

Openstack Administration With Ansible 2 Second Edition

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 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 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.

This is the eBook version of the print title. Learn, prepare, and practice for Red Hat RHCSA 8 (EX200) exam success with this Cert Guide from Pearson IT Certification, a leader in IT Certification learning. Master Red Hat RHCSA 8 EX200 exam topics Assess your knowledge with chapter-ending quizzes Review key concepts with exam-preparation tasks Practice with four unique practice tests Learn from two full hours of video training from the author's Red Hat Certified System Administrator (RHCSA) Complete Video Course, 3rd Edition. Red Hat RHCSA 8 Cert Guide is a best-of-breed exam study guide. Leading Linux consultant, author, and instructor Sander van Vugt shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. The book presents you with an organized test-preparation routine through the use of proven series elements and techniques. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Review questions help you assess your knowledge, and a final preparation chapter guides you through tools and resources to help you craft your final study plan. Well regarded for its level of detail, assessment features, and challenging review questions and exercises, this study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time, including Basic system management: Installation, tools, file management, text files, RHEL8 connections, user/group management, permissions, and network configuration Operating running systems: Managing software, processes, storage, and advanced storage; working with systemd; scheduling tasks; and configuring logging Advanced system administration: Managing the kernel and boot procedures, essential troubleshooting, bash shell scripting Managing network services: Configuring SSH, firewalls, and time services; managing Apache HTTP services and SE Linux; and accessing network storage

IBM® Power Virtualization Center (IBM® PowerVCTM) is an advanced enterprise virtualization management offering for IBM Power Systems. This IBM Redbooks® publication introduces IBM PowerVC and helps you understand its functions, planning, installation, and setup. It also shows how IBM PowerVC can integrate with systems management tools such as Ansible or Terraform and that it also integrates well into a OpenShift container environment. IBM PowerVC Version 2.0.0 supports both large and small deployments, either by managing IBM PowerVM® that is controlled by the Hardware Management Console (HMC), or by IBM PowerVM NovaLink. With this capability, IBM PowerVC can manage IBM AIX®, IBM i, and Linux workloads that run on IBM POWER® hardware. IBM PowerVC is available as a Standard Edition, or as a Private Cloud Edition. IBM PowerVC includes the following features and benefits: Virtual image capture, import, export, deployment, and management Policy-based virtual machine (VM) placement to improve server usage Snapshots and cloning of VMs or volumes for backup or testing purposes Support of advanced storage capabilities such as IBM SVC vdisk mirroring of IBM Global Mirror Management of real-time optimization and VM resilience to increase productivity VM Mobility with placement policies to reduce the burden on IT staff in a simple-to-install and easy-to-use graphical user interface (GUI) Automated Simplified Remote Restart for improved availability of VMs ifor when a host is down Role-based security policies to ensure a secure environment for common tasks The ability to enable an administrator to enable Dynamic Resource Optimization on a schedule IBM PowerVC Private Cloud Edition includes all of the IBM PowerVC Standard Edition features and enhancements: A self-service portal that allows the provisioning of new VMs without direct system administrator intervention. There is an option for policy approvals for the requests that are received from the self-service portal. Pre-built deploy templates that are set up by the cloud administrator that simplify the deployment of VMs by the cloud user. Cloud management policies that simplify management of cloud deployments. Metering data that can be used for chargeback. This publication is for experienced users of IBM PowerVM and other virtualization solutions who want to understand and implement the next generation of enterprise virtualization management for Power Systems. Unless stated otherwise, the content of this publication refers to IBM PowerVC Version 2.0.0.

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

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.

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 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 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.

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

Orchestrate and automate your OpenStack cloud operator tasks with Ansible 2.0 About This Book Automate real-world OpenStack cloud operator administrative tasks Construct a collection of the latest automation code to save time on managing your OpenStack cloud Manage containers on your cloud and check the health of your cloud using Nagios Who This Book Is For This book is aimed at OpenStack-based cloud operators and infrastructure and sys administrators who have some knowledge of OpenStack and are seeking to automate taxing and manual tasks. This book is also for people new to automating cloud operations in general and the DevOps practice in particular. What You Will Learn Efficiently execute OpenStack administrative tasks Familiarize yourself with how Ansible 2 works and assess the defined best practices Create Ansible 2 playbooks and roles Automate tasks to customize your OpenStack cloud Review OpenStack automation considerations when automating administrative tasks Examine and automate advanced OpenStack tasks and designated use cases Get a high-level overview of OpenStack and current production-ready projects Explore OpenStack CLI tools and learn how to use them In Detail Most organizations are seeking methods to improve business agility because they have realized just having a cloud is not enough. Being able to improve application deployments, reduce infrastructure downtime, and eliminate daily manual tasks can only be accomplished through some sort of automation. We start with a brief overview of OpenStack and Ansible 2 and highlight some best practices. Each chapter will provide an introduction to handling various Cloud Operator administration tasks such as managing containers within your cloud; setting up/utilizing open source packages for monitoring; creating multiple users/tenants; taking instance snapshots; and customizing your cloud to run multiple active regions. Each chapter will also supply a step-by-step tutorial on how to automate these tasks with Ansible 2. Packed with real-world OpenStack administrative tasks, this book will walk you through working examples and explain how these tasks can be automated using one of the most popular open source automation tools on the market today. Style and approach This book is a concise, fast-paced guide filled with real-world scenarios that will execute OpenStack administrative tasks efficiently. It serves as a quick reference guide for not just OpenStack functions, but also for creating future Ansible code.

