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## B3F - GATES ARELLANO

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Go from the basics of using Ansible to becoming 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 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 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.

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 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 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.

Implement modern DevOps techniques to increase business productivity, agility, reliability, security, and scalability

**Key Features**

- Learn how to use business resources effectively for improved productivity and collaboration
- Use infrastructure as code practices to build large-scale cloud infrastructure
- Leverage the ultimate open source DevOps tools to achieve continuous integration and continuous delivery (CI/CD)

**Book Description**

In the implementation of DevOps processes, the choice of tools is crucial to the sustainability of projects and collaboration between developers and ops. This book presents the different patterns and tools for provisioning and configuring an infrastructure in the cloud, covering mostly open source tools with a large community contribution, such as Terraform, Ansible, and Packer, which are assets for automation. This DevOps book will show you how to containerize your applications with Docker and Kubernetes and walk you through the construction of DevOps pipelines in Jenkins as well as Azure pipelines before covering the tools and importance of testing. You'll find a complete chapter on DevOps practices and tooling for open source projects before getting to grips with security integration in DevOps using Inspec, Hashicorp Vault, and Azure Secure DevOps kit. You'll also learn about the reduction of downtime with blue-green deployment and feature flags techniques before finally covering common DevOps best practices for all your projects. 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

**Understand the basics of infrastructure as code patterns and practices**

- Get an overview of Git command and Git flow
- Install and write Packer, Terraform, and Ansible code for provisioning and configuring cloud infrastructure based on Azure examples
- Use Vagrant to create a local development environment
- Containerize applications with Docker and Kubernetes
- Apply DevSecOps for testing compliance and securing DevOps infrastructure
- Build DevOps CI/CD pipelines with Jenkins, Azure Pipelines, and GitLab CI
- Explore blue-green deployment and DevOps practices for open sources projects

**Who this book is for**

If you are an application developer or a system administrator interested in understanding continuous integration, continuous delivery, and containerization with DevOps tools and techniques, this book is for you. Knowledge of DevOps fundamentals and Git principles is required. Among the many configuration management tools available, Ansible has some

distinct advantages: It's minimal in nature. You don't need to install agents on your nodes. And there's an easy learning curve. With this updated third edition, you'll quickly learn how to be productive with Ansible whether you're a developer deploying code or a system administrator looking for a better automation solution. Authors Bas Meijer, Lorin Hochstein, and Rene Moser show 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 learn how Ansible has all the functionality you need--and the simplicity you desire. Explore Ansible configuration management and deployment

**Manage Linux, Windows, and network devices**

- Learn how to apply Ansible best practices
- Understand how to use the new collections format
- Create custom modules and plug-ins
- Generate reusable Ansible content for open source middleware
- Build container images, images for cloud instances, and cloud infrastructure
- Automate CI/CD development environments
- Learn how to use Ansible Automation Platform for DevOps

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 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 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.

**DevOps for the Desperate** is a hands-on, no-nonsense guide for those who land in a DevOps environment and need to get up and running quickly. This book introduces fundamental concepts software developers need to know to flourish in a modern DevOps environment including infrastructure as code, configuration management, security, containerization and orchestration, monitoring and alerting, and troubleshooting. Readers will follow along with hands-on examples to learn how to tackle common DevOps tasks. The book begins with an exploration of DevOps concepts using Vagrant and Ansible to build systems with repeatable and predictable states, including configuring a host with user-based security. Next up is a crash course on containerization, orchestration, and delivery using Docker, Kubernetes, and a CI/CD pipeline. The book concludes with a primer in monitoring and alerting with tips for troubleshooting common host and application issues. You'll learn how to:

- Use Ansible to manage users and groups, and enforce complex passwords
- Create a security policy for administrative permissions, and automate a host-based firewall
- Get started with Docker to containerize applications, use Kubernetes for orchestration, and deploy code using a CI/CD pipeline
- Build a monitoring stack, investigate common metric patterns, and trigger alerts
- Troubleshoot and analyze common issues and errors found on hosts

