
Read PDF Openstack Cloud Computing Cookbook Third Edition

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41OUT2 - ANGELINA JERAMIAH

This practical guide provides over 100 self-contained recipes to help you creatively solve issues you may encounter in your AWS cloud endeavors. If you're comfortable with rudimentary scripting and general cloud concepts, this cookbook will give you what you need to both address foundational tasks and create high-level capabilities. AWS Cookbook provides real-world examples that incorporate best practices. Each recipe includes code that you can safely execute in a sandbox AWS account to ensure that it works. From there, you can customize the code to help construct

your application or fix your specific existing problem. Recipes also include a discussion that explains the approach and provides context. This cookbook takes you beyond theory, providing the nuts and bolts you need to successfully build on AWS. You'll find recipes for: Organizing multiple accounts for enterprise deployments Locking down S3 buckets Analyzing IAM roles Autoscaling a containerized service Summarizing news articles Standing up a virtual call center Creating a chatbot that can pull answers from a knowledge repository Automating security group rule monitoring, looking for rogue traffic flows And

more.

A top risk management practitioner addresses the essential aspects of modern financial risk management In the Second Edition of Financial Risk Management +Website, market risk expert Steve Allen offers an insider's view of this discipline and covers the strategies, principles, and measurement techniques necessary to manage and measure financial risk. Fully revised to reflect today's dynamic environment and the lessons to be learned from the 2008 global financial crisis, this reliable resource provides a comprehensive overview of the entire field of risk manage-

ment. Allen explores real-world issues such as proper mark-to-market valuation of trading positions and determination of needed reserves against valuation uncertainty, the structuring of limits to control risk taking, and a review of mathematical models and how they can contribute to risk control. Along the way, he shares valuable lessons that will help to develop an intuitive feel for market risk measurement and reporting. Presents key insights on how risks can be isolated, quantified, and managed from a top risk management practitioner. Offers up-to-date examples of managing market and credit risk. Provides an overview and comparison of the various derivative instruments and their use in risk hedging. Companion Website contains supplementary materials that allow you to continue to learn in a hands-on fashion long after closing the book. Focusing on the management of those risks that can be successfully quantified, the Second Edition of *Financial Risk Management + Website* is the definitive source for managing market and credit risk.

Over 110 effective recipes to help you build and operate OpenStack cloud computing, storage, networking, and automa-

tion. About This Book • Explore many new features of OpenStack's Juno and Kilo releases • Install, configure, and administer core projects with the help of OpenStack Object Storage, Block Storage, and Neutron Networking services • Harness the abilities of experienced OpenStack administrators and architects, and run your own private cloud successfully • Practical, real-world examples of each service and an accompanying Vagrant environment that helps you learn quickly. In Detail OpenStack Open Source software is one of the most used cloud infrastructures to support software development and big data analysis. It is developed by a thriving community of individual developers from around the globe and backed by most of the leading players in the cloud space today. It is simple to implement, massively scalable, and can store a large pool of data and networking resources. OpenStack has a strong ecosystem that helps you provision your cloud storage needs. Add OpenStack's enterprise features to reduce the cost of your business. This book will show you the steps to build up a private cloud environment. At the beginning, you'll discover the uses of cloud services such as the identity service,

image service, and compute service. You'll dive into Neutron, the OpenStack Networking service, and get your hands dirty with configuring ML2, networks, routers, and Distributed Virtual Routers. You'll then gather more expert knowledge on OpenStack cloud computing by managing your cloud's security and migration. After that, we delve in to OpenStack Object storage and how to manage servers and work with objects, cluster, and storage functionalities. Also, as you go deeper into the realm of OpenStack, you'll learn practical examples of Block storage, LBaaS, and FWaaS: installation and configuration covered ground up. Finally, you will learn OpenStack dashboard, Ansible and Foreman, Keystone, and other interesting topics. What You Will Learn • Understand, install, configure, and manage Nova—the OpenStack Cloud Compute resource • Configure ML2, networks, routers, and Distributed Virtual Routers with Neutron • Use and secure Keystone, the OpenStack Authentication service • Install and set up Swift and Container Replication between datacenters • Gain hands-on experience and familiarity with Horizon, the OpenStack Dashboard user interface • Automate complete solutions

with our recipes on Heat, the OpenStack Orchestration service• Use Ansible and Foreman to automate OpenStack installations successfully• Follow practical advice and examples to run OpenStack in productionWho This Book Is ForThis book is aimed at cloud system engineers, system administrators, and technical architects who are moving from a virtualized environment to cloud environments. This book assumes that you are familiar with cloud computing platforms, and have knowledge of virtualization, networking, and managing Linux environments.Style and approachClear, step-by-step instructions coupled with practical and applicable recipes that'll enable you to use and implement the latest features of OpenStack.

This book is for everybody who would like to learn modern Java web development based on PrimeFaces and is looking for a quick introduction to this matter. Prerequisites for this book are basic JSF, jQuery, and CSS skills.

Planning to deploy and maintain a public, private, or hybrid cloud service? This cookbook's handy how-to recipes help you quickly learn and install Apache CloudS-

ack, along with several API clients, API wrappers, data architectures, and configuration management technologies that work as part of CloudStack's ecosystem. You'll learn how to use Vagrant, Ansible, Chef, Fluentd, Libcloud, and several other open source tools that let you build and operate CloudStack better and faster. If you're an experienced programmer, system administrator, or DevOps practitioner familiar with bash, Git, package management, and some Python, you're ready to go. Learn basic CloudStack installation from source, including features such as DevCloud, the CloudStack sandbox Get a step-by-step guide for installing CloudStack from packages on Ubuntu 14.04 using KVM Write your own applications on top of the CloudStack API, using CloudMonkey, Libcloud, jclouds, and CloStack Expose different APIs on CloudStack with the EC2Stack, Boto, and Eutester API wrappers Deploy applications easily, using Puppet, Salt, Ansible, Chef, and Vagrant Dive into cloud monitoring and storage with RiakCS, Fluentd, and Apache Whirr

This book constitutes the refereed proceedings of the 14th International Conference on Mobile Web and Intelligent Information

Systems, MobiWIS 2017, held in Prague, Czech Republic, in August 2017. The 23 full papers together with 4 short papers presented in this volume were carefully reviewed and selected from 77 submissions. The call for papers of the MobiWis 2017 included new and emerging areas such as: mobile web systems, recommender systems, security and authentication, context-awareness, mobile web and advanced applications, cloud and IoT, mobility management, mobile and wireless networks, and mobile web practice and experience.