OpenStack Administration with Ansible 2Packt Publishing Ltd

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, ...

Master the objectives required to pass the Certified OpenStack Administrator exam. About This Book Focuses on providing a clear, concise strategy so you gain the specific skills required to pass the Certified OpenStack Administrator exam Includes exercises and performance-based tasks to ensure all exam objectives can be completed via the Horizon dashboard and command-line interface Includes a free OpenStack Virtual Appliance to practice the objectives covered throughout the book Includes a practice exam to put your OpenStack skills to the test to prove you have what it takes to conquer the live exam Updated for the 2017 exam featuring OpenStack Newton Who This Book Is For This book is for IT professionals, system administrators, DevOps engineers, and software developers with basic Linux command-line and networking knowledge. It's also a great guide for those interested in an entry-level OpenStack position but have limited real-world OpenStack experience. After passing the exam, Certified OpenStack Administrators will prove they have the required skills for the job. What You Will Learn Manage the Keystone identity service by creating and modifying domains, groups, projects, users, roles, services, endpoints, and quotas. Upload Glance images, launch new Nova instances, and create flavors, key pairs, and snapshots. Discover Neutron tenant and provider networks, security groups, routers, and floating IPs. Manage the Cinder block storage service by creating volumes and attaching them to instances. Create Swift containers and set access control lists to allow read/write access to your objects. Explore Heat orchestration templates and create, list, and update stacks. In Detail This book provides you with a specific strategy to pass the OpenStack Foundation's first professional certification: the Certified OpenStack Administrator. In a recent survey, 78% of respondents said the OpenStack skills shortage had deterred them from adopting OpenStack. Consider this an opportunity to increase employer and customer confidence by proving you have the skills required to administrate real-world OpenStack clouds. You will begin your journey by getting well-versed with the OpenStack environment, understanding the benefits of taking the exam, and installing an included OpenStack all-in-one virtual appliance so you can work through objectives covered throughout the book. After exploring the basics of the individual services, you will be introduced to strategies to accomplish the exam objectives relevant to Keystone, Glance, Nova, Neutron, Cinder, Swift, Heat, and troubleshooting. Finally, you'll benefit from the special tips section and a practice exam to put your knowledge to the test. By the end of the journey, you will be ready to become a Certified OpenStack Administrator! Style and approach Clear, concise, and straightforward with supporting diagrams and lab environment tutorials, this book will help you confidently pass Certified OpenStack Administrator objectives on the Horizon dashboard and command-line interface.

With platforms designed for rapid adaptation and failure recovery such as Amazon Web Services, cloud computing is more like programming than traditional system administration. Tools for automatic scaling and instance replacement allow even small DevOps teams to manage massively scalable application infrastructures—if team members drop their old views of development and operations and start mastering automation. This comprehensive guide shows developers and system administrators how to configure and manage AWS services including EC2, CloudFormation, Elastic Load Balancing, S3, and Route 53. Sysadms will learn will learn to automate their favorite tools and processes; developers will pick up enough ops knowledge to build a robust and resilient AWS application infrastructure. Launch instances with EC2 or CloudFormation Securely deploy and manage your applications with AWS tools Learn to automate AWS configuration management with Python and Puppet Deploy applications with Auto Scaling and Elastic Load Balancing Explore approaches for deploying application and infrastructure updates Save time on development and operations with reusable components Learn strategies for managing log files in AWS environments Configure a cloud-aware DNS service with Route 53 Use AWS CloudWatch to monitor your infrastructure and applications

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.