Summary Linux in Action is a task-based tutorial that will give you the skills and deep understanding you need to administer a Linux-based system. This hands-on book guides you through 12 real-world projects so you can practice as you learn. Each chapter ends with a review of best practices, new terms, and exercises. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology You can't learn anything without getting your hands dirty—â€ including Linux. Skills like securing files, folders, and servers, safely installing patches and applications, and managing a network are required for any serious user, including developers, administrators, and DevOps professionals. With this hands-on tutorial, you'll roll up your sleeves and learn Linux project by project. About the Book Linux in Action guides you through 12 real-world projects, including automating a backup-and-restore system, setting up a private Dropbox-style file cloud, and building your own MediaWiki server. You'll try out interesting examples as you lock in core practices like virtualization, disaster recovery, security, backup, DevOps, and system troubleshooting. Each chapter ends with a review of best practices, new terms, and exercises. What's inside Setting up a safe Linux environment Managing secure remote connectivity Building a system recovery device Patching and upgrading your system About the Reader No prior Linux admin experience is required. About the Author David Clinton is a certified Linux Server Professional, seasoned instructor, and author of Manning's bestselling Learn Amazon Web Services in a Month of Lunches. Table of Contents Welcome to Linux Linux virtualization: Building a Linux working environment Remote connectivity: Safely accessing networked machines Archive management: Backing up or copying entire file systems Automated administration: Configuring automated offsite backups Emergency tools: Building a system recovery device Web servers: Building a MediaWiki server Networked file sharing: Building a Nextcloud file-sharing server Securing your web server Securing network connections: Creating a VPN or DMZ System monitoring: Working with log files Sharing data over a private network Troubleshooting system performance issues Troubleshooting network issues Troubleshooting peripheral devices DevOps tools: Deploying a scripted server environment using Ansible

If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer—even if you work as a system administrator, software devel-

oper, 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

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 man-

agement, orchestration, and parallel command execution 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.

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 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 Discover how to manage and scale your infrastructure using Infrastructure as Code (I-aC) with Terraform **Key Features** Get up and running with the latest version of Terraform, v0.13 Design and manage infrastructure that can be shared, tested, modified, provisioned, and deployed Work through practical recipes to achieve zero-downtime deployment and scale your infrastructure effectively **Book Description** HashiCorp Configuration Language (HCL) has changed how we define and provision a data center infrastructure with the launch of Terraform—one of the most popular and powerful products for building Infrastructure as Code. This practical guide will show you how to leverage HashiCorp's Terraform tool to manage a complex infrastructure with ease. Starting with recipes for setting up the environment, this book will gradually guide you in configuring, provisioning, collaborating, and building a multi-environment architecture. Unlike other books, you'll also be able to explore recipes with real-world examples to provision your Azure infrastructure with Terraform. Once you've covered topics such as Azure Template, Azure CLI, Terraform configuration, and Terragrunt, you'll delve into manual and automated testing with Terraform configurations. The next set of chapters will show you how to manage a balanced and efficient infrastructure and create reusable infrastructure with Terraform modules. Finally, you'll explore the latest DevOps trends such as continuous integration and continuous delivery (CI/CD) and zero-downtime deployments. By the end of this book, you'll have developed the skills you need to get the most value out of Terraform and manage your

infrastructure effectively. What you will learn Understand how to install Terraform for local development Get to grips with writing Terraform configuration for infrastructure provisioning Use Terraform for advanced infrastructure use cases Understand how to write and use Terraform modules Discover how to use Terraform for Azure infrastructure provisioning Become well-versed in testing Terraform configuration Execute Terraform configuration in CI/CD pipelines Explore how to use Terraform Cloud **Who this book is for** This book is for developers, operators, and DevOps engineers looking to improve their workflow and use Infrastructure as Code. Experience with Microsoft Azure, Jenkins, shell scripting, and DevOps practices is required to get the most out of this Terraform book.