Overcome the vexing issues you're likely to face when creating apps for the iPhone, iPad, or iPod touch. With new and thoroughly revised recipes in this updated cookbook, you'll quickly learn the steps necessary to work with the iOS 7 SDK--including ways to store and protect data, send and receive notifications, enhance and animate graphics, manage files and folders, and take advantage of UI Dynamics.

Over 90 practical, actionable recipes to automate, test, and manage your infrastructure quickly and effectively About This Book Bring down your delivery timeline from days to hours by treating your server configurations and VMs as code, just like

you would with software code. Take your existing knowledge and skill set with your existing tools (Puppet, Chef, or Docker) to the next level and solve IT infrastructure challenges. Use practical recipes to use code to provision and deploy servers and applications and have greater control of your infrastructure. Who This Book Is For This book is for DevOps engineers and developers working in cross-functional teams or operations and would now switch to IAC to manage complex infrastructures. What You Will Learn Provision local and remote development environments with Vagrant Automate production infrastructures with Terraform, Ansible and Cloud-init on AWS, OpenStack, Google Cloud, Digital Ocean, and more Manage and test automated systems using Chef and Puppet Build, ship, and debug optimized Docker containers Explore the best practices to automate and test everything from cloud infrastructures to operating system configuration In Detail Infrastructure as Code (IAC) is a key aspect of the DevOps movement, and this book will show you how to transform the way you work with your infrastructure—by treating it as software. This book is dedicated to helping you discover the essentials

of infrastructure automation and its related practices; the over 90 organized practical solutions will demonstrate how to work with some of the very best tools and cloud solutions. You will learn how to deploy repeatable infrastructures and services on AWS, OpenStack, Google Cloud, and Digital Ocean. You will see both Ansible and Terraform in action, manipulate the best bits from cloud-init to easily bootstrap instances, and simulate consistent environments locally or remotely using Vagrant. You will discover how to automate and test a range of system tasks using Chef or Puppet. You will also build, test, and debug various Docker containers having developers' interests in mind. This book will help you to use the right tools, techniques, and approaches to deliver working solutions for today's modern infrastructure challenges. Style and approach This is a recipe-based book that allows you to venture into some of the most cutting-edge practices and techniques about IAC and solve immediate problems when trying to implement them.

As part of the Syngress Basics series, *The Basics of Cloud Computing* provides read-

ers with an overview of the cloud and how to implement cloud computing in their organizations. Cloud computing continues to grow in popularity, and while many people hear the term and use it in conversation, many are confused by it or unaware of what it really means. This book helps readers understand what the cloud is and how to work with it, even if it isn't a part of their day-to-day responsibility. Authors Derrick Rountree and Ileana Castrillo explains the concepts of cloud computing in practical terms, helping readers understand how to leverage cloud services and provide value to their businesses through moving information to the cloud. The book will be presented as an introduction to the cloud, and reference will be made in the introduction to other Syngress cloud titles for readers who want to delve more deeply into the topic. This book gives readers a conceptual understanding and a framework for moving forward with cloud computing, as opposed to competing and related titles, which seek to be comprehensive guides to the cloud. Provides a sound understanding of the cloud and how it works Describes both cloud deployment models and cloud services models, so you can

make the best decisions for deployment Presents tips for selecting the best cloud services providers

Harness the power of OpenStack Networking for public and private clouds using 90 hands-on recipes About This Book Build and manage virtual switching, routing, and firewall-based networks in OpenStack using Neutron Develop plugins and drivers for Neutron to enhance the built-in networking capabilities Monitor and automate OpenStack networks using tools like Ceilometer and Heat Who This Book Is For This book is aimed at network and system administrators who want to deploy and manage OpenStack-based cloud and IT infrastructure. If you have basic knowledge of OpenStack and virtualization, this book will help you leverage the rich functionality of OpenStack Networking in your cloud deployments. What You Will Learn Operate OpenStack Networking for public and private clouds Configure advanced routing services for your workloads Secure data traffic using firewall-as-a-service capabilities of OpenStack Discover how to leverage VXLAN to implement SDN in your OpenStack cloud Monitor the virtual networks using Ceilometer Develop plugins to

enhance and customize OpenStack Networking Provide HA and VPN connectivity for your virtual machines Troubleshoot and solve common problems with OpenStack Networking In Detail Networking in OpenStack has evolved from Nova Network to Neutron. This has resulted in a rich suite of networking services available to OpenStack users and administrators. Advanced services such as routers, firewall, and load balancers use building blocks such as network and subnets. Recent improvements support powerful customization using plugins. The evolution of Neutron continues as it integrates with tools like Ceilometer and Heat. This book will explore the built-in capabilities of Neutron to effectively deploy cloud solutions. You will begin with the most fundamental constructs of OpenStack Networking for switching and routing. You will then learn how to provide your tenants with services like firewalls and load-balancers. The step-by-step recipes will help you configure and troubleshoot networking problems in your cloud. This book will also introduce you to advanced topics like Ceilometer, Heat, and other upcoming tools in OpenStack Style and approach The book is full of step-by-step recipes to

configure and manage the networking aspects of your OpenStack cloud. In addition to covering basic configuration involved in OpenStack Networking, the books also shares various troubleshooting tips and techniques. As much as possible the book uses OpenStack dashboard (Horizon) to help the user get a feel of real OpenStack Networking