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

This IBM® Redbooks publication is a comprehensive guide that covers the IBM AIX® operating system (OS) layout capabilities, distinct features, system installation, and maintenance, which includes AIX security, trusted environment, and compliance integration, with the benefits of IBM Power Virtualization Management (PowerVM®) and IBM Power Virtualization Center (IBM PowerVC), which includes cloud capabilities and automation types. The objective of this book is to introduce IBM AIX modernization features and integration with different environments: General AIX enhancements AIX Live Kernel Update individually or using Network Installation Manager (NIM) AIX security features and integration AIX networking enhancements PowerVC integration and features for cloud environments AIX deployment using IBM Terraform and IBM Cloud Automation Manager AIX automation that uses configuration management tools PowerVM enhancements and features Latest disaster recovery (DR) solutions AIX Logical Volume Manager (LVM) and Enhanced Journaled File System (JFS2) AIX installation and maintenance techniques

Learn to efficiently run Linux-based workloads in Azure Key Features Manage and deploy virtual machines in your Azure environment Explore various open source tools to integrate automation and orchestration Leverage Linux features to create, run, and manage containers Book Description Azure's market share has increased massively and enterprises are adopting it rapidly. Linux is a widely-used operating system and has proven to be one of the most popular workloads on Azure. It has become crucial for Linux administrators and Microsoft professionals to be well-versed with the concepts of managing Linux workloads in an Azure environment. Hands-On Linux Administration on Azure starts by introducing you to the fundamentals of Linux and Azure, after which you will explore advanced Linux features and see how they are managed in an Azure environment. Next, with the help of real-world scenarios, you will learn how to deploy virtual machines (VMs) in Azure, along with extending Azure VMs capabilities and managing them efficiently. You will then understand continuous configuration automation and use Ansible, SaltStack and Powershell DSC for orchestration. As you make your way through the chapters, you will understand containers and how they work, along with managing containers and the various tasks you can perform with them. In the concluding chapters, you will cover some Linux troubleshooting techniques on Azure, and you will also be able to monitor Linux in Azure using different open source tools. By the end of this book, you will be able to administer Linux on Azure and make the most of the important tools required for deployment. What you will learn Understand why Azure is the ideal solution for your open source workloads Master essential Linux skills and learn to find your way around the Linux environment Deploy Linux in an Azure environment Use configuration management to manage Linux in Azure Manage containers in an Azure environment Enhance Linux security and use Azure's identity management systems Automate deployment with Azure Resource Manager (ARM) and Powershell Employ Ansible to manage Linux instances in an Azure cloud environment Who this book is for Hands-On Linux Administration on Azure is for Linux administrators and Microsoft professionals that need to deploy and manage their workloads in Azure. Prior knowledge of Linux and Azure isn't necessary.

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 Design and implement successful private clouds with OpenStack About This Book Explore the various design choices available for cloud architects within an OpenStack deployment Craft an OpenStack architecture and deployment pipeline to meet the unique needs of your organization Create a product roadmap for Infrastructure as a Service in your organization using this hands-on guide Who This Book Is For This book is written especially for those who will design OpenStack clouds and lead their implementation. These people are typically cloud architects, but may also be in product management, systems engineering, or enterprise architecture. What You Will Learn Familiarize yourself with the components of OpenStack Build an increasingly complex OpenStack lab deployment Write compelling documentation for the architecture teams within your organization Apply Agile configuration management techniques to deploy OpenStack

Integrate OpenStack with your organization's identity management, provisioning, and billing systems Configure a robust virtual environment for users to interact with Use enterprise security guidelines for your OpenStack deployment Create a product roadmap that delivers functionality quickly to the users of your platform In Detail Over the last five years, hundreds of organizations have successfully implemented Infrastructure as a Service (IaaS) platforms based on OpenStack. The huge amount of investment from these organizations, industry giants such as IBM and HP, as well as open source leaders such as Red Hat have led analysts to label OpenStack as the most important open source technology since the Linux operating system. Because of its ambitious scope, OpenStack is a complex and fast-evolving open source project that requires a diverse skill-set to design and implement it. This guide leads you through each of the major decision points that you'll face while architecting an OpenStack private cloud for your organization. At each point, we offer you advice based on the experience we've gained from designing and leading successful OpenStack projects in a wide range of industries. Each chapter also includes lab material that gives you a chance to install and configure the technologies used to build production-quality OpenStack clouds. Most importantly, we focus on ensuring that your OpenStack project meets the needs of your organization, which will guarantee a successful rollout. Style and approach This is practical, hands-on guide to implementing OpenStack clouds, where each topic is illustrated with real-world examples and then the technical points are proven in the lab.

This IBM® Redpaper publication describes IBM Spectrum® LSF® Suite best practices installation topics, application checks for workload management, and high availability configurations by using theoretical knowledge and hands-on exercises. These findings are documented by way of sample scenarios. This publication addresses topics for sellers, IT architects, IT specialists, and anyone who wants to implement and manage a high-performing workload management solution with LSF. Moreover, this guide provides documentation to transfer how-to-skills to the technical teams, and solution guidance to the sales team. This publication compliments documentation that is available at IBM Knowledge Center, and aligns with educational materials that are provided by IBM Systems.