Achieve reliable release automation and get zero troublesome notifications on your release day **Key Features** Develop the skills to build command-line tools to control thousands of nodes Use Go to create Terraform providers and GitHub actions and extend Kubernetes Gain the knowledge to build DevOps workflows that are understandable, scalable, and safe **Book Description** Go is the go-to language for DevOps libraries and services, and without it, achieving fast and safe automation is a challenge. With the help of Go for DevOps, you'll learn how to deliver services with ease and safety, becoming a better DevOps engineer in the process. Some of the key things this book will teach you are how to write Go software to automate configuration management, update remote machines, author custom automation in GitHub Actions, and interact with Kubernetes. As you advance through the chapters, you'll explore how to automate the cloud using software development kits (SDKs), extend HashiCorp's Terraform and Packer using Go, develop your own DevOps services with gRPC and REST, design system agents, and build robust workflow systems. By the end of this Go for DevOps book, you'll understand how to apply development principles to automate operations and provide operational insights using Go, which will allow you to react quickly to resolve system failures before your customers realize something has gone wrong. What you will learn Understand the basic structure of the Go language to begin your DevOps journey Interact with filesystems to read or stream data Communicate with remote services via REST and gRPC Explore writing tools that can be used in the DevOps environment Develop command-line operational software in Go Work with popular frameworks to deploy production software Create GitHub actions that streamline

your CI/CD process Write a ChatOps application with Slack to simplify production visibility **Who this book is for** This book is for Ops and DevOps engineers who would like to use Go to develop their own DevOps tooling or integrate custom features with DevOps tools such as Kubernetes, GitHub Actions, HashiCorp Packer, and Terraform. Experience with some type of programming language, but not necessarily Go, is necessary to get started with this book.

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 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 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 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 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.

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

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 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 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.

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 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 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.

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 DevOps 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 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.

"As an author, editor, and publisher, I never paid much attention to the competition—except in a few cases. This is one of those cases. The UNIX System Administration Handbook is one of the few books we ever measured ourselves against." —Tim O'Reilly, founder of O'Reilly Media "This edition is for those whose systems live in the cloud or in virtualized data centers; those whose administrative work largely takes the form of automation and configuration source code; those who collaborate closely with developers, network engineers, compliance officers, and all the other worker bees who inhabit the modern hive." —Paul Vixie, Internet Hall of Fame-recognized innovator and founder of ISC and Farsight Security "This book is fun and functional as a desktop reference. If you use UNIX and Linux systems, you need this book in your short-reach library. It covers a bit of the systems' history but doesn't bloviate. It's just straight-forward information delivered in a colorful and memorable fashion." —Jason A. Nunnelle UNIX® and Linux® System Administration Handbook, Fifth Edition, is today's definitive guide to installing, configuring, and maintaining any UNIX or Linux system, including systems that supply core Internet and cloud infrastructure. Updated for new distributions and cloud environments, this compre-

hensive guide covers best practices for every facet of system administration, including storage management, network design and administration, security, web hosting, automation, configuration management, performance analysis, virtualization, DNS, security, and the management of IT service organizations. The authors—world-class, hands-on technologists—offer indispensable new coverage of cloud platforms, the DevOps philosophy, continuous deployment, containerization, monitoring, and many other essential topics. Whatever your role in running systems and networks built on UNIX or Linux, this conversational, well-written guide will improve your efficiency and help solve your knottiest problems.

Ansible is an Open Source IT automation tool. This book contains all of the obvious and not-so-obvious best practices of Ansible automation for Security and Compliance. Every successful IT department needs automation nowadays for bare metal servers, virtual machines, could, containers, and edge computing. Automate your IT journey with Ansible automation technology. You are going to start with the installation of Ansible in Enterprise Linux, Community Linux, Windows, and macOS using the most command package manager and archives. Each of the 100+ lessons summarizes a module: from the most important parameter to some Ansible code and real-life usage. Each code is battle proved in the real life. Simplifying mundane activities like creating a text file, extracting and archiving, fetching a repository using HTTPS or SSH connections could be automated with some lines of code and these are only some of the long lists included in the course. There are some Ansible codes usable in all the Linux systems, some specific for RedHat-like, Debian-like, and Windows systems. The 20+ Ansible troubleshooting lesson teaches you how to read the error message, how to reproduce, and the process of troubleshooting and resolution. Are you ready to automate your day with Ansible? Examples in the book are tested with the latest version of Ansible 2.9+ and Ansible Core 2.11+.