An expert guide to selecting the right cloud service model for your business Cloud computing is all the rage, allowing for the delivery of computing and storage capacity to a diverse community of end-recipients. However, before you can decide on a cloud model, you need to determine what the ideal cloud service model is for your business. Helping you cut through all the haze, Architecting the Cloud is vendor neutral and guides you in making one of the most critical technology decisions that you will face: selecting the right cloud service model(s) based on a combination of both business and technology requirements. Guides corporations through key cloud design considerations Discusses the pros and cons of each cloud service model Highlights major design considerations in areas such as security, data privacy, log-

ging, data storage, SLA monitoring, and more. Clearly defines the services cloud providers offer for each service model and the cloud services IT must provide. Arming you with the information you need to choose the right cloud service provider, *Architecting the Cloud* is a comprehensive guide covering everything you need to be aware of in selecting the right cloud service model for you.

Leverage the best SDN technologies for your OpenStack-based cloud infrastructure. About This Book Learn how to leverage critical SDN technologies for OpenStack Networking APIs via plugins and drivers. Champion the skills of achieving complete SDN with OpenStack with specific use cases and capabilities only covered in this title. Discover exactly how you could implement cost-effective OpenStack SDN integration for your organization. Who This Book Is For Administrators, and cloud operators who would like to implement Software Defined Networking on OpenStack clouds. Some prior experience of network infrastructure and networking concepts is assumed. What You Will Learn Understand how OVS is used for Overlay networks. Get familiar with SDN Controllers with Architectural de-

tails and functionalities. Create core ODL services and understand how OpenDaylight integrates with OpenStack to provide SDN capabilities. Understand OpenContrail architecture and how it supports key SDN functionality such as Service Function Chaining (SFC) along with OpenStack. Explore Open Network Operating System (ONOS) – a carrier grade SDN platform embraced by the biggest telecom service providers. Learn about upcoming SDN technologies in OpenStack such as Dragonflow and OVN. In Detail Networking is one the pillars of OpenStack and OpenStack Networking are designed to support programmability and Software-Defined Networks. OpenStack Networking has been evolving from simple APIs and functionality in Quantum to more complex capabilities in Neutron. Armed with the basic knowledge, this book will help the readers to explore popular SDN technologies, namely, OpenDaylight (ODL), OpenContrail, Open Network Operating System (ONOS) and Open Virtual Network (OVN). The first couple of chapters will provide an overview of OpenStack Networking and SDN in general. Thereafter a set of chapters are devoted to OpenDaylight

(ODL), OpenContrail and their integration with OpenStack Networking. The book then introduces you to Open Network Operating System (ONOS) which is fast becoming a carrier grade SDN platform. We will conclude the book with overview of upcoming SDN projects within OpenStack namely OVN and Dragonflow. By the end of the book, the readers will be familiar with SDN technologies and know how they can be leveraged in an OpenStack based cloud. Style and approach A hands-on practical tutorial through use cases and examples for Software Defined Networking with OpenStack.

Asterisk has a wealth of features to help you customize your PBX to fill very specific business needs. This short cookbook offers recipes for tackling dialplan fundamentals, making and controlling calls, and monitoring channels in your PBX environment. Each recipe includes a simple code solution you can put to work immediately, along with a detailed discussion that offers insight into why and how the recipe works. This book focuses on Asterisk 1.8, although many of the conventions and information presented are version-agnostic. Th-

ese recipes include solutions to help you: Authenticate callers before moving on in your dialplan Redirect calls received by your auto-attendant Create an automatic call-back service Initiate hot-desking to login to and accept calls at any office device Monitor and interrupt live calls to train new employees at a call center Record calls from your Asterisk dialplan 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-n-

ode 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

Learn how you can put the features of OpenStack to work in the real world in this comprehensive path About This Book Harness the abilities of experienced OpenStack administrators and architects, and run your own private cloud successfully Learn how to install, configure, and manage all of the OpenStack core projects including topics on Object Storage, Block Storage, and Neutron Networking services such as LBaaS and FWaaS Get better equipped to troubleshoot and solve common problems in performance, availability, and automation that confront production-ready OpenStack environments Who This Book Is For This course is for those who are new to OpenStack who want to learn the cloud networking fundamentals and get started with OpenStack network-

ing. Basic understanding of Linux Operating System, Virtualization, and Networking, and Storage principles will come in handy. What You Will Learn Get an introduction to OpenStack and its components Store and retrieve data and images using storage components, such as Cinder, Swift, and Glance Install and configure Swift, the OpenStack Object Storage service, including configuring Container Replication between datacenters Gain hands on experience and familiarity with Horizon, the OpenStack Dashboard user interface Learn how to automate OpenStack installations using Ansible and Foreman Follow practical advice and examples for running OpenStack in production Fix common issues with images served through Glance and master the art of troubleshooting Neutron networking In Detail OpenStack is a collection of software projects that work together to provide a cloud fabric. Learning OpenStack Cloud Computing course is an exquisite guide that you will need to build cloud environments proficiently. This course will help you gain a clearer understanding of OpenStack's components and their interaction with each other to build a cloud environment. The first module,