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 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.

Discover your complete guide to designing, deploying, and managing OpenStack-based clouds in mid-to-large IT infrastructures with best practices, expert understanding, and more About This Book Design and deploy an OpenStack-based cloud in your mid-to-large IT infrastructure using automation tools and best practices Keep yourself up-to-date with valuable insights into OpenStack components and new services in the latest OpenStack release Discover how the new features in the latest OpenStack release can help your enterprise and infrastructure Who This Book Is For This book is for system administrators, cloud engineers, and system architects who would like to deploy an OpenStack-based cloud in a mid-to-large IT infrastructure. This book requires a moderate level of system administration and familiarity with cloud concepts. What You Will Learn Explore the main architecture design of OpenStack components and core-by-core services, and how they work together Design different high availability scenarios and plan for a no-single-point-of-failure environment Set up a multinode environment in production using orchestration tools Boost OpenStack's performance with advanced configuration Delve into various hypervisors and container technology supported by OpenStack Get familiar with deployment methods and discover use cases in a real production environment Adopt the DevOps style of automation while deploying and operating in an OpenStack environment Monitor the cloud infrastructure and make decisions on maintenance and performance improvement In Detail In this second edition, you will get to grips with the latest features of OpenStack. Starting with an overview of the OpenStack architecture, you'll see how to adopt the DevOps style of automation while deploying and operating in an OpenStack environment. We'll show you how to create your own OpenStack private cloud. Then you'll learn about various hypervisors and container technology supported by OpenStack. You'll get an understanding about the segregation of compute nodes based on reliability and availability needs. We'll cover various storage types in OpenStack and advanced networking aspects such as SDN and NFV. Next, you'll understand the OpenStack infrastructure from a cloud user point of view. Moving on, you'll develop troubleshooting skills, and get a comprehensive understanding of services such as high availability and failover in OpenStack. Finally, you will gain experience of running a centralized logging server and monitoring OpenStack services. The book will show you how to carry out performance tuning based on OpenStack service logs. You will be able to master OpenStack benchmarking and performance tuning. By the end of the book, you'll be ready to take steps to deploy and manage an OpenStack cloud with the latest open source technologies. Style and approach This book will help you understand the flexibility of OpenStack by showcasing integration of several out-of-the-box solutions in order to build a large-scale cloud environment.. It will also cover detailed discussions on the various design and deployment strategies for implementing a fault-tolerant and highly available cloud infrastructure.

Your complete guide to designing, deploying, and managing OpenStack-based clouds in mid-to-large IT infrastructures About This Book* Design and deploy an OpenStack-based cloud in your mid-to-large IT infrastructure using automation tools and best practices* Keep yourself up-to-date with valuable insights into OpenStack components and new services in the latest OpenStack

release* Discover how the new features in the latest OpenStack release can help your enterprise and infrastructureWho This Book Is ForThis book is for system administrators, cloud engineers, and system architects who would like to deploy an OpenStack-based cloud in a mid-to-large IT infrastructure. This book requires a moderate level of system administration and familiarity with cloud concepts.What You Will Learn* Explore the main architecture design of OpenStack components and core-by-core services, and how they work together* Design different high availability scenarios and plan for a no-single-point-of-failure environment* Set up a multinode environment in production using orchestration tools* Boost OpenStack's performance with advanced configuration* Delve into various hypervisors and container technology supported by OpenStack* Get familiar with deployment methods and discover use cases in a real production environment* Adopt the DevOps style of automation while deploying and operating in an OpenStack environment* Monitor the cloud infrastructure and make decisions on maintenance and performance improvementIn DetailIn this second edition, you will get to grips with the latest features of OpenStack. Starting with an overview of the OpenStack architecture, you'll see how to adopt the DevOps style of automation while deploying and operating in an OpenStack environment. We'll show you how to create your own OpenStack private cloud. Then you'll learn about various hypervisors and container technology supported by OpenStack. You'll get an understanding about the segregation of compute nodes based on reliability and availability needs. We'll cover various storage types in OpenStack and advanced networking aspects such as SDN and NFV.Next, you'll understand the OpenStack infrastructure from a cloud user point of view. Moving on, you'll develop troubleshooting skills, and get a comprehensive understanding of services such as high availability and failover in OpenStack. Finally, you will gain experience of running a centralized logging server and monitoring OpenStack services.The book will show you how to carry out performance tuning based on OpenStack service logs. You will be able to master OpenStack benchmarking and performance tuning. By the end of the book, you'll be ready to take steps to deploy and manage an OpenStack cloud with the latest open source technologies.