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 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

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

Increase profitability, elevate work culture, and exceed productivity goals through DevOps practices. More than ever, the effective management of technology is critical for business competitiveness. For decades, technology leaders have struggled to balance agility, reliability, and security. The

consequences of failure have never been greater—whether it's the healthcare.gov debacle, cardholder data breaches, or missing the boat with Big Data in the cloud. And yet, high performers using DevOps principles, such as Google, Amazon, Facebook, Etsy, and Netflix, are routinely and reliably deploying code into production hundreds, or even thousands, of times per day. Following in the footsteps of The Phoenix Project, The DevOps Handbook shows leaders how to replicate these incredible outcomes, by showing how to integrate Product Management, Development, QA, IT Operations, and Information Security to elevate your company and win in the marketplace.

Virtualization, cloud, containers, server automation, and software-defined networking are meant to simplify IT operations. But many organizations adopting these technologies have found that it only leads to a faster-growing sprawl of unmanageable systems. This is where infrastructure as code can help. With this practical guide, author Kief Morris of ThoughtWorks shows you how to effectively use principles, practices, and patterns pioneered through the DevOps movement to manage cloud age infrastructure. Ideal for system administrators, infrastructure engineers, team leads, and architects, this book demonstrates various tools, techniques, and patterns you can use to implement infrastructure as code. In three parts, you'll learn about the platforms and tooling involved in creating and configuring infrastructure elements, patterns for using these tools, and practices for making infrastructure as code work in your environment. Examine the pitfalls that organizations fall into when adopting the new generation of infrastructure technologies Understand the capabilities and service models of dynamic infrastructure platforms Learn about tools that provide, provision, and configure core infrastructure resources Explore services and tools for managing a dynamic infrastructure Learn specific patterns and practices for provisioning servers, building server templates, and updating running servers

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 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.

New edition of the bestselling guide to mastering Python Networking, updated to Python 3 and including the latest on network data analysis, Cloud Networking, Ansible 2.8, and new libraries Key Features Explore the power of Python libraries to tackle difficult network problems efficiently and effectively, including pyATS, Nornir, and Ansible 2.8 Use Python and Ansible for DevOps, network device automation, DevOps, and software-defined networking Become an expert in implementing advanced network-related tasks with Python 3 Book Description Networks in your infrastructure set the foundation for how your application can be deployed, maintained, and serviced. Python is the ideal language for network engineers to explore tools that were

previously available to systems engineers and application developers. In *Mastering Python Networking, Third edition*, you'll embark on a Python-based journey to transition from traditional network engineers to network developers ready for the next-generation of networks. This new edition is completely revised and updated to work with Python 3. In addition to new chapters on network data analysis with ELK stack (Elasticsearch, Logstash, Kibana, and Beats) and Azure Cloud Networking, it includes updates on using newer libraries such as pyATS and Nornir, as well as Ansible 2.8. Each chapter is updated with the latest libraries with working examples to ensure compatibility and understanding of the concepts. Starting with a basic overview of Python, the book teaches you how it can interact with both legacy and API-enabled network devices. You will learn to leverage high-level Python packages and frameworks to perform network automation tasks, monitoring, management, and enhanced network security followed by Azure and AWS Cloud networking. Finally, you will use Jenkins for continuous integration as well as testing tools to verify your network. What you will learn

Use Python libraries to interact with your network  
Integrate Ansible 2.8 using Python to control Cisco, Juniper, and Arista network devices  
Leverage existing Flask web frameworks to construct high-level APIs  
Learn how to build virtual networks in the AWS & Azure Cloud  
Learn how to use Elastic Stack for network data analysis  
Understand how Jenkins can be used to automatically deploy changes in your network  
Use PyTest and Unittest for Test-Driven Network Development in networking engineering with Python  
Who this book is for

*Mastering Python Networking, Third edition* is for network engineers, developers, and SREs who want to use Python for network automation, programmability, and data analysis. Basic familiarity with Python programming and networking-related concepts such as Transmission Control Protocol/Internet Protocol (TCP/IP) will be useful.