Learning OpenStack, starts with a brief look into the need for authentication and authorization, the different aspects of dashboards, cloud computing fabric controllers, along with 'Networking as a Service' and 'Software defined Networking'. Then, you will focus on installing, configuring, and troubleshooting different architectures such as Keystone, Horizon, Nova, Neutron, Cinder, Swift, and Glance. After getting familiar with the fundamentals and application of OpenStack, let's move deeper into the realm of OpenStack. In the second module, OpenStack Cloud Computing Cookbook, preview how to build and operate OpenStack cloud computing, storage, networking, and automation. Dive into Neutron, the OpenStack Networking service, and get your hands dirty with configuring ML2, networks, routers, and distributed virtual routers. Further, you'll learn practical examples of Block Storage, LBaaS, and FBaaS. The final module, Troubleshooting OpenStack, will help you quickly diagnose, troubleshoot, and correct problems in your OpenStack. We will diagnose and remediate issues in Keystone, Glance, Neutron networking, Nova, Cinder block storage, Swift object storage, and issues caused by

Heat orchestration. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Learning OpenStack by Alok Shrivastwa, Sunil Sarat OpenStack Cloud Computing Cookbook - Third Edition by Kevin Jackson , Cody Bunch, Egle Sigler Troubleshooting OpenStack by Tony Campbell Style and approach This course aims to create a smooth learning path that will teach you how to get started with setting up private and public clouds using a free and open source cloud computing platform—OpenStack. Through this comprehensive course, you'll learn OpenStack Cloud computing from scratch to finish and more!

VMware vCloud Director Cookbook will adopt a Cookbook-based approach. Packed with illustrations and programming examples, this book explains the simple as well as the complex recipes in an easy-to-understand language. VMware vCloud Director Cookbook is aimed at system administrators and technical architects moving from a virtualized environment to cloud environments. Familiarity with cloud computing platforms and some knowledge of virtu-

alization and managing cloud environments is expected.

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 produc-

tion 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.

DuBois organizes his cookbook's recipes into sections on the problem, the solution stated simply, and the solution implemented in code and discussed. The implementation and discussion sections are the most valuable, as they contain the command sequences, code listings, and design explanations that can be transferred to outside projects.

Know how to set up, defend, and attack computer networks with this revised and expanded second edition. You will learn to configure your network from the ground up, beginning with developing your own private virtual test environment, then sett-

ing up your own DNS server and AD infrastructure. You will continue with more advanced network services, web servers, and database servers and you will end by building your own web applications servers, including WordPress and Joomla!. Systems from 2011 through 2017 are covered, including Windows 7, Windows 8, Windows 10, Windows Server 2012, and Windows Server 2016 as well as a range of Linux distributions, including Ubuntu, CentOS, Mint, and OpenSUSE. Key defensive techniques are integrated throughout and you will develop situational awareness of your network and build a complete defensive infrastructure, including log servers, network firewalls, web application firewalls, and intrusion detection systems. Of course, you cannot truly understand how to defend a network if you do not know how to attack it, so you will attack your test systems in a variety of ways. You will learn about Metasploit, browser attacks, privilege escalation, pass-the-hash attacks, malware, man-in-the-middle attacks, database attacks, and web application attacks. What You'll Learn

Construct a testing laboratory to experiment with software and attack techniques

Build realistic networks that include active

directory, file servers, databases, web servers, and web applications such as WordPress and Joomla! Manage networks remotely with tools, including PowerShell, WMI, and WinRM Use offensive tools such as Metasploit, Mimikatz, Veil, Burp Suite, and John the Ripper Exploit networks starting from malware and initial intrusion to privilege escalation through password cracking and persistence mechanisms Defend networks by developing operational awareness using auditd and Sysmon to analyze logs, and deploying defensive tools such as the Snort intrusion detection system, IPFire firewalls, and ModSecurity web application firewalls Who This Book Is For This study guide is intended for everyone involved in or interested in cybersecurity operations (e.g., cybersecurity professionals, IT professionals, business professionals, and students)

This easy to read textbook provides an introduction to computer architecture, while focusing on the essential aspects of hardware that programmers need to know. The topics are explained from a programmer's point of view, and the text emphasizes consequences for programmers. Divided in five parts, the book covers the basics of

digital logic, gates, and data paths, as well as the three primary aspects of architecture: processors, memories, and I/O systems. The book also covers advanced topics of parallelism, pipelining, power and energy, and performance. A hands-on lab is also included. The second edition contains three new chapters as well as changes and updates throughout.

Unleash the Power of vCenter Orchestrator to Automate Tasks and Improve Efficiency Today, VMware administrators are responsible for far more infrastructure, servers, and services than ever before. To succeed, they must take full advantage of opportunities to automate and orchestrate their vSphere environments. In Automating vSphere with VMware vCenter Orchestrator, three-time vExpert Cody Bunch shows how to utilize VMware vCenter Orchestrator (vCO) 4.2 to achieve far higher levels of operational efficiency and effectiveness. Bunch reveals what vCO can do, walks through each step of installation and configuration, explains how its “moving parts” work together, and thoroughly introduces both plug-ins and workflows. Building on this core knowledge, he presents

several start-to-finish case studies showing how to use vCO to address real-world challenges ranging from provisioning to snapshots, cluster management to decommissioning. Whatever your VMware virtualization environment, this book will help you do more with less, save time, eliminate errors, and improve both performance and reliability. Coverage includes Understanding how vCO fits into your environment and identifying your best opportunities to use it Choosing the right installation scenario and efficiently managing the vCO installation process Configuring vCO: services, passwords, networking, LDAP, databases, SSL, licensing, plug-ins, backup, and more Interacting with vCO through actions, packages, plug-ins, web views, resources, and workflows Automating manual tasks with vCO's extensive workflow library Creating sophisticated workflows with drag-and-drop components and JavaScript Using plug-ins to control infrastructure within and around your vSphere environment Bringing consistency to VM provisioning, overcoming “VM sprawl” and resource contention, and simplifying support Optimizing VM lifecycle management, all the way through decommissioning Auto-

mating all snapshot monitoring processes and components Exporting logs, finding/deleting orphaned files, and performing other day-to-day tasks Efficiently conducting mass VM migrations Quickly adding vCenter hosts and clusters, configuring shared storage, and adding hosts to new clusters Using vCO and third-party plug-ins to gain “private cloud” benefits and flexibility Networking/Virtualization vmware.com/go/vmwarepress