Master the secret tools every Python programmer needs to know Professional Python goes beyond the basics to teach beginner- and intermediate-level Python programmers the little-known tools and constructs that build concise, maintainable code. Design better architecture and write easy-to-understand code using highly adoptable techniques that result in more robust and efficient applications. Coverage includes Decorators, Context Managers, Magic Methods, Class Factories, Metaclasses, Regular Expressions, and more, including advanced methods for unit testing using asyncio and CLI tools. Each topic includes an explanation of the concept and a discussion on applications, followed by hands-on tutorials based on real-world scenarios. The "Python 3 first" approach covers multiple current versions, while ensuring long-term relevance. Python offers many tools and techniques for writing better code, but often confusing documentation leaves many programmers in the dark about how to use them. This book shines a light on these incredibly useful methods, giving you clear guidance toward building stronger applications. Learn advanced Python functions, classes, and libraries Utilize better development and testing tools Understand the "what," "when," "why," and "how" More than just theory or a recipe-style walk-through, this guide helps you learn — and understand — these little-known tools and techniques. You'll streamline your workflow while improving the quality of your output, producing more robust applications with cleaner code and stronger architecture. If you're ready to take your Python skills to the next level, Professional Python is the invaluable guide that will get you there.

Master the ins and outs of advanced operations with Ansible About This Book Learn how to extend Ansible with custom modules, plugins, and inventory sources Utilize advanced Ansible features to orchestrate rolling updates with little to no service disruptions An up-to-date book that brings to light the newly added features in Ansible 2.x Who This Book Is For This book is 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 Gain an in-depth understanding of how Ansible works under the covers Fully automate the Ansible playbook executions with encrypted data Access and manipulate variable data within playbooks Use Blocks to construct failure recovery or cleanup Explore the Playbook debugger and Ansible Console Troubleshoot unexpected behavior effectively Work with cloud infrastructure providers and container systems Develop custom modules, plugins, and dynamic inventory sources In Detail This book provides you with the knowledge you need to understand how Ansible 2.1 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. By the end of the book, the readers will be able to unlock the true power of the Ansible automation engine and will tackle complex real world actions with ease. Style and approach This clear, practical guide illustrates the advanced functionalities of Ansible, its system architecture, and design aspects that will help you to master Ansible with ease.

This IBM® Redpaper publication describes how to deploy Red Hat OpenShift V4.3 on IBM Power Systems servers. This book presents reference architectures for deployment, initial sizing guidelines for server, storage, and IBM Cloud® Paks. Moreover, this publication delivers information about initial supported Power System configurations for Red Hat OpenShift V4.3 deployment (bare metal, IBM PowerVM® LE LPARs, and others). This book serves as a guide for how to deploy Red Hat OpenShift V4.3 and provide start guidelines and recommended practices for implementing it on Power Systems and completing it with the supported IBM Cloud Paks. The publication addresses topics for developers, IT architects, IT specialists, sellers, and anyone who wants to implement a Red Hat OpenShift V4.3 and IBM Cloud Paks on IBM Power Systems. This book also provides technical content to transfer how-to skills to the support teams, and solution guidance to the sales team. This book compliments the documentation that is available at IBM Knowledge Center, and also aligns with the educational offerings that are provided by the IBM Systems Technical Education (SSE).

Learn practical and applied OpenStack cloud design solutions to gain maximum control over your infrastructure. You will achieve a complete controlled and customizable platform. Applied OpenStack Design Patterns teaches you how to map your application flow once you set up components and architectural design patterns. Also covered is storage management and computing to map user requests and allocations. Best practices of High Availability and Native Cluster Management are included. Solutions are presented to network components of OpenStack and to

reduce latency and enable faster communication gateways between components of OpenStack and native applications. What You Will Learn: Design a modern cloud infrastructure Solve complex infrastructure application problems Understand OpenStack cloud infrastructure components Adopt a business impact analysis to support existing/new cloud infrastructure Use specific components to integrate an existing tool-chain set to gain agility and a quick, continuous delivery model Who This Book Is For: Seasoned solution architects, DevOps, and system engineers and analysts

