

Ansible For Devops Secure Shell Software

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 Go from the basics of using Ansible to becoming

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proficient at implementing configuration management in your projects. This book uses a unique approach to teaching Ansible and configuration management while including realistic examples in its day-to-day use from server-based infrastructure to Amazon cloud-based deployments. Practical Ansible is separated into seven chapters that allow you to build your knowledge with each chapter, developing further as we move through the examples provided. It begins with the basics of Ansible, providing you with details on how to install and configure your environment while working with different Ansible modules from the command line. Next, it introduces you to working with Ansible tasks and organizing configuration code into playbooks. The book then shows you how to extend playbooks further, using roles and templates within the configuration code. Then, it extends your knowledge further by covering custom Ansible modules using Python and Linux shell scripts, and demonstrating how you can start to keep your secret values encrypted and secure using Ansible Vault. You'll also extend Ansible roles with the use of Ansible Galaxy to reuse existing roles other users have created. The second half of the book moves configuration management to the Amazon cloud providing an introduction on what Amazon Web Services are, and how you can start to work with Ansible roles in AWS. The AWS examples use EC2

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and CloudFormation services with Ansible template functions, Ansible Pull, and Ansible Git code deployment. The final part of the book includes a demonstration on how to use the numerous tools available to both Ansible and supporting libraries and modules to allow you to troubleshoot and test your configuration code before you deploy your changes to production systems. By the end of this book, you will have the skills for managing technology configuration management. You will be ready to work on real-world projects and be able to implement Ansible in your own technology projects.

What You Will Learn

- Understand the basics of Ansible and how to install and configure the application on your system
- Make changes to your system using Ansible directly in the command line using some of the more common Ansible modules
- Group your modules together as tasks in Ansible playbooks for more efficient deployment of configuration changes
- Use Ansible roles to help group and reuse configuration management changes and deployments
- Search for community-created roles using Ansible Galaxy and how you can also host your own Ansible roles
- Deploy code to Amazon Web Services and how to utilize different AWS services in your deployment projects
- Use external modules and libraries such as Molecule and Ansible Lint to help test your configurations before the configuration code is deployed

Who This Book Is For System

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administrators, DevOps engineers, software engineers, and developers wanting to extend their current knowledge of computer systems and incorporate Ansible as a configuration management tool within them.

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

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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.

For many organizations, a big part of DevOps' appeal is software automation using infrastructure-as-code techniques. This book presents developers,

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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

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer--even if

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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

This book is your concise guide to Ansible, the simple way to automate apps and IT infrastructure. In less than 250 pages, this book takes you from

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knowing nothing about configuration management to understanding how to use Ansible in a professional setting. You will learn how to create an Ansible playbook to automatically set up an environment, ready to install an open source project. You'll extract common tasks into roles that you can reuse across all your projects, and build your infrastructure on top of existing open source roles and modules that are available for you to use. You will learn to build your own modules to perform actions specific to your business. By the end you will create an entire cluster of virtualized machines, all of which have your applications and all their dependencies installed automatically. Finally, you'll test your Ansible playbooks. Ansible can do as much or as little as you want it to. Ansible: From Beginner to Pro will teach you the key skills you need to be an Ansible professional. You'll be writing roles and modules and creating entire environments without human intervention in no time at all – add it to your library today. What You Will Learn Learn why Ansible is so popular and how to download and install it Create a playbook that automatically downloads and installs a popular open source project Use open source roles to complete common tasks, and write your own specific to your business Extend Ansible by writing your own modules Test your infrastructure using Test Kitchen and ServerSpec Who This Book Is For Developers that currently create development and

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production environments by hand. If you find yourself running apt-get install regularly, this book is for you. Ansible adds reproducibility and saves you time all at once. Ansible: From Beginner to Pro is great for any developer wanting to enhance their skillset and learn new tools.

DevOps represents a powerful new approach to delivering IT services, where software developers and IT operations teams work closely together to deploy projects far more often and more reliably. As pioneers like Google, Amazon, and Netflix have discovered, DevOps can improve efficiency, accelerate delivery, and reduce costs. However, most discussions of DevOps focus on theory rather than implementation, and DevOps raises unique issues in virtualized environments. DevOps for VMware Administrators addresses these issues, offering realistic insights both for implementing DevOps and for applying new tools to maximize its value. The authors also offer extensive hands-on practice with solving realistic problems and improving IT efficiency by utilizing these four tools: Puppet IT automation software for managing infrastructure across its lifecycle, including provisioning, configuration, orchestration, and reporting Chef configuration management tool for writing system configuration "recipes" that streamline server configuration and maintenance and can integrate with cloud-based platforms such as

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Rackspace and Amazon EC2 to automate provisioning Ansible, the flexible open source toolkit for automating configuration management and orchestration in Unix and Unix-style environments Windows PowerShell for automating tasks and configuration management in Windows environments

Leverage the power of Ansible 2 and related tools and scale DevOps processes About This Book Learn how to use Ansible playbooks along with YAML and JINJA to create efficient DevOps solutions Use Ansible to provision and automate Docker containers and images Learn the fundamentals of Continuous Integration and Continuous Delivery and how to leverage Ansible to implement these modern DevOps Learn the fundamentals of creating custom Ansible modules Learn the fundamentals of Ansible Galaxy Follow along step-by-step as we teach you to scale Ansible for your DevOps processes Who This Book Is For If you are a DevOps engineer, administrator, or developer and want to implement the DevOps environment in your organization using Ansible, then this book is for you. What You Will Learn Get to the grips with the fundamentals of Ansible 2.2 and how you can benefit from leveraging Ansible for DevOps. Adapt the DevOps process and learn how Ansible and other tools can be used to automate it. Start automating Continuous Integration and Continuous Delivery tasks using Ansible