The Fourth Edition of the industry-acclaimed OpenStack Cloud Computing Cookbook, from four recognized experts, updated to the latest OpenStack build including Cinder, Nova, and Neutron. Key Features Over 100 recipes created by a team of OpenStack experts Updated to work with the latest OpenStack builds, with recipes covering the installation and use of OpenStack with Ansible It covers topics such as Keystone, Glance, Neutron, Nova, Cinder, and more, plus recipes for OpenStack storage, networking, and orchestrating workloads Test drive OpenStack using the accompanying Vagrant environment Book Description This is the fourth edition of the industry-acclaimed OpenStack Cloud Computing Cookbook, created by four recog-

nized OpenStack experts. It has now been updated to work with the latest OpenStack builds, using tools and processes based on their collective and vast OpenStack experience. OpenStack Open Source Cloud software is one of the most used cloud infrastructures to support a wide variety of use cases, from software development to big data analysis. It is developed by a thriving community of individual developers from around the globe and backed by most of the leading players in the cloud space today. We make it simple to implement, massively scalable, and able to store a large pool of data and networking resources. OpenStack has a strong ecosystem that helps you provision your cloud storage needs. Add OpenStack's enterprise features to reduce the cost of your business. This book will begin by showing you the steps to build up an OpenStack private cloud environment using Ansible. You'll then discover the uses of cloud services such as the identity service, image service, and compute service. You'll dive into Neutron, the OpenStack Networking service, and get your hands dirty with configuring networks, routers, load balancers, and more. You'll then gather more

expert knowledge on OpenStack cloud computing by managing your cloud's security and migration. After that, we delve into OpenStack Object storage and you'll see how to manage servers and work with objects, cluster, and storage functionalities. Finally, you will learn about OpenStack dashboard, Ansible, Keystone, and other interesting topics. What you will learn Understand, install, configure, and manage a complete OpenStack Cloud platform using OpenStack-Ansible Configure networks, routers, load balancers, and more with Neutron Use Keystone to setup domains, roles, groups and user access Learn how to use Swift and setup container access control lists Gain hands-on experience and familiarity with Horizon, the OpenStack Dashboard user interface Automate complete solutions with our recipes on Heat, the OpenStack Orchestration service as well as using Ansible to orchestrate application workloads Follow practical advice and examples to run OpenStack in production Who this book is for This book is written for cloud system engineers, system administrators, and technical architects who are moving from a virtualized environment to cloud environments. This

book assumes that you are familiar with cloud computing platforms, and have knowledge of virtualization, networking, and managing Linux environments.

A practical guide to building programmable networks using OpenDaylight
 About This Book Learn and understand how SDN controllers operate and integrate with networks; this book's step-by-step tutorials will give you a strong foundation in SDN, NVF, and OpenDayLight. Learn how to map legacy Layer 2/3 networking technologies in the SDN world Add new services and capabilities to your infrastructure and quickly adopt SDN and NFV within your organization with OpenDayLight. Integrate and manage software-defined networks efficiently in your organization. Build innovative network applications with OpenDayLight and save time and resources.
 Who This Book Is For This book targets network engineers, network programmers and developers, administrators, and anyone with some level of networking experience who'd like to deploy OpenDayLight effectively. Familiarity with the day-to-day operations of computer networks is expected
 What You Will Learn Transition from legacy networking to software-defined net-

working Learn how SDN controllers work and manage a network using southbound and northbound APIs Learn how to deploy the OpenDayLight SDN controller and integrate it with virtual switches Understand the basic design and operation of the OpenDaylight platform Build simple MD-SAL OpenDaylight applications Build applications on top of OpenDayLight to trigger network changes based on different events Integrate OpenStack with OpenDayLight to build a fully managed network Learn how to build a software-defined data-center using NFV and service-chaining technologies
 In Detail OpenDaylight is an open source, software-defined network controller based on standard protocols. It aims to accelerate the adoption of Software-Defined Networking (SDN) and create a solid foundation for Network Functions Virtualization (NFV). SDN is a vast subject; many network engineers find it difficult to get started with using and operating different SDN platforms. This book will give you a practical bridge from SDN theory to the practical, real-world use of SDN in datacenters and by cloud providers. The book will help you understand the features and use cases for SDN,

NFV, and OpenDaylight. NFV uses virtualization concepts and techniques to create virtual classes for node functions. Used together, SDN and NFV can elevate the standards of your network architecture; generic hardware-saving costs and the advanced and abstracted software will give you the freedom to evolve your network in the future without having to invest more in costly equipment. By the end of this book, you will have learned how to design and deploy OpenDaylight networks and integrate them with physical network switches. You will also have mastered basic network programming over the SDN fabric.
 Style and approach This is a step-by-step tutorial aimed at getting you up-to-speed with OpenDayLight and ready to adopt it for your SDN (Software-Defined Networking) and NFV (Network Functions Virtualization) ecosystem.