Deploy a SharePoint farm in a repeatable, predictable, and reliable fashion using Infrastructure as Code (IaC) techniques to automate provisioning. Savvy IT pros will learn how to use DevOps practices and open source tools to greatly reduce costs, and streamline management operations for SharePoint farms deployed via Amazon Web Services (AWS), Azure, or on premise. DevOps for SharePoint will help you navigate the complex challenges of deploying and managing SharePoint Server farms. You will learn how to reduce time-consuming tasks and errors when generating development, testing, or production environments. And you will benefit from learning proven methods to apply Microsoft updates with minimal downtime and productivity loss. Whether you are a SharePoint architect, IT pro, or developer helping customers with the SharePoint platform, this book will teach you the most useful DevOps practices to tackle those issues and broaden your skill set. What You'll Learn Understand the basics of the most popular open source tools—Vagrant, Packer, Terraform, and Ansible—and how to use them in the context of deploying and scaling a SharePoint farm Use Vagrant to build SharePoint development environments in less than an hour, and add automated testing Use Packer to create a “golden image” with preconfigured settings, and then use it as the base image in your Terraform configuration for both AWS and Azure farms Use Terraform to scale your SharePoint farm topology Use Red Hat's Ansible Playbooks to perform configuration management on your farm Use Terraform to deploy immutable infrastructure environments using IaC (Infrastructure as Code) Use InSpec 2.0 to stay in compliance by testing your cloud infrastructure Use Ansible to apply Microsoft updates and patches Who This Book Is For IT pros and developers who are looking to expand their knowledge and take a modern approach by using open source technologies to work with Microsoft products. Experience installing SharePoint, and a basic understanding of either Azure or AWS, is helpful.

Learn how to work with the Automate feature of CloudForms, the powerful Red Hat cloud management platform that lets you administer your virtual infrastructure, including hybrid public and private clouds. This practical hands-on introduction shows you how to increase your operational efficiency by automating day-to-day tasks that now require manual input. Throughout the book, author Peter McGowan provides a combination of theoretical information and practical coding examples to help you learn the Automate object model. With this CloudForms feature, you can create auto-scalable cloud applications, eliminate manual decisions and operations when provisioning virtual machines and cloud instances, and manage your complete virtual machine lifecycle. In six parts, this book helps you: Learn the objects and concepts for developing automation scripts with CloudForms Automate Customize the steps and workflows involved in provisioning virtual machines Create and use service catalogs, items, dialogs, objects, bundles, and hierarchies Use CloudForm's updated workflow to retire and delete virtual machines and services Orchestrate and coordinate with external services as part of a workflow Explore distributed automation processing as well as argument passing and handling

Design, deploy, and maintain your own private or public Infrastructure as a Service (IaaS), using the open source OpenStack platform. In this practical guide, experienced developers and OpenStack contributors show you how to build clouds based on reference architectures, as well as how to perform daily administration tasks. Designed for horizontal scalability, OpenStack lets you build a cloud by integrating several technologies. This approach provides flexibility, but knowing which options to use can be bewildering. Once you complete this book, you'll know the right questions to ask while you organize compute, storage, and networking resources. If you already know how to manage multiple Ubuntu machines and maintain MySQL, you're ready to: Set up automated deployment and configuration Design a single-node cloud controller Use metrics to improve scalability Explore compute nodes, network design, and storage Install OpenStack packages Use an example architecture to help simplify decision-making Build a working environment to explore an IaaS cloud Manage users, projects, and quotas Tackle maintenance, debugging, and network troubleshooting Monitor, log, backup, and restore

Design, build, and automate 10 real-world OpenStack administrative tasks with Ansible About This Book Automate real-world OpenStack cloud operator administrative tasks Construct a collection of automation code to save time on managing your OpenStack cloud Use this step-by-step tutorial to automate such tasks with Ansible Who This Book Is For If you are an OpenStack-based cloud operator and/or infrastructure administrator and are interested in automating administrative functions, then this book is exactly what you are looking for. Having a functioning OpenStack environment is helpful, but most certainly not necessary. What You Will Learn Efficiently execute OpenStack administrative tasks Familiarize yourself with how Ansible works and assess the defined best practices Create Ansible playbooks and roles Automate tasks to customize your OpenStack cloud Review OpenStack automation considerations when automating administrative tasks Examine and automate advanced OpenStack tasks and designated use cases Get a high-level overview of OpenStack and the current production-ready projects Deep dive into OpenStack CLI tools and find out how to use them In Detail Most organizations are seeking methods to improve business agility because they have realized just having a cloud is not enough. Being able to improve application deployments, reduce infrastructure downtime, and eliminate daily manual tasks can only be accomplished through some sort of automation. Packed with real-world OpenStack administrative tasks, this book will walk you through working examples and explain how these tasks can be automated using one of the most popular open source automation tools—Ansible. We will start with a brief overview of OpenStack and Ansible and highlight some best practices. Each chapter will provide an introduction to handling various Cloud Operator administration tasks such as creating multiple users/tenants, setting up Multi-Tenant Isolation, customizing your clouds quotas, taking instance snapshots, evacuating compute hosts for maintenance, and running cloud health checks, and a step-by-step tutorial on how to automate these tasks with Ansible. Style and approach This easy-to-follow reference guide is packed with examples of real-world OpenStack administration tasks; each task is explained in detail and then subsequently turned into automation code.

With the help of top-notch examples and activities, this workshop helps you to get practical with Docker containers. You'll learn its usage, advantages, and best practices to make the software deployment process smoother.