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Maximize the advantages of tools such as Docker, Jenkins, JIRA, and many more to implement the DevOps culture. Integrate DevOps tools with Ansible Extend Ansible using Python and create custom modules that integrate with unique specific technology stacks Connect and control the states of various third-party applications such as GIT, SVN, Artifactory, Nexus, Jira, Hipchat, Slack, Nginx, and others In Detail Thinking about adapting the DevOps culture for your organization using a very simple, yet powerful automation tool, Ansible 2? Then this book is for you! In this book, you will start with the role of Ansible in the DevOps module, which covers fundamental DevOps practices and how Ansible is leveraged by DevOps organizations to implement consistent and simplified configuration management and deployment. You will then move on to the next module, Ansible with DevOps, where you will understand Ansible fundamentals and how Ansible Playbooks can be used for simple configuration management and deployment tasks. After simpler tasks, you will move on to the third module, Ansible Syntax and Playbook Development, where you will learn advanced configuration management implementations, and use Ansible Vault to secure top-secret information in your organization. In this module, you will also learn about popular DevOps tools and the support that Ansible provides for them (MYSQL, NGINX, APACHE and so on). The last

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module, Scaling Ansible for the enterprise, is where you will integrate Ansible with CI and CD solutions and provision Docker containers using Ansible. By the end of the book you will have learned to use Ansible to leverage your DevOps tasks. Style and approach A step-by-step guide to automating all DevOps stages with ease using Ansible

A simple way to provision and manage your Amazon Cloud infrastructure
About This Book- Get started with AWS management for infrastructure engineers- Explore techniques to set up and manage your private cloud using Ansible- A practical guide to help you manage AWS-based applications and infrastructure using Ansible
Who This Book Is For If you are an infrastructure engineer, system administrator, or Dev Ops engineer, this book is for you. You will find this book helpful if you have previous experience with Linux systems administration, including familiarity with the command line, file system, and text editing. Prior basic knowledge of Amazon Web Services and some experience with Ansible is assumed.
What You Will Learn- Set up your own AWS account and get started with the AWS console- Use Ansible Playbook to configure and launch EC2 instances- Delve deeper into the AWS cloud infrastructure and create and manage VPC- Provision Amazon Relational Database Service (RDS) with Ansible- Manage files in an Amazon Simple Storage Service (S3) bucket using Ansible- Extend Ansible's functionality in the AWS environment- Use Ansible to provision ELB and Auto Scaling groups- Manage IAM users, groups, roles, and keys- See how to refine and chain together AWS tools using Ansible
In Detail Looking to get a simple and efficient way to manage your Amazon Cloud infrastructure? Ansible is exactly what you need. This book

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will show you how to use Ansible's cloud modules to easily provision and manage AWS resources including EC2, VPC, RDS, S3, ELB, ElastiCache, and Route 53. We'll take you beyond the basics of Ansible, showing you real-world examples of AWS infrastructure automation and management with detailed steps, complete code, and screen captures from the AWS console. The example projects inside this title will help you grasp the process leading to full AWS automation. From a single WordPress site to a highly available and scalable WordPress site, we'll demonstrate the power of using Ansible to provision and automate AWS-based infrastructure deployment. Style and approach This hands-on guide will help you get acquainted with techniques to implement AWS for your private cloud.

Red Hat RHCE(TM) 8 Cert Guide is designed to help you pass the newest version of the Hat Certified Engineer exam for Red Hat Enterprise Linux 8, and master the skills you need to automate Linux and execute common system administration tasks with Red Hat(R) Ansible(R) Engine. The most comprehensive and time-efficient RHCE 8 prep guide available, it's also an extraordinarily cost-effective complement to other training, including the author's own RHCE Complete Video Course. Authored by a leading Red Hat trainer, consultant, and speaker, it presents focused, straight-to-the-point coverage of every exam topic, including:

- Performing Core Red Hat system administration tasks
- Understanding Ansible core components
- Installing and configuring Ansible control nodes
- Configuring Ansible managed nodes
- Administering scripts
- Performing system administration tasks with Ansible modules
- Working with roles
- Using advanced Ansible features such as templates and Ansible Vault

From start to finish, this guide is organized to help you focus your study time where you need the most help, so you can retain more, and earn higher scores. It

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offers: Step-by-step chapter labs to help you practice what you've just learned Pre-exam theoretical exam to help you decide if you're ready for the real exam Two realistic RHCE sample exams delivered through Pearson's state-of-the-art test engine Pre-chapter "Do I Know This Already" (DIKTA) quizzes to assess your knowledge of each chapter's content, so you can decide how much time to spend on each section Foundation Topics sections thoroughly explaining concepts and theory, and linking them to real-world configurations and commands Key Topics icons flagging every figure, table, or list you absolutely must understand and remember End of chapter Glossary terms Chapter-ending Exam Preparation sections delivering even more exercises and troubleshooting scenarios

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

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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

Hands-On Security in DevOps explores how the techniques of DevOps and Security should be applied together to make cloud services safer. By the end of this book, readers will be ready to build security controls at all layers, monitor and respond to attacks on cloud services, and add security organization-wide through risk management and training.

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

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Leverage the power of Ansible to gain complete control over your systems and automate application deployment

Key Features

Use Ansible 2.9 to automate and control your infrastructure

Delve into advanced functionality such as plugins and custom modules in Ansible

Automate and orchestrate major cloud platforms such as OpenStack, AWS, and Azure using Ansible

Book Description Ansible enables you to automate software provisioning, configuration management, and application roll-outs, and can be used as a deployment and orchestration tool. While Ansible provides simple yet powerful features to automate multi-layer environments using agentless communication, it can also solve other critical IT challenges, such as ensuring continuous integration and continuous deployment (CI/CD) with zero downtime. In this book, you'll work with Ansible 2.9 and learn to solve complex issues quickly with the help of task-oriented scenarios. You'll start by installing and configuring Ansible on Linux and macOS to automate monotonous and repetitive IT tasks and get to grips with concepts such as playbooks, inventories, and network modules. As you progress, you'll gain insight into the YAML syntax and learn how to port between Ansible versions. In addition to this, you'll also understand how Ansible enables you to orchestrate multi-layer environments such as networks, containers, and the cloud. By the end of this Ansible book, you'll be well - versed in writing playbooks and other related Ansible code to overcome just about all of your IT challenges, from infrastructure-as-code provisioning to application deployments, and even handling the mundane day-to-day maintenance tasks that take up so much valuable time. What you will learn

- Become familiar with the fundamentals of the Ansible framework
- Set up role-based variables and dependencies
- Avoid common mistakes and pitfalls when writing automation code in Ansible
- Extend

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Ansible by developing your own modules and plugins
Contribute to the Ansible project by submitting your own code
Follow best practices for working with cloud environment inventories
Troubleshoot issues triggered during Ansible playbook runs
Who this book is for
If you are a DevOps engineer, administrator, or any IT professional looking to automate IT tasks using Ansible, this book is for you. Prior knowledge of Ansible is not necessary.