Six years ago, Infrastructure as Code was a new concept. Today, as even banks and other conservative organizations plan moves to the cloud, development teams for companies worldwide are attempting to build large infrastructure codebases. With this practical book, Kief Morris of ThoughtWorks shows you how to effectively use principles, practices, and patterns pioneered by DevOps teams to manage cloud-age infrastructure. Ideal for system administrators, infrastructure engineers, software developers, team leads, and architects, this updated edition demonstrates how you can exploit cloud and auto-

mation technology to make changes easily, safely, quickly, and responsibly. You'll learn how to define everything as code and apply software design and engineering practices to build your system from small, loosely coupled pieces. This book covers:

**Foundations:** Use Infrastructure as Code to drive continuous change and raise the bar of operational quality, using tools and technologies to build cloud-based platforms

**Working with infrastructure stacks:** Learn how to define, provision, test, and continuously deliver changes to infrastructure resources

**Working with servers and other platforms:** Use patterns to design provisioning and configuration of servers and clusters

**Working with large systems and teams:** Learn workflows, governance, and architectural patterns to create and manage infrastructure elements

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, 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 ex-

tended 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.

Manage Linux Servers on-premises and cloud with advanced DevOps techniques using Kubernetes

**KEY FEATURES**

- Detailed coverage on architecture of Web Servers, Databases, and Cloud Servers.
- Practical touch on deploying your application and managing cloud infrastructure using Docker and Terraform.
- Simplified implementation of Infrastructure as Code with Vagrant.
- Explore the use of different cloud services for better provisioning, scalability, and reliability of enterprise applications.

**DESCRIPTION** Hands-on DevOps with Linux brings you advanced learnings on how to make the best use of Linux commands in managing the DevOps infrastructure to keep enterprise applications up-to-date. The book begins by introducing you to the Linux world with the most used commands by DevOps experts and teaches how to set up your own infrastructure in your environment. The book covers exclusive coverage on production scenarios using Kubernetes and how the entire container orchestration is managed. Throughout the book, you will get accustomed to the most widely used techniques among DevOps Engineers in their routine. You will explore how infrastructure as code works, working with Vagrant, Docker and Terraform through which you can manage the entire cloud deployment of applications along with how to scale them on your own.

**WHAT YOU WILL LEARN**

- Create Infrastructure as Code to replicate the configuration to your infrastructure.
- Learn best methods and techniques to build continuous delivery pipeline using Jenkins.
- Learn to Distribute and scale your applications using Kubernetes.
- Get insights by analyzing millions of server logs using Kiba-

na and Logstash. WHO THIS BOOK IS FOR This book is best suited for DevOps Engineers and DevOps professionals who want to make best use of Linux commands in managing the DevOps infrastructure daily. It is a good handy guide for Linux administrators and system administrators too to get familiar with the use of Linux in Devops and advance their skillset in DevOps. TABLE OF CONTENTS 1. Getting started with Linux 2. Working with Bash 3. Setting up a service 4. Configuring a reverse proxy with Nginx 5. Deploying your application using Docker 6. Automating your Infrastructure as Code 7. Creating your infrastructure using cloud services 8. Working with Terraform 9. Working with Git 10. Continuous integration and Continuous Delivery using Jenkins 11. Deploying and scaling your application using Kubernetes 12. Logs with open source Tools

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 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 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.

Among the many configuration management tools available, Ansible has some distinct advantages—it's minimal in nature, you don't need to install anything on your nodes, and it has an easy learning curve. This practical guide shows you how to be productive with this tool quickly, whether you're a developer deploying code to production or a system administrator looking for a better automation solution. Author Lorin Hochstein shows you how to write playbooks (Ansible's configuration management scripts), manage remote servers, and explore the tool's real power: built-in declarative modules. You'll discover that Ansible has the functionality you need and the simplicity you desire. Understand how Ansible differs from other configuration management systems Use the YAML file format to write your own playbooks Learn Ansible's support for variables and facts Work with a complete example to deploy a non-trivial application Use roles to simplify and reuse playbooks Make playbooks run faster with ssh multiplexing, pipelining, and parallelism Deploy applications to Amazon EC2 and other cloud platforms Use Ansible to create Docker images and deploy Docker containers Ansible is an Open Source IT automation tool. This book contains all of the obvious and not-so-obvious best practices of Ansible automation. Every successful IT department needs automation nowadays for bare metal servers, virtual machines, could, containers, and edge computing. Automate your IT journey with Ansible automation technology. You are going to start with the installation of Ansible in Enterprise and Community Linux using the most command package manager and archives. Each of the 200+ lessons summarizes a module: from the most important parameter to some Ansible code and real-life usage. Each code is battle proved in the real life. Simplifying mundane activities like creating a text file, extracting and archiving, fetching a repository using HTTPS or SSH connections could be automated with some lines of code and these are only some of the long lists included in the course. There are some Ansible codes usable in all the Linux systems, some specific for RedHat-like, Debian-like, and Suse-like. The 20+ Ansible troubleshooting lesson teaches you how to read the error message, how to reproduce, and the process of troubleshooting and resolution. Are you ready to automate your day with Ansible? Examples in the book are tested with the latest version of Ansible 2.9+ and Ansible Core 2.11+.