Orchestrate and automate your OpenStack cloud operator tasks with Ansible 2About This Book* Automate real-world OpenStack cloud operator administrative tasks* Construct a collection of

the latest automation code to save time on managing your OpenStack cloud* Manage containers on your cloud and check the health of your cloud using NagiosWho This Book Is ForThis book is aimed at OpenStack-based cloud operators and infrastructure and sys administrators who have some knowledge of OpenStack and are seeking to automate taxing and manual tasks. This book is also for people new to automating cloud operations in general and the DevOps practice in particular.What You Will Learn* Efficiently execute OpenStack administrative tasks* Familiarize yourself with how Ansible 2 works and assess the defined best practices* Create Ansible 2 playbooks and roles* Automate tasks to customize your OpenStack cloud* Review OpenStack automation considerations when automating administrative tasks* Examine and automate advanced OpenStack tasks and designated use cases* Get a high-level overview of OpenStack and current production-ready projects* Explore OpenStack CLI tools and learn how to use themIn DetailMost organizations are seeking methods to improve business agility because they have realized just having a cloud is not enough. Being able to improve application deployments, reduce infrastructure downtime, and eliminate daily manual tasks can only be accomplished through some sort of automation.We start with a brief overview of OpenStack and Ansible 2 and highlight some best practices. Each chapter will provide an introduction to handling various Cloud Operator administration tasks such as managing containers within your cloud; setting up/utilizing open source packages for monitoring; creating multiple users/tenants; taking instance snapshots; and customizing your cloud to run multiple active regions. Each chapter will also supply a step-by-step tutorial on how to automate these tasks with Ansible 2.Packed with real-world OpenStack administrative tasks, this book will walk you through working examples and explain how these tasks can be automated using one of the most popular open source automation tools: Ansible 2.

A Cookbook full of practical and applicable recipes that will enable you to use the full capabilities of OpenStack like never before.This book is aimed at system administrators and technical architects moving from a virtualized environment to cloud environments with familiarity of cloud computing platforms. Knowledge of virtualization and managing linux environments is expected. 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

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.

More than 50 percent new and revised content for today's Linux environment gets you up and running in no time! Linux continues to be an excellent, low-cost alternative to expensive operating systems. Whether you're new to Linux or need a reliable update and reference, this is an excellent resource. Veteran bestselling author Christopher Negus provides a complete tutorial packed with major updates, revisions, and hands-on exercises so that you can confidently start using Linux today. Offers a complete restructure, complete with exercises, to make the book a better learning tool Places a strong focus on the Linux command line tools and can be used with all distributions and versions of Linux Features in-depth coverage of the tools that a power user and a Linux administrator need to get started This practical learning tool is ideal for anyone eager to set up a new Linux desktop system at home or curious to learn how to manage Linux server systems at work.

Orchestrate your cloud infrastructure Key Features Recipe-based approach to install and configure cloud resources using Ansible Covers various cloud-related modules and their functionalities Includes deployment of a sample application to the cloud resources that we create Learn the best possible way to manage and automate your cloud infrastructure Book Description Ansible has a large collection of inbuilt modules to manage various cloud resources. The book begins with the concepts needed to safeguard your credentials and explain how you interact with cloud providers to manage resources. Each chapter begins with an introduction and prerequisites to use the right modules to manage a given cloud provider. Learn about Amazon Web Services, Google Cloud, Microsoft Azure, and other providers. Each chapter shows you how to create basic computing resources, which you can then use to deploy an application. Finally, you will be able to deploy a sample application to demonstrate various usage patterns and utilities of resources. What you will learn Use Ansible Vault to protect secrets Understand how Ansible modules interact with cloud providers to manage resources Build cloud-based resources for your application Create resources beyond simple virtual machines Write tasks that can be reused to create resources multiple times Work with self-hosted clouds such as OpenStack and Docker Deploy a multi-tier application on various cloud providers Who this book is for If you are a system administrator, infrastructure engineer, or a DevOps engineer who wants to obtain practical knowledge about Ansible and its cloud deliverables, then this book is for you. Recipes in this book are designed for people who would like to manage their cloud infrastructures efficiently using Ansible, which is regarded as one of the best tools for cloud management and automation.