Discover new opportunities to empower your private cloud by making the most of the OpenStack universe
Key Features
This practical guide teaches you how to extend the core functionalities of OpenStack
Discover OpenStack's flexibility by writing custom applications and network plugins
Deploy a containerized environment in OpenStack through a hands-on and example-driven approach
Book Description
OpenStack is a very popular cloud computing platform that has enabled several organizations during the last few years to successfully implement their Infrastructure as a Service (IaaS) platforms. This book will guide you through new features of the latest OpenStack releases and how to bring them into production straightaway in an agile way. It starts by showing you how to expand your current OpenStack setup and how to approach your next OpenStack Data Center generation deployment. You will discover how to extend your storage and network capacity and also take advantage of containerization technology such as Docker and Kubernetes in OpenStack. Additionally, you'll explore the power of big data as a Service terminology implemented in OpenStack by integrating the Sahara project. This book will teach you how to build Hadoop clusters and launch jobs in a very simple way. Then you'll automate and deploy applications on top of OpenStack. You will discover how to write your own plugin in the Murano project. The final part of the book will go through best practices for security such as identity, access management,

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and authentication exposed by Keystone in OpenStack. By the end of this book, you will be ready to extend and customize your private cloud based on your requirements. What you will learn Explore new incubated projects in the OpenStack ecosystem and see how they work Architect your OpenStack private cloud with extended features of the latest versions Consolidate OpenStack authentication in your large infrastructure to avoid complexity Find out how to expand your computing power in OpenStack on a large scale Reduce your OpenStack storage cost management by taking advantage of external tools Provide easy, on-demand, cloud-ready applications to developers using OpenStack in no time Enter the big data world and find out how to launch elastic jobs easily in OpenStack Boost your extended OpenStack private cloud performance through real-world scenarios Who this book is for This book is for system administrators, cloud architects, and developers who have experience working with OpenStack and are ready to step up and extend its functionalities. A good knowledge of basic OpenStack components is required. In addition, familiarity with Linux boxes and a good understanding of network and virtualization jargon is required.

Ansible for DevOps Server and Configuration Management for Humans

Invent your own Python scripts to automate your infrastructure Key Features Make the most of Python libraries and modules to automate your infrastructure Leverage Python programming to automate server configurations and administration tasks Efficiently develop your Python skill set Book Description Hands-On Enterprise Automation with Python starts by covering the set up of a Python environment to perform automation tasks, as well as the modules, libraries, and

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tools you will be using. We'll explore examples of network automation tasks using simple Python programs and Ansible. Next, we will walk you through automating administration tasks with Python Fabric, where you will learn to perform server configuration and administration, along with system administration tasks such as user management, database management, and process management. As you progress through this book, you'll automate several testing services with Python scripts and perform automation tasks on virtual machines and cloud infrastructure with Python. In the concluding chapters, you will cover Python-based offensive security tools and learn how to automate your security tasks. By the end of this book, you will have mastered the skills of automating several system administration tasks with Python. What you will learn

- Understand common automation modules used in Python
- Develop Python scripts to manage network devices
- Automate common Linux administration tasks with Ansible and Fabric
- Managing Linux processes
- Administrate VMware, OpenStack, and AWS instances with Python
- Security automation and sharing code on GitHub

Who this book is for

Hands-On Enterprise Automation with Python is for system administrators and DevOps engineers who are looking for an alternative to major automation frameworks such as Puppet and Chef. Basic programming knowledge with Python and Linux shell scripting is necessary.

This book highlights practical sysadmin skills, common architectures that you'll encounter, and best practices that apply to automating and running systems at any

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scale, from one laptop or server to 1,000 or more. It is intended to help orient you within the discipline, and hopefully encourages you to learn more about system administration.

Simplify your DevOps roles with DevOps tools and techniques
Key Features
Learn to utilize business resources effectively to increase productivity and collaboration
Leverage the ultimate open source DevOps tools to achieve continuous integration and continuous delivery (CI/CD)
Ensure faster time-to-market by reducing overall lead time and deployment downtime
Book Description
The implementation of DevOps processes requires the efficient use of various tools, and the choice of these tools is crucial for the sustainability of projects and collaboration between development (Dev) and operations (Ops). This book presents the different patterns and tools that you can use to provision and configure an infrastructure in the cloud. You'll begin by understanding DevOps culture, the application of DevOps in cloud infrastructure, provisioning with Terraform, configuration with Ansible, and image building with Packer. You'll then be taken through source code versioning with Git and the construction of a DevOps CI/CD pipeline using Jenkins, GitLab CI, and Azure Pipelines. This DevOps handbook will also guide you in containerizing and deploying your applications with Docker and Kubernetes. You'll learn how to reduce deployment downtime with blue-green deployment and the feature flags technique, and study DevOps practices for open source projects. Finally, you'll grasp some best practices for reducing the overall application lead time to

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ensure faster time to market. By the end of this book, you'll have built a solid foundation in DevOps, and developed the skills necessary to enhance a traditional software delivery process using modern software delivery tools and techniques

What you will learn

- Become well versed with DevOps culture and its practices
- Use Terraform and Packer for cloud infrastructure provisioning
- Implement Ansible for infrastructure configuration
- Use basic Git commands and understand the Git flow process
- Build a DevOps pipeline with Jenkins, Azure Pipelines, and GitLab CI
- Containerize your applications with Docker and Kubernetes
- Check application quality with SonarQube and Postman
- Protect DevOps processes and applications using DevSecOps tools

Who this book is for

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

Design, develop, and solve real world automation and orchestration needs by unlocking the automation capabilities of Ansible

About This Book

Discover how Ansible works in detail

Explore use cases for Ansible's advanced features including task delegation, fast failures, and serial task execution

Extend Ansible with custom modules, plugins, and inventory sources

Who This Book Is For

This book is intended for Ansible developers and operators who have an understanding of the core elements and applications but are now looking to enhance their skills in applying automation using Ansible.