Over 80 object-oriented recipes to help you create mind-blowing GUIs in Python
 About This Book Use object-oriented programming to develop amazing GUIs in Python Create a working GUI project as a central resource for developing your Python GUIs Packed with easy-to-follow recipes to help you develop code using the

latest released version of Python Who This Book Is For If you are a Python programmer with intermediate level knowledge of GUI programming and want to learn how to create beautiful, effective, and responsive GUIs using the freely available Python GUI frameworks, this book is for you. What You Will Learn Create amazing GUIs with Python's built-in Tkinter module Customize the GUIs by using layout managers to arrange the GUI widgets Advance to an object-oriented programming style using Python Develop beautiful charts using the free Matplotlib Python module Use threading in a networked environment to make the GUIs responsive Discover ways to connect the GUIs to a database Understand how unit tests can be created and internationalize the GUI Extend the GUIs with free Python frameworks using best practices In Detail Python is a multi-domain, interpreted programming language. It is a widely used general-purpose, high-level programming language. It is often used as a scripting language because of its forgiving syntax and compatibility with a wide variety of different eco-systems. Its flexible syntax enables developers to write short scripts while at the same time, they can use objec-

t-oriented concepts to develop very large projects. Python GUI Programming Cookbook follows a task-based approach to help you create beautiful and very effective GUIs with the least amount of code necessary. This book uses the simplest programming style, using the fewest lines of code to create a GUI in Python, and then advances to using object-oriented programming in later chapters. If you are new to object-oriented programming (OOP), this book will teach you how to take advantage of the OOP coding style in the context of creating GUIs written in Python. Throughout the book, you will develop an entire GUI application, building recipe upon recipe, connecting the GUI to a database. In the later chapters, you will explore additional Python GUI frameworks, using best practices. You will also learn how to use threading to ensure your GUI doesn't go unresponsive. By the end of the book, you will be an expert in Python GUI programming to develop a common set of GUI applications. Style and approach Every recipe in this programming cookbook solves a problem you might encounter in your programming career. At the same time, most of the recipes build on each

other to create an entire, real-life GUI application.

Over 110 effective recipes to help you build and operate OpenStack cloud computing, storage, networking, and automation About This Book Explore many new features of OpenStack's Juno and Kilo releases Install, configure, and administer core projects with the help of OpenStack Object Storage, Block Storage, and Neutron Networking services Harness the abilities of experienced OpenStack administrators and architects, and run your own private cloud successfully Practical, real-world examples of each service and an accompanying Vagrant environment that helps you learn quickly In Detail OpenStack Open Source software is one of the most used cloud infrastructures to support software development and big data analysis. It is developed by a thriving community of individual developers from around the globe and backed by most of the leading players in the cloud space today. It is simple to implement, massively scalable, and can store a large pool of data and networking resources. OpenStack has a strong ecosystem that helps you provision

your cloud storage needs. Add OpenStack's enterprise features to reduce the cost of your business. This book will show you the steps to build up a private cloud environment. At the beginning, you'll discover the uses of cloud services such as the identity service, image service, and compute service. You'll dive into Neutron, the OpenStack Networking service, and get your hands dirty with configuring ML2, networks, routers, and Distributed Virtual Routers. You'll then gather more expert knowledge on OpenStack cloud computing by managing your cloud's security and migration. After that, we delve in to OpenStack Object storage and how to manage servers and work with objects, cluster, and storage functionalities. Also, as you go deeper into the realm of OpenStack, you'll learn practical examples of Block storage, LBaaS, and FWaaS: installation and configuration covered ground up. Finally, you will learn OpenStack dashboard, Ansible and Foreman, Keystone, and other interesting topics. What You Will Learn Understand, install, configure, and manage Nova—the OpenStack Cloud Compute resource Configure ML2, networks, routers, and Distributed Virtual Routers with Neu-

tron Use and secure Keystone, the OpenStack Authentication service Install and set up Swift and Container Replication between datacenters Gain hands-on experience and familiarity with Horizon, the OpenStack Dashboard user interface Automate complete solutions with our recipes on Heat, the OpenStack Orchestration service Use Ansible and Foreman to automate OpenStack installations successfully Follow practical advice and examples to run OpenStack in production Who This Book Is For This book is aimed at cloud system engineers, system administrators, and technical architects who are moving from a virtualized environment to cloud environments. This book assumes that you are familiar with cloud computing platforms, and have knowledge of virtualization, networking, and managing Linux environments. Style and approach Clear, step-by-step instructions coupled with practical and applicable recipes that'll enable you to use and implement the latest features of OpenStack. Did you volunteer to create a Web site for the softball team? Is it time to take your small business to the next level and let your customers shop online? Well, you can relax! ASP.NET 3.5 makes creating a dy-

namic site faster and cleaner than ever before, and ASP.NET 3.5 For Dummies makes it easier. First, you'll get an introduction to all the tools and terminology you need to understand ASP.NET. If you've used earlier versions of ASP.NET and Visual Web Developer, you can probably skip that part and jump right into what's new in 3.5. You'll make friends with LINQ and SQL, create sites in Visual Web Developer 2008 Express, and much more. Before you know it, you'll discover how to: Integrate data, track shopping cart contents, and whisk away bugs Create user interfaces with easy navigation Use the ListView control for sophisticated formatting Write LINQ queries Add a table to a database Create an event handler Take advantage of the drag 'n' drop feature that lets you write less code Put all the features to work to develop dynamic Web applications The softball team is going to love that Web site, and your customers might enjoy shopping on your site so much that you'll have to expand your business to fill all the orders! We can't promise that, of course, but we're pretty sure that ASP.NET 3.5 For Dummies will make creating Web sites easier and a lot more fun.