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

Ansible is an Open Source IT automation tool. This book contains all of the obvious and not-so-obvious best practices of Ansible automation. Every successful IT department needs automation nowadays for bare metal servers, virtual machines, could, containers, and edge computing. Automate your IT journey with Ansible automation technology. You are going to start with the installation of Ansible in Enterprise Linux, Community Linux, Windows, and macOS using the most command package manager and archives. Each of the 200+ lessons summarizes a module: from the most important parameter to some Ansible code and real-life usage. Each code is battle proved in the real life. Simplifying mundane activities like creating a text file, extracting and archiving, fetching a repository using HTTPS or SSH connections could be automated with some lines of code and these are only some of the long lists included in the course. There are some Ansible codes usable in all the Linux systems, some specific for RedHat-like, Debian-like, and Windows systems. The 20+ Ansible troubleshooting lesson teaches you how to read the error message, how to reproduce, and the process of troubleshooting and resolution. Are you ready to automate your day with Ansible? Examples in the book are tested with the latest version of Ansible 2.9+ and Ansible Core 2.11+.

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

Get ready to go from the basics of using Ansible to becoming proficient at implementing configuration management in your projects. This book 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. You'll then learn how to extend playbooks further, using roles and templates within the configuration code. Author Vincent Sesto then 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 develop Ansible roles with the use of Ansible Galaxy to reuse existing roles that others have created. This updated edition reflects changes added in the latest version of Ansible (2.9). It also includes an expanded chapter on testing Ansible using Molecule and managing large server environments using applications like Ansible Tower. What Will You Learn Understand what Ansible is and how to install and run your first basic command line commands Expand your configuration management using Ansible playbooks, roles and templates Customize your code further using Ansible Vault and third party roles in Ansible Galaxy. Work with Ansible in managing Cloud Infrastructure, specifically in Amazon Web Services Troubleshoot your Ansible code and use a framework like Molecule and Testinfra to help test your code changes Manage large server environments using real world examples and extending your configurations or using an application like Ansible Tower Who This Book Is For Systems Engineers, Developers, DevOps Engineers and Software Administrators.

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 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

DevOps for VMware® Administrators is the first book focused on using DevOps tools and practices with VMware technologies. The authors introduce high-value tools from third parties and VMware itself, and guide you through using them to improve the performance of all your virtualized systems and applications. You'll walk through automating and optimizing

configuration management, provisioning, log management, continuous integration, and more. The authors also offer step-by-step coverage of deploying and managing applications at scale with Docker containers and Google Kubernetes. They conclude with an up-to-the-minute discussion of VMware's newest DevOps initiatives, including VMware vRealize Automation and VMware vRealize Code Stream. Coverage includes

- Understanding the challenges that DevOps tools and practices can help VMware administrators to solve
- Using Vagrant to quickly deploy Dev and Test environments that match production system specifications
- Writing Chef "recipes" that streamline server configuration and maintenance
- Simplifying Unix/Linux configuration management and orchestration with Ansible
- Implementing Docker containers for faster and easier application management
- Automating provisioning across the full lifecycle with Razor
- Integrating Microsoft PowerShell Desired State Configuration (DSC) and VMware PowerCLI to automate key Windows Server and vSphere VM admin tasks
- Using Puppet to automate infrastructure provisioning, configuration, orchestration, and reporting
- Supercharging log management with ELK (Elasticsearch, Logstash, Kibana)
- Supporting DevOps source code management with Git and continuous integration practices with Jenkins
- Achieving continuous integration, delivery, and deployment with VMware's vRealize Code Stream

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

\*Imparts good security doctrine, methodology, and strategies \*Each application-focused chapter will be able to be used as a stand-alone HOW-TO for that particular application. \*Offers users a selection of resources (websites, mailing lists, and books) to further their knowledge.