What You Will Learn

Understand Ansible's code

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and logic flow Safeguard sensitive data within Ansible Access and manipulate complex variable data within Ansible playbooks Handle task results to manipulate change and failure definitions Organize Ansible content into a simple structure Craft a multi-tier rollout playbook utilizing load balancers and manipulating your monitoring system Utilize advanced Ansible features to orchestrate rolling updates with almost no service disruptions Troubleshoot Ansible failures to understand and resolve issues Extend Ansible with custom modules, plugins, or inventory sources In Detail Automation is critical to success in the world of DevOps. How quickly and efficiently an application deployment can be automated, or a new infrastructure can be built up, can be the difference between a successful product or a failure. Ansible provides a simple yet powerful automation engine. Beyond the basics of Ansible lie a host of advanced features which are available to help you increase efficiency and accomplish complex orchestrations with ease. This book provides you with the knowledge you need to understand how Ansible works at a fundamental level and leverage its advanced capabilities. You'll learn how to encrypt Ansible content at rest and decrypt data at runtime. You will master the advanced features and capabilities required to tackle the complex automation challenges of today and beyond. You will gain detailed knowledge of Ansible workflows, explore use cases for advanced features, craft well thought out orchestrations, troubleshoot unexpected behaviour, and extend Ansible through customizations. Finally, you will discover the methods used to examine

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and debug Ansible operations, helping you to understand and resolve issues. Style and approach A clear, practical guide that covers best practise, system architecture and design aspects that will help you master Ansible with ease.

Improve operations and agility in any data center, campus, LAN, or WAN Today, the best way to stay in control of your network is to address devices programmatically and automate network interactions. In this book, Cisco experts Ryan Tischer and Jason Gooley show you how to do just that. You'll learn how to use programmability and automation to solve business problems, reduce costs, promote agility and innovation, handle accelerating complexity, and add value in any data center, campus, LAN, or WAN. The authors show you how to create production solutions that run on or interact with Nexus NX-OS-based switches, Cisco ACI, Campus, and WAN technologies. You'll learn how to use advanced Cisco tools together with industry-standard languages and platforms, including Python, JSON, and Linux. The authors demonstrate how to support dynamic application environments, tighten links between apps and infrastructure, and make DevOps work better. This book will be an indispensable resource for network and cloud designers, architects, DevOps engineers, security specialists, and every professional who wants to build or operate high-efficiency networks. Drive more value through programmability and automation, freeing resources for high-value innovation Move beyond error-prone, box-by-box network management Bridge management gaps arising from current operational

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models Write NX-OS software to run on, access, or extend your Nexus switch Master Cisco's powerful on-box automation and operation tools Manage complex WANs with NetConf/Yang, ConfD, and Cisco SDN Controller Interact with and enhance Cisco Application Centric Infrastructure (ACI) Build self-service catalogs to accelerate application delivery Find resources for deepening your expertise in network automation Ansible is an IT automation and configuration management tool widely used for infrastructure, cloud, and network automation. Trends and surveys say that Ansible is the choice of tool among system administrators as it is so easy to use. In this book, you'll learn how to integrate Ansible into your day-to-day role as a system administrator, ...

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

Explore and apply best practices for efficient application deployment. This book draws upon author Moshe Zadka's years of Dev Ops experience and focuses on the parts of Python, and the Python ecosystem, that are relevant for DevOps engineers. You'll start by writing command-line scripts and automating simple DevOps-style tasks. You'll then move on to more advanced cases, like using Jupyter as an auditable remote-control panel, and writing Ansible and Salt extensions. This work also covers how to use the AWS API to manage cloud infrastructure, and how to manage Python programs and environments on remote machines. Python was invented

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as a systems management language for distributed operating systems, which makes it an ideal tool for DevOps. Assuming a basic understanding of Python concepts, this book is perfect for engineers who want to move from operations/system administration into coding. What You'll Learn Use third party packages and create new packages Create operating system management and automation code in Python Write testable code, and testing best practices Work with REST APIs for web clients Who This Book Is For Junior or intermediate sysadmin who has picked up some bash and Python basics.

The free and open source software movement, from its origins in hacker culture, through the development of GNU and Linux, to its commercial use today. In the 1980s, there was a revolution with far-reaching consequences—a revolution to restore software freedom. In the early 1980s, after decades of making source code available with programs, most programmers ceased sharing code freely. A band of revolutionaries, self-described “hackers,” challenged this new norm by building operating systems with source code that could be freely shared. In *For Fun and Profit*, Christopher Tozzi offers an account of the free and open source software (FOSS) revolution, from its origins as an obscure, marginal effort by a small group of programmers to the widespread commercial use of open source software today. Tozzi explains FOSS's historical trajectory, shaped by eccentric personalities—including Richard Stallman and Linus Torvalds—and driven both by ideology and pragmatism, by fun and profit. Tozzi examines hacker culture and its influence on the Unix operating system, the reaction to Unix's commercialization, and the history of early Linux development. He describes the commercial boom that

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followed, when companies invested billions of dollars in products using FOSS operating systems; the subsequent tensions within the FOSS movement; and the battles with closed source software companies (especially Microsoft) that saw FOSS as a threat. Finally, Tozzi describes FOSS's current dominance in embedded computing, mobile devices, and the cloud, as well as its cultural and intellectual influence.