The Fourth Edition of the industry-acclaimed OpenStack Cloud Computing Cookbook, from four recognized experts, updated to the latest OpenStack build including Cinder, Nova, and Neutron. Key Features Over 100 recipes created by a team of OpenStack experts Updated to work with the latest OpenStack builds, with recipes covering the installation and use of OpenStack with Ansible It covers topics such as Keystone, Glance, Neutron, Nova, Cinder, and more, plus recipes for OpenStack storage, networking, and orchestrating workloads Test drive OpenStack using the accompanying Vagrant environment Book Description This is the fourth edition of the industry-acclaimed OpenStack Cloud Computing Cookbook, created by four recognized OpenStack experts. It has now been updated to work with the latest OpenStack builds, using tools and processes based on their collective and vast OpenStack experience. OpenStack Open Source Cloud software is one of the most used cloud infrastructures to support a wide variety of use cases, from software development to big data analysis. It is developed by a thriving community of individual developers from around the globe and backed by most of

the leading players in the cloud space today. We make it simple to implement, massively scalable, and able to store a large pool of data and networking resources. OpenStack has a strong ecosystem that helps you provision your cloud storage needs. Add OpenStack's enterprise features to reduce the cost of your business. This book will begin by showing you the steps to build up an OpenStack private cloud environment using Ansible. You'll then discover the uses of cloud services such as the identity service, image service, and compute service. You'll dive into Neutron, the OpenStack Networking service, and get your hands dirty with configuring networks, routers, load balancers, and more. You'll then gather more expert knowledge on OpenStack cloud computing by managing your cloud's security and migration. After that, we delve into OpenStack Object storage and you'll see how to manage servers and work with objects, cluster, and storage functionalities. Finally, you will learn about OpenStack dashboard, Ansible, Keystone, and other interesting topics. What you will learn Understand, install, configure, and manage a complete OpenStack Cloud plat-

form using OpenStack-Ansible Configure networks, routers, load balancers, and more with Neutron Use Keystone to setup domains, roles, groups and user access Learn how to use Swift and setup container access control lists Gain hands-on experience and familiarity with Horizon, the OpenStack Dashboard user interface Automate complete solutions with our recipes on Heat, the OpenStack Orchestration service as well as using Ansible to orchestrate application workloads Follow practical advice and examples to run OpenStack in production Who this book is for This book is written for cloud system engineers, system administrators, and technical architects who are moving from a virtualized environment to cloud environments. This book assumes that you are familiar with cloud computing platforms, and have knowledge of virtualization, networking, and managing Linux environments. Leverage the power of OpenStack to develop scalable applications with no vendor lock-in OpenStack Cloud Application Development is a fast-paced, professional book for OpenStack developers, delivering comprehensive guidance without wasting time on development fundamentals. Written by

experts in the OpenStack community from Infoblox, Gigaspaces, GoDaddy, and Comcast, this book shows you how to work effectively and efficiently within the OpenStack platform to develop large, scalable applications without worrying about underlying hardware. Follow along with an OpenStack build that illustrates how and where each technology comes into play, as you learn expert tips and best practices that make your product stronger. Coverage includes OpenStack service primitives, networking within the OpenStack Ecosystem, deployment of Virtualized Network Functions for Enterprises, containers, data protection, and much more. If you need to get on board quickly, this professional book is your ideal roadmap to OpenStack development. Understand all aspects of OpenStack technologies Follow an example build to drill down into critical elements Learn the OpenStack best practices and insider tips Leverage the full capability of IaaS at a professional pace OpenStack is supported by dozens of major technology companies, compatible with Amazon Web Services, and can be used alongside or on top of VMWare vSphere and other similar technologies. It frees developers from the

confines of hardware and vendor lock-in while providing a reliable, fast, and easy platform for developing scalable cloud applications. OpenStack Cloud Application Development is an expert-led guide to getting the most out of OpenStack, designed specifically for the professional developer.

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.

Discover the basics of virtual networking in OpenStack to implement various cloud network architectures Key Features Learn the difference between Open vSwitch and Linux bridge switching technologies Connect virtual machine instances to virtual networks, subnets, and ports Implement virtual load balancers, firewalls, and routers in your network Book Description OpenStack Networking is a pluggable, scalable, and API-driven system to manage

physical and virtual networking resources in an OpenStack-based cloud. Like other core OpenStack components, OpenStack Networking can be used by administrators and users to increase the value and maximize the use of existing datacenter resources. This third edition of Learning OpenStack Networking walks you through the installation of OpenStack and provides you with a foundation that can be used to build a scalable and production-ready OpenStack cloud. In the initial chapters, you will review the physical network requirements and architectures necessary for an OpenStack environment that provide core cloud functionality. Then, you'll move through the installation of the new release of OpenStack using packages from the Ubuntu repository. An overview of Neutron networking foundational concepts, including networks, subnets, and ports will segue into advanced topics such as security groups, distributed virtual routers, virtual load balancers, and VLAN tagging within instances. By the end of this book, you will have built a network infrastructure for your cloud using OpenStack Neutron. What you will learn Get familiar with Neutron constructs, including agents and plu-

gins Build foundational Neutron resources to provide connectivity to instances Work with legacy Neutron routers and troubleshoot traffic through them Explore high-availability routing capabilities utilizing Virtual Router Redundancy Protocol (VRRP) Create and manage load balancers and associated components Manage security groups as a method of securing traffic to and from instances Who this book is for If you are an OpenStack-based cloud operator and administrator who is new to Neutron networking and wants to build your very own OpenStack cloud, then this book is for you. Prior networking experience and a physical server and network infrastructure is recommended to follow along with concepts demonstrated in the book.

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 au-

tomating 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.

Set up and maintain your own cloud-based Infrastructure as a Service (IaaS) using OpenStack About This Book • Build and manage a cloud environment using just four virtual machines • Get to grips with mandatory as well as optional OpenStack components and know how they work together • Leverage your cloud environment to provide Infrastructure as a Service (IaaS) with this practical, step-by-step guide Who This

Book Is For This book is targeted at all aspiring administrators, architects, or students who want to build cloud environments using OpenStack. Knowledge of IaaS or cloud computing is recommended.

