large-scale storage and distributed systems. The middleware solutions

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introduced provide features such as availability, efficiency, scalability, fault-tolerance, trustworthy operation and support security and privacy needs.

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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

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Perform data analytics and natural language processing(NLP)on the AWS serverless platform Explore various design patterns and best practices involved in serverless computing Book Description Managing physical servers will be a thing of the past once you're able to harness the power of serverless computing. If you're already prepped with the basics of serverless computing, *Serverless Programming Cookbook* will help you take the next step ahead. This recipe-based guide provides solutions to problems you might face while building serverless applications. You'll begin by setting up Amazon Web Services (AWS), the primary cloud provider used for most recipes. The next set of recipes will cover various components to build a Serverless application including REST APIs, database, user management, authentication, web hosting, domain registration, DNS management, CDN, messaging, notifications and monitoring. The book also introduces you to the latest technology trends such as Data Streams, Machine Learning and NLP. You will also see patterns and practices for using various services in a real world application. Finally, to broaden your understanding of Serverless computing, you'll also cover getting started guides for other cloud providers such as Azure, Google Cloud Platform and IBM cloud. By the end of this book, you'll have acquired the skills you need to build serverless applications efficiently using various cloud offerings. What you will learn Serverless computing in AWS and explore services with other clouds Develop full-stack apps with API Gateway, Cognito, Lambda and DynamoDB Web hosting with S3, CloudFront, Route 53

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and AWS Certificate Manager SQS and SNS for effective communication between microservices Monitoring and troubleshooting with CloudWatch logs and metrics Explore Kinesis Streams, Amazon ML models and Alexa Skills Kit Who this book is for For developers looking for practical solutions to common problems while building a serverless application, this book provides helpful recipes. To get started with this intermediate-level book, knowledge of basic programming is a must.

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,

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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.

Build, automate, and manage your AWS-based cloud environments

About This Book

Install, configure, and administer computing, storage, and networking in the AWS cloud

Automate your infrastructure and control every aspect of it through infrastructure as code

Work through exciting recipes to administer your AWS cloud

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Who This Book Is For If you are an administrator, DevOps engineer, or an IT professional who is moving to an AWS-based cloud environment, then this book is for you. It assumes familiarity with cloud computing platforms, and that you have some understanding of virtualization, networking, and other administration-related tasks. What You Will Learn Discover the best practices to achieve an automated repeatable infrastructure in AWS Bring down your IT costs by managing AWS successfully and deliver high availability, fault tolerance, and scalability Make any website faster with static and dynamic caching Create monitoring and alerting dashboards using CloudWatch Migrate a database to AWS Set up consolidated billing to achieve simple and effective cost management with accounts Host a domain and find out how you can automate health checks In Detail Amazon Web Services (AWS) is a bundled remote computing service that provides cloud computing infrastructure over the Internet with storage, bandwidth, and customized support for application programming interfaces (API). Implementing these services to efficiently administer your cloud environments is a core task. This book will help you build and administer your cloud environment with AWS. We'll begin with the AWS fundamentals, and you'll build the foundation for the recipes you'll work on throughout the book. Next, you will find out how to manage multiple accounts and set up consolidated billing. You will then learn to set up reliable and fast hosting for static websites, share data between running instances, and back up your data for compliance. Moving on, you will

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find out how to use the compute service to enable consistent and fast instance provisioning, and will see how to provision storage volumes and autoscale an application server. Next, you'll discover how to effectively use the networking and database service of AWS. You will also learn about the different management tools of AWS along with securing your AWS cloud. Finally, you will learn to estimate the costs for your cloud. By the end of the book, you will be able to easily administer your AWS cloud. **Style and approach** This practical guide is packed with clear, practical, instruction-based recipes that will enable you to use and implement the latest features of AWS.

Over 100 recipes to get up and running with the modern Linux administration ecosystem

Key Features

- Understand and implement the core system administration tasks in Linux
- Discover tools and techniques to troubleshoot your Linux system
- Maintain a healthy system with good security and backup practices

Book Description

Linux is one of the most widely used operating systems among system administrators, and even modern application and server development is heavily reliant on the Linux platform. The Linux Administration Cookbook is your go-to guide to get started on your Linux journey. It will help you understand what that strange little server is doing in the corner of your office, what the mysterious virtual machine languishing in Azure is crunching through, what that circuit-board-like thing is doing under your office TV, and why the LEDs on it are blinking rapidly. This book will get you started with administering Linux, giving you the

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knowledge and tools you need to troubleshoot day-to-day problems, ranging from a Raspberry Pi to a server in Azure, while giving you a good understanding of the fundamentals of how GNU/Linux works. Through the course of the book, you'll install and configure a system, while the author regales you with errors and anecdotes from his vast experience as a data center hardware engineer, systems administrator, and DevOps consultant. By the end of the book, you will have gained practical knowledge of Linux, which will serve as a bedrock for learning Linux administration and aid you in your Linux journey. What you will learn

- Install and manage a Linux server, both locally and in the cloud
- Understand how to perform administration across all Linux distros
- Work through evolving concepts such as IaaS versus PaaS, containers, and automation
- Explore security and configuration best practices
- Troubleshoot your system if something goes wrong
- Discover and mitigate hardware issues, such as faulty memory and failing drives

Who this book is for If you are a system engineer or system administrator with basic experience of working with Linux, this book is for you.

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