Configure Ansible and start coding YAML playbooks using the appropriate modules

Key Features

- Create and use Ansible Playbook to script and organise management tasks
- Benefit from the Ansible community roles and modules to resolve complex and niche tasks
- Write configuration management code to automate infrastructure

Book Description

Configuration Management (CM) tools help administrators reduce their workload. Ansible is one of the best Configuration Management tools, and can act as an orchestrator for managing other CMs. This book is the easiest way to learn how to use Ansible as an orchestrator and a Configuration Management tool. With this book, you will learn how to control and monitor computer and network infrastructures of any size, physical or virtual. You will begin by learning about the Ansible client-server architecture. To get started, you will set up and configure an Ansible server. You will then go through the major features of Ansible: Playbook and Inventory. Then, we will look at Ansible systems and network modules. You will then use Ansible to enable infrastructure automated configuration management, followed by best practices for using Ansible roles and community modules. Finally, you will explore Ansible features such as Ansible Vault, Ansible Containers, and Ansible plugins. What you will learn

- Implement Playbook YAML scripts and its capacities to simplify day-to-day tasks
- Setup Static and Dynamic Inventory
- Use Ansible predefined modules for Linux, Windows, networking, and virtualisation

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administration Organize and configure the host filesystem using storage and files modules Implement Ansible to enable infrastructure automated configuration management Simplify infrastructure administration Search and install new roles and enable them within Ansible Secure your data using Ansible Vault Who this book is for This book is targeted at System Administrators and Network Administrators who want to use Ansible to automate an infrastructure. No knowledge of Ansible is required.

Design automation blueprints using Ansible's playbooks to orchestrate and manage your multi-tier infrastructure About This Book Get to grips with Ansible's features such as orchestration, automatic node discovery, and data encryption Create data-driven, modular and reusable automation code with Ansible roles, facts, variables, and templates A step-by-step approach to automating and managing system and application configurations effectively using Ansible's playbooks Who This Book Is For If you are a systems or automation engineer who intends to automate common infrastructure tasks, deploy applications, and use orchestration to configure systems in a co-ordinated manner, then this book is for you. Some understanding of the Linux/UNIX command line interface is expected. What You Will Learn Write simple tasks and plays Organize code into a reusable, modular structure Separate code from data using variables and Jinja2 templates Run custom commands and scripts using Ansible's command modules Control execution flow based on conditionals Integrate nodes and discover topology information about other nodes in the cluster Encrypt data with ansible-vault Create environments with isolated configurations to match application development workflow Orchestrate infrastructure and deploy applications in a coordinated manner In Detail Ansible combines configuration management, orchestration, and parallel command execution

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into a single tool. Its batteries-included approach and built-in module library makes it easy to integrate it with cloud platforms, databases, and notification services without requiring additional plugins. Playbooks in Ansible define the policies your systems under management enforce. They facilitate effective configuration management rather than running ad hoc scripts to deploy complex applications. This book will show you how to write a blueprint of your infrastructure encompassing multi-tier applications using Ansible's playbooks. Beginning with the basic concepts such as plays, tasks, handlers, inventory, and the YAML syntax that Ansible uses, you will see how to organize your code into a modular structure. Building on this, you will master techniques to create data-driven playbooks with variables, templates, logical constructs, and encrypted data. This book will also take you through advanced clustering concepts such as discovering topology information, managing multiple environments, and orchestration. By the end of this book, you will be able to design solutions to your automation and orchestration problems using playbooks quickly and efficiently. Style and approach This book follows a step-by-step approach, with the concepts explained in a conversational and easy-to-follow style. Each topic is explained sequentially in the process of creating a course. A comprehensive explanation of the basic and advanced features of Ansible playbooks is also included.

Become well-versed with network programmability by solving the most commonly encountered problems using Python 3 and open-source packages

- Explore different Python packages to automate your infrastructure
- Leverage AWS APIs and the Python library Boto3 to administer your public cloud network efficiently
- Get started with infrastructure automation by enhancing your network programming knowledge

Book Description Network

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automation offers a powerful new way of changing your infrastructure network. Gone are the days of manually logging on to different devices to type the same configuration commands over and over again. With this book, you'll find out how you can automate your network infrastructure using Python. You'll get started on your network automation journey with a hands-on introduction to the network programming basics to complement your infrastructure knowledge. You'll learn how to tackle different aspects of network automation using Python programming and a variety of open source libraries. In the book, you'll learn everything from templating, testing, and deploying your configuration on a device-by-device basis to using high-level REST APIs to manage your cloud-based infrastructure. Finally, you'll see how to automate network security with Cisco's Firepower APIs. By the end of this Python network programming book, you'll have not only gained a holistic overview of the different methods to automate the configuration and maintenance of network devices, but also learned how to automate simple to complex networking tasks and overcome common network programming challenges. What you will learn •

- Programmatically connect to network devices using SSH (secure shell) to execute commands
- Create complex configuration templates using Python
- Manage multi-vendor or multi-device environments using network controller APIs or unified interfaces
- Use model-driven programmability to retrieve and change device configurations
- Discover how to automate post modification network infrastructure tests
- Automate your network security using Python and Firepower APIs

Who this book is for This book is for network engineers who want to make the most of Python to automate their infrastructure. A basic understanding of Python programming and common networking principles is necessary.

Table of Contents • A Primer on Python 3 • Connecting to Network

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Devices via SSH Using Paramiko • Building Configuration Templates Using Jinja2 • Configuring Network Devices Using Netmiko • Model-Driven Programmability with NETCONF and ncclient • Automating Complex Multi-Vendor Networks with NAPALM • Automating Your Network Tests and Deployments with pyATS and Genie • Configuring Devices Using RESTCONF and requests • Consuming Controllers and High-Level Networking APIs with requests • Incorporating Your Python Scripts into an Existing Workflow by Writing Custom Ansible Modules • Automating AWS Cloud Networking Infrastructure Using the AWS Python SDK • Automating Your Network Security Using Python and the Firepower APIs

Achieve enterprise automation in your Linux environment with this comprehensive guide Key Features Automate your Linux infrastructure with the help of practical use cases and real-world scenarios Learn to plan, build, manage, and customize OS releases in your environment Enhance the scalability and efficiency of your infrastructure with advanced Linux system administration concepts Book Description Automation is paramount if you want to run Linux in your enterprise effectively. It helps you minimize costs by reducing manual operations, ensuring compliance across data centers, and accelerating deployments for your cloud infrastructures. Complete with detailed explanations, practical examples, and self-assessment questions, this book will teach you how to manage your Linux estate and leverage Ansible to achieve effective levels of automation. You'll learn important concepts on standard operating environments that lend themselves to automation, and then build on this knowledge by applying Ansible to achieve standardization throughout your Linux environments. By the end of this Linux automation book, you'll be able to build, deploy, and manage an entire estate of Linux servers with higher reliability and lower overheads than ever before. What you will learn Perform large-scale

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automation of Linux environments in an enterprise Overcome the common challenges and pitfalls of extensive automation Define the business processes needed to support a large-scale Linux environment Get well-versed with the most effective and reliable patch management strategies Automate a range of tasks from simple user account changes to complex security policy enforcement Learn best practices and procedures to make your Linux environment automatable Who this book is for This book is for anyone who has a Linux environment to design, implement, and maintain. Open source professionals including infrastructure architects and system administrators will find this book useful. You're expected to have experience in implementing and maintaining Linux servers along with knowledge of building, patching, and maintaining server infrastructure. Although not necessary, knowledge of Ansible or other automation technologies will be beneficial.