Take your network automation skills to the next level with practical recipes on managing network devices from a variety of vendors like Cisco, Juniper, and Arista Key Features Use Ansible to automate network infrastructure with the help of step-by-step instructions Implement network automation best practices to save cost, avoid critical errors, and reduce downtime Deliver a robust automation framework by integrating Ansible with NAPALM, NetBox, and Batfish Book Description Network Automation Cookbook is designed to help system administrators, network engineers, and infrastructure automation engineers to centrally manage switches, routers, and other devices in their organization's network. This book will help you gain hands-on experience in automating enterprise networks and take you through core network automation techniques using the latest version of Ansible and Python. With the help of practical recipes, you'll learn how to build a network infrastructure that can be easily managed and updated as it scales through a large number of devices. You'll also cover topics related to security automation and get to grips with essential techniques to maintain network robustness. As you make progress, the book will show you how to automate networks on public cloud providers such as AWS, Google Cloud Platform, and Azure. Finally, you will get up and running with Ansible 2.9 and discover troubleshooting techniques and network automation best practices. By the end of this book, you'll be able to use Ansible to automate modern network devices and integrate third-party tools such as NAPALM, NetBox, and Batfish easily to build robust network automation solutions. What you will learn Understand the various components of Ansible Automate network resources in AWS, GCP, and Azure cloud solutions Use IaC concepts to design and build network solutions Automate network devices such as Cisco, Juniper, Arista, and F5 Use NetBox to build network inventory and integrate it with Ansible Validate networks using Ansible and Batfish Who this book is for This Ansible network automation book is for network and DevOps engineers interested in automating complex network tasks. Prior understanding of networking and basic Linux knowledge is required. Develop advanced skills for working with Linux systems on-premises and in the cloud Key Features Become proficient in everyday Linux administration tasks by mastering the Linux command line and using automation Work with the Linux filesystem, packages, users, processes, and daemons Deploy Linux to the cloud with AWS, Azure, and Kubernetes Book Description Linux plays a significant role in modern data center management and provides great versatility in deploying and managing your workloads on-premises and in the cloud. This book covers the important topics you need to know about for your everyday Linux administration tasks. The book starts by helping you understand the Linux command line and how to work with files, packages, and filesystems. You'll then begin administering network services and hardening security, and learn about cloud computing, containers, and orchestration. Once you've learned how to work with the command line, you'll explore the essential Linux commands for managing users, processes, and daemons and discover how to secure your Linux environment using application security frameworks and firewall managers. As you advance through the chapters, you'll work with containers, hypervisors, virtual machines, Ansible, and Kubernetes. You'll also learn how to deploy Linux to the cloud using AWS and Azure. By the end of this Linux book, you'll be well-versed with Linux and have mastered everyday administrative tasks using workflows spanning from on-premises to the cloud. If you also find yourself adopting DevOps practices in the process, we'll consider our mission accomplished. What you will learn Understand how Linux works and learn basic to advanced Linux administration skills Explore the most widely used commands for managing the Linux filesystem, network, security, and more Get to grips with different networking and messaging protocols Find out how Linux security works and how to configure SELinux, AppArmor, and Linux iptables Work with virtual machines and containers and understand container orchestration with Kubernetes Work with containerized workflows using Docker and Kubernetes Automate your configuration management workloads with Ansible Who this book is for If you are a Linux administrator who wants to understand the fundamentals and as well as modern concepts of Linux system administration, this book is for you. Windows System Administrators looking to extend their knowledge to the Linux OS will also benefit from this book.

OpenStack is today's leading technology for building and integrating public and private clouds. Common OpenStack Deployments is a complete, practical guide to deploying OpenStack and understanding its internals. Key project contributor Elizabeth Joseph, with expert implementer Matt Fischer, shares up-to-date recipes for deploying OpenStack on both virtual and physical servers, and for using OpenStack to address any real-world challenge. First, Joseph and Fischer help you master OpenStack concepts and components by guiding you through small-scale, virtualized deployments. As you deepen your understanding, they guide you through building large, horizontally scalable

infrastructures that integrate multiple components in a feature-rich cloud environment. Throughout, you'll find up-to-the minute coverage of enhancements that make the OpenStack platform more mature and production ready, plus expert tips on debugging and growth. The authors conclude by introducing the broader OpenStack ecosystem, showing you how to drive value through hybrid clouds blending local and hosted solutions. Drawing on extensive personal experience, they address issues ranging from cost to data sovereignty and security. Common OpenStack Deployments is the ideal resource for all network and data center professionals who want to apply OpenStack in proof-of-concept or in production, and for every instructor or student who wants to leverage today's hottest cloud technology. Comprehensive coverage includes Customizing, deploying, and scaling OpenStack in any environment Quickly building single-server test deployments with DevStack Making the right networking decisions for any OpenStack deployment Manually installing Nova compute, Keystone identity, Glance image storage, and Neutron networking Setting up controllers and compute nodes Deploying private compute clouds with Puppet Metering clouds with Ceilometer Implementing block and object storage clouds Provisioning on bare metal with OpenStack Ironic Controlling containers with OpenStack Magnum Troubleshooting OpenStack: error messages, logs, tools, configuration problems, Puppet debugging, and more Step-by-step virtualized reference deployment using KVM/QEMU on Ubuntu

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