Expert solutions to automate routine IT tasks using Ansible. KEY FEATURES ? Single handy guide for all IT teams to bring automation throughout the enterprise. ? In-depth practical demonstration of various automation use-cases on the IT infrastructure. ? Expert-led guidelines and best practices to write Ansible playbooks without any errors.

DESCRIPTION This book deals with all aspects of Ansible IT infrastructure automation. While reading this book, you should look for automation opportunities in your current role and automate time-consuming and repetitive tasks using Ansible. This book contains Ansible fundamentals assuming you are totally new to Ansible. Proper instructions for setting up the laboratory environment to implement each concept are explained and covered in detail. This book is equipped with practical examples, use-cases and modules on the network. The system and cloud management are practically demonstrated in the book. You will learn to automate all the

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common administrative tasks throughout the entire IT infrastructure. This book will help establish and build the proficiency of your automation skills, and you can start making the best use of Ansible in enterprise automation.

WHAT WILL YOU LEARN ? Install Ansible and learn the fundamentals. ? Use practical examples and learn about the loop, conditional statements, and variables. ? Understand the Ansible network modules and how to apply them in our day-to-day network management. ? Learn to automate the Windows and Linux infrastructure using Ansible. ? Automate routine administrative tasks for AWS, Azure, Google Cloud. ? Explore how to use Ansible for Docker and Kubernetes.

WHO THIS BOOK IS FOR This book is for all IT students and professionals who want to manage or plan to administer the IT infrastructure. Knowing the basic Linux command-line would be good although not mandatory.

TABLE OF CONTENTS

1. Up and Running with Ansible
2. Ansible Basics
3. Ansible Advance Concepts
4. Ansible for Network Administration
5. Ansible for System Administration
6. Ansible for Cloud Administration
7. Ansible Tips and Tricks

Use Vagrant to easily build complete development environments

Key Features

- Implement DevOps with Vagrant effectively
- Integrate Vagrant with different tools such as Puppet, Chef, and Docker
- Manage infrastructure with a practical approach

Book Description

Hands-On DevOps with Vagrant teaches you how to use Vagrant as a powerful DevOps tool and gives an overview of how it fits into the DevOps landscape. You will learn how to install VirtualBox and Vagrant in Windows, macOS, and Linux. You will then move on to understanding Vagrant commands, discovering its boxes and Vagrant Cloud. After getting to grips with the basics, the next set of chapters helps you to understand how to configure Vagrant, along with networking. You will explore multimachine, followed by studying how to create multiple

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environments and the communication between them. In addition to this, you will cover concepts such as Vagrant plugins and file syncing. The last set of chapters provides insights into provisioning shell scripts, also guiding you in how to use Vagrant with configuration management tools such as Chef, Ansible, Docker, Puppet, and Salt. By the end of this book, you will have grasped Vagrant's features and how to use them for your benefit with the help of tips and tricks. What you will learn

- Explore what development features Vagrant offers
- Install Vagrant and VirtualBox on Windows, macOS and Linux
- Harness the power of Vagrant to create powerful development environments
- Utilize DevOps tools such as Docker, Chef, and Puppet
- Understand everything about Vagrant, including networking, plugins, and provisioning
- Use the Vagrant Cloud to install and manage Vagrant boxes

Who this book is for

Hands-On DevOps with Vagrant is for you if you are a system administrator, DevOps engineer, DevOps architect, or any stakeholder working with DevOps and wanting to explore Vagrant. Experience in system administration is needed to enjoy this book.

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

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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

Automate security-related tasks in a structured, modular fashion using the best open source automation tool available About This Book Leverage the agentless, push-based power of Ansible 2 to automate security tasks Learn to write playbooks that apply security to any part of your system This recipe-based guide will teach you to use Ansible 2 for various use cases such as fraud detection, network security, governance, and more Who This Book Is For If you are a system administrator or a DevOps engineer with responsibility for finding loop holes in your system or application, then this book is for you. It's also useful for security consultants looking to automate their infrastructure's security model. What You Will Learn Use Ansible playbooks, roles, modules, and templating to build generic, testable playbooks Manage Linux and Windows hosts remotely in a repeatable and predictable manner See how to perform security patch management, and security hardening with scheduling and automation Set up AWS Lambda for a serverless automated defense Run continuous security scans against your hosts and automatically

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fix and harden the gaps Extend Ansible to write your custom modules and use them as part of your already existing security automation programs Perform automation security audit checks for applications using Ansible Manage secrets in Ansible using Ansible Vault In Detail Security automation is one of the most interesting skills to have nowadays. Ansible allows you to write automation procedures once and use them across your entire infrastructure. This book will teach you the best way to use Ansible for seemingly complex tasks by using the various building blocks available and creating solutions that are easy to teach others, store for later, perform version control on, and repeat. We'll start by covering various popular modules and writing simple playbooks to showcase those modules. You'll see how this can be applied over a variety of platforms and operating systems, whether they are Windows/Linux bare metal servers or containers on a cloud platform. Once the bare bones automation is in place, you'll learn how to leverage tools such as Ansible Tower or even Jenkins to create scheduled repeatable processes around security patching, security hardening, compliance reports, monitoring of systems, and so on. Moving on, you'll delve into useful security automation techniques and approaches, and learn how to extend Ansible for enhanced security. While on the way, we will tackle topics like how to manage

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secrets, how to manage all the playbooks that we will create and how to enable collaboration using Ansible Galaxy. In the final stretch, we'll tackle how to extend the modules of Ansible for our use, and do all the previous tasks in a programmatic manner to get even more powerful automation frameworks and rigs. Style and approach This comprehensive guide will teach you to manage Linux and Windows hosts remotely in a repeatable and predictable manner. The book takes an in-depth approach and helps you understand how to set up complicated stacks of software with codified and easy-to-share best practices.

Master Ansible Automation and learn how to automate your apps deployment and IT infrastructure operations. Ansible is one of the most popular DevOps tools available in the IT market. Key Features Run Ansible Ad-Hoc commands. Deploy Files with Jinja2 templates. Create and run Ansible Playbooks. Use Ansible Vault to protect sensitive information. Use Ansible Galaxy to install and use Ansible roles. Learn various Ansible troubleshooting techniques. Book Description Learn Ansible Quickly is a fully practical hands-on guide for learning Ansible Automation. It will get you up and running with Ansible in no time. First, you will break the ice with Ansible by running very simple Ad-Hoc commands. Then, you will dive into the world of Ansible playbooks, variables, facts, registers, and

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loops. Also, you will learn how to use conditional statements in your Ansible playbooks. Moreover, you will explore how to use blocks to handle exceptions and failures in Ansible. In addition, you will get to install and use Ansible roles, so your playbooks look clean and unrepentive. Finally, you will learn various troubleshooting techniques in Ansible. By the end of this book, you will have all the skills necessarily to develop state of the art Ansible playbooks that can automate any repetitive task you may encounter while working on Linux systems. What you will learn

Run Ansible Ad-Hoc commands and Playbooks. Understand how to work with Ansible variables, Facts, Registers, and Loops. Make your Ansible Playbooks smarter with conditional statements. Use Blocks to handle exceptions and failures. Use Handlers to trigger tasks upon change. Who This Book Is For This book is an amazing preparation guide for anyone wants to pass the EX294 certification exam and become a Red Hat Certified Engineer (RHCE). If you are tired of spending countless hours doing the same tedious task on Linux over and over again then this book is for you! Learn Ansible Quickly will teach you all the skills you need to automate boring tasks in Linux. You will be much more efficient working on Linux after reading this book, more importantly, you will get more sleep, I promise you! Learn Ansible Quickly does assume prior Linux knowledge (RHCSA Level) and that you

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have experience working on the Linux command line. Table of Contents Hello Ansible Running Ad-Hoc Commands Ansible Playbooks Ansible Variables, Facts, and Registers Ansible Loops Decision Making in Ansible Jinja2 Templates Ansible Vault Ansible Roles RHEL System Roles Managing Systems with Ansible Ansible Troubleshooting Final Sample Exam Knowledge Check Solutions

Boost your organization's growth by incorporating networking in the DevOps culture About This Book Implement networking fundamentals to the DevOps culture with ease, improving your organization's stability Leverage various open source tools such as Puppet and Ansible in order to automate your network This step-by-step learning guide collaborating the functions of developers and network administrators Who This Book Is For The book is aimed for Network Engineers, Developers, IT operations and System admins who are planning to incorporate Networking in DevOps culture and have no knowledge about it. What You Will Learn Learn about public and private cloud networking using AWS and OpenStack as examples Explore strategies that can be used by engineers or managers to initiate the cultural changes required to enable the automation of network functions Learn about SDN and how an API-driven approach to networking can help solve common networking problems Get the hang of configuration management

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tools, such as Ansible and Jenkins, that can be used to orchestrate and configure network devices Setup continuous integration, delivery, and deployment pipelines for network functions Create test environments for network changes Understand how load balancing is becoming more software defined with the emergence of microservice applications In Detail Frustrated that your company's network changes are still a manual set of activities that slow developers down? It doesn't need to be that way any longer, as this book will help your company and network teams embrace DevOps and continuous delivery approaches, enabling them to automate all network functions. This book aims to show readers network automation processes they could implement in their organizations. It will teach you the fundamentals of DevOps in networking and how to improve DevOps processes and workflows by providing automation in your network. You will be exposed to various networking strategies that are stopping your organization from scaling new projects quickly. You will see how SDN and APIs are influencing DevOps transformations, which will in turn help you improve the scalability and efficiency of your organizations networks operations. You will also find out how to leverage various configuration management tools such as Ansible, to automate your network. The book will also look at containers and the impact they are having on networking as

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well as looking at how automation impacts network security in a software-defined network. Style and approach This will be a comprehensive, learning guide for teaching our readers how networking can be leveraged to improve the DevOps culture for any organization.

Learn everything you need to manage and handle your systems with ease with Ansible 2 using this comprehensive guide About This Book Simplify the automation of applications and systems using the newest version of Ansible Get acquainted with fundamentals of Ansible such as playbooks, modules, and various testing strategies A comprehensive, learning guide that provides you with great skills to automate your organization's infrastructure using Ansible 2 Who This Book Is For The book is for sys admins who want to automate their organization's infrastructure using Ansible 2. No prior knowledge of Ansible is required. What You Will Learn Set up Ansible 2 and an Ansible 2 project in a future-proof way Perform basic operations with Ansible 2 such as creating, copying, moving, changing, and deleting files, and creating and deleting users Deploy complete cloud environments using Ansible 2 on AWS and DigitalOcean Explore complex operations with Ansible 2 (Ansible vault, e-mails, and Nagios) Develop and test Ansible playbooks Write a custom module and test it In Detail Ansible is an open source automation platform

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that assists organizations with tasks such as configuration management, application deployment, orchestration, and task automation. With Ansible, even complex tasks can be handled easier than before. In this book, you will learn about the fundamentals and practical aspects of Ansible 2 by diving deeply into topics such as installation (Linux, BSD, and Windows Support), playbooks, modules, various testing strategies, provisioning, deployment, and orchestration. In this book, you will get accustomed with the new features of Ansible 2 such as cleaner architecture, task blocks, playbook parsing, new execution strategy plugins, and modules. You will also learn how to integrate Ansible with cloud platforms such as AWS. The book ends with the enterprise versions of Ansible, Ansible Tower and Ansible Galaxy, where you will learn to interact Ansible with different OSES to speed up your work to previously unseen levels. By the end of the book, you'll be able to leverage the Ansible parameters to create expeditious tasks for your organization by implementing the Ansible 2 techniques and paradigms.

Style and approach This book is a step-by-step learning guide on the all new Ansible 2, which is an ideal configuration management tool. Design, develop, and solve real-world automation and orchestration problems by unlocking the automation capabilities of Ansible.

Key Features
Tackle complex automation challenges with the

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newly added features in Ansible 2.7 Book

Description Automation is essential for success in the modern world of DevOps. Ansible provides a simple, yet powerful, automation engine for tackling complex automation challenges. This book will take you on a journey that will help you exploit the latest version's advanced features to help you increase efficiency and accomplish complex orchestrations. This book will help you understand how Ansible 2.7 works at a fundamental level and will also teach you to leverage its advanced capabilities. Throughout this book, you will learn how to encrypt Ansible content at rest and decrypt data at runtime. Next, this book will act as an ideal resource to help you master the advanced features and capabilities required to tackle complex automation challenges. Later, it will walk you through workflows, use cases, orchestrations, troubleshooting, and Ansible extensions. Lastly, you will examine and debug Ansible operations, helping you to understand and resolve issues. By the end of the book, you will be able to unlock the true power of the Ansible automation engine and tackle complex, real-world actions with ease. What you will learn Gain an in-depth understanding of how Ansible works under the hood Fully automate Ansible playbook executions with encrypted data Access and manipulate variable data within playbooks Use blocks to perform failure recovery or cleanup Explore the Playbook debugger

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and the Ansible Console Troubleshoot unexpected behavior effectively Work with cloud infrastructure providers and container systems Develop custom modules, plugins, and dynamic inventory sources Who this book is for This book is for Ansible developers and operators who have an understanding of its core elements and applications but are now looking to enhance their skills in applying automation using Ansible.

Summary Securing DevOps explores how the techniques of DevOps and security should be applied together to make cloud services safer. This introductory book reviews the latest practices used in securing web applications and their infrastructure and teaches you techniques to integrate security directly into your product. You'll also learn the core concepts of DevOps, such as continuous integration, continuous delivery, and infrastructure as a service. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology An application running in the cloud can benefit from incredible efficiencies, but they come with unique security threats too. A DevOps team's highest priority is understanding those risks and hardening the system against them. About the Book Securing DevOps teaches you the essential techniques to secure your cloud services. Using compelling case studies, it shows you how to build security into automated

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testing, continuous delivery, and other core DevOps processes. This experience-rich book is filled with mission-critical strategies to protect web applications against attacks, deter fraud attempts, and make your services safer when operating at scale. You'll also learn to identify, assess, and secure the unique vulnerabilities posed by cloud deployments and automation tools commonly used in modern infrastructures. What's inside

An approach to continuous security
Implementing test-driven security in DevOps
Security techniques for cloud services
Watching for fraud and responding to incidents
Security testing and risk assessment

About the Reader
Readers should be comfortable with Linux and standard DevOps practices like CI, CD, and unit testing.

About the Author
Julien Vehent is a security architect and DevOps advocate. He leads the Firefox Operations Security team at Mozilla, and is responsible for the security of Firefox's high-traffic cloud services and public websites.

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Securing DevOps PART 1 - Case study: applying layers of security to a simple DevOps pipeline

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Collecting and storing logs

Analyzing logs for fraud

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and attacks Detecting intrusions The Caribbean breach: a case study in incident response PART 3 - Maturing DevOps security Assessing risks Testing security Continuous security

Enhance DevOps workflows by integrating the functionalities of Docker, Kubernetes, Spinnaker, Ansible, Terraform, Flux CD, CaaS, and more with the help of practical examples and expert tips Key Features Get up and running with containerization-as-a-service and infrastructure automation in the public cloud Learn container security techniques and secret management with Cloud KMS, Anchore Grype, and Grafeas Kritis Leverage the combination of DevOps, GitOps, and automation to continuously ship a package of software Book Description Containers have entirely changed how developers and end-users see applications as a whole. With this book, you'll learn all about containers, their architecture and benefits, and how to implement them within your development lifecycle. You'll discover how you can transition from the traditional world of virtual machines and adopt modern ways of using DevOps to ship a package of software continuously. Starting with a quick refresher on the core concepts of containers, you'll move on to study the architectural concepts to implement modern ways of application development. You'll cover topics around Docker, Kubernetes, Ansible, Terraform, Packer, and other similar tools that will help you to

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build a base. As you advance, the book covers the core elements of cloud integration (AWS ECS, GKE, and other CaaS services), continuous integration, and continuous delivery (GitHub actions, Jenkins, and Spinnaker) to help you understand the essence of container management and delivery. The later sections of the book will take you through container pipeline security and GitOps (Flux CD and Terraform). By the end of this DevOps book, you'll have learned best practices for automating your development lifecycle and making the most of containers, infrastructure automation, and CaaS, and be ready to develop applications using modern tools and techniques. What you will learn

Become well-versed with AWS ECS, Google Cloud Run, and Knative Discover how to build and manage secure Docker images efficiently Understand continuous integration with Jenkins on Kubernetes and GitHub actions Get to grips with using Spinnaker for continuous deployment/delivery Manage immutable infrastructure on the cloud with Packer, Terraform, and Ansible Explore the world of GitOps with GitHub actions, Terraform, and Flux CD

Who this book is for

If you are a software engineer, system administrator, or operations engineer looking to step into the world of DevOps within public cloud platforms, this book is for you. Existing DevOps engineers will also find this book useful as it covers best practices, tips, and tricks to implement DevOps with a cloud-native

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mindset. Although no containerization experience is necessary, a basic understanding of the software development life cycle and delivery will help you get the most out of the book.

Ansible is an open source automation platform that assists organizations with tasks. This book will teach you to create and deploy playbooks to automate some simple tasks that you already perform on a daily basis. You will also learn to debug and test Ansible to ensure that your playbooks will always work. Towards the end, you will learn how to ...

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