What You Will Learn

- Get an introduction to OpenStack and its components
- Authenticate and authorize the cloud environment using Keystone
- Store and retrieve data and images using storage components such as Cinder, Swift, and Glance
- Use Nova to build a Cloud Computing fabric controller
- Abstract technology-agnostic networks using the Neutron network component
- Gain an understanding of optional components such as Ceilometer, Trove, Ironic, Sahara, Barbican, Zaqar, Designate, Manila, and many more
- See how all of the OpenStack components collaborate to provide IaaS to users
- Create a production-grade OpenStack and automate your OpenStack Cloud

In Detail OpenStack is a free and open source cloud computing platform that is rapidly gaining popularity in Enterprise data centres. It is a scalable operating system and is used to build private and public clouds. It is imperative for all the aspiring cloud administrators to possess OpenStack skills if they want to succeed in

the cloud-led IT infrastructure space. This book will help you gain a clearer understanding of OpenStack's components and their interaction with each other to build a cloud environment. You will learn to deploy a self-service based cloud using just four virtual machines and standard networking. You begin with an introduction on the basics of cloud computing. This is followed by a brief look into the need for authentication and authorization, the different aspects of dashboards, cloud computing fabric controllers, along with "Networking as a Service" and "Software Defined Networking." Then, you will focus on installing, configuring, and troubleshooting different architectures such as Keystone, Horizon, Nova, Neutron, Cinder, Swift, and Glance. Furthermore, you will see how all of the OpenStack components come together in providing IaaS to users. Finally, you will take your OpenStack cloud to the next level by integrating it with other IT ecosystem elements before automation. By the end of this book, you will be proficient with the fundamentals and application of OpenStack.

Style and approach This is a practical step-by-step guide comprising of installation prerequisites and basic trou-

leshooting instructions to help you build an error-free OpenStack cloud easily.

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

ble 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.

Easy to understand and fun to read, this updated edition of *Introducing Python* is ideal for beginning programmers as well as those new to the language. Author Bill Lubanovic takes you from the basics to more involved and varied topics, mixing tutorials with cookbook-style code recipes to explain concepts in Python 3. End-of-chapter exercises help you practice what

you've learned. You'll gain a strong foundation in the language, including best practices for testing, debugging, code reuse, and other development tips. This book also shows you how to use Python for applications in business, science, and the arts, using various Python tools and open source packages.

Wield the power of OpenStack Neutron networking to bring network infrastructure and capabilities to your cloud About This Book This completely up-to-date edition will show you how to deploy a cloud on OpenStack using community-driven processes. It includes rich examples that will help you understand complex networking topics with ease Understand every aspect of designing, creating, customizing, and maintaining the core network foundation of an OpenStack cloud using OpenStack Neutron all in one book Written by bestselling author James Denton, who has more than 15 years of experience in system administration and networking. James has experience of deploying, operating, and maintaining OpenStack clouds and has worked with top enterprises and organizations Who This Book Is For If you are an OpenStack-based cloud operator and

administrator who is new to Neutron networking and wants to build your very own OpenStack cloud, then this book is for you. Prior networking experience and a physical server and network infrastructure is recommended to follow along with concepts demonstrated in the book. What You Will Learn Architect and install the latest release of OpenStack on Ubuntu Linux 14.04 LTS Review the components of OpenStack networking, including plugins, agents, and services, and learn how they work together to coordinate network operations Build a virtual switching infrastructure using reference architectures based on ML2 + Open vSwitch or ML2 + LinuxBridge Create networks, subnets, and routers that connect virtual machine instances to the network Deploy highly available routers using DVR or VRRP-based methods Scale your application with haproxy and Load Balancing as-a-Service Implement port and router-level security using Security Groups and Firewall as-a-Service Provide connectivity to tenant networks with Virtual Private Networking as-a-Service (VPNaaS) Find out how to manage OpenStack networking resources using CLI and GUI-driven methods In Detail OpenStack Neu-

Neutron is an OpenStack component that provides networking as a service for other OpenStack services to architect networks and create virtual machines through its API. This API lets you define network connectivity in order to leverage network capabilities to cloud deployments. Through this practical book, you will build a strong foundational knowledge of Neutron, and will architect and build an OpenStack cloud using advanced networking features. We start with an introduction to OpenStack Neutron and its various components, including virtual switching, routing, FWaaS, VPNaaS, and LBaaS. You'll also get hands-on by installing OpenStack and Neutron and its components, and use agents and plugins to orchestrate network connectivity and build a virtual switching infrastructure. Moving on, you'll get to grips with the HA routing capabilities utilizing VRRP and distributed virtual routers in Neutron. You'll also discover load balancing fundamentals, including the difference between nodes, pools, pool members, and virtual IPs. You'll discover the purpose of security groups and learn how to apply the security concept to your cloud/tenant/instance. Finally, you'll configure virtual private net-

works that will allow you to avoid the use of SNAT and floating IPs when connecting to remote networks. Style and approach This easy-to-follow guide on networking in OpenStack follows a step-by-step process to installing OpenStack and configuring the base networking components. Each major networking component has a dedicated chapter that will build on your experience gained from prior chapters.

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.

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 Over 100 effective recipes to help you design, implement, and troubleshoot manage the software-defined and massively scalable Ceph storage system. About This Book Implement a Ceph cluster successfully and learn to manage it. Recipe based approach in learning the most efficient software defined storage system Implement best practices on improving efficiency and security of your storage cluster Learn to troubleshoot common issues experienced in a Ceph cluster Who This Book Is For This book is targeted at storage and cloud engineers, system administrators, or anyone who is interested in building software defined storage, to power your cloud or virtual infrastructure. If you have basic knowledge of GNU/Linux and storage systems, with no experience of software defined storage solutions and Ceph, but eager to learn then this book is for you What You Will Learn Understand, install, configure, and manage the Ceph storage system Get to grips with performance tuning and benchmarking, and learn practical tips to

help run Ceph in production Integrate Ceph with OpenStack Cinder, Glance, and Nova components Deep dive into Ceph object storage, including S3, Swift, and Keystone integration Configure a disaster recovery solution with a Ceph Multi-Site V2 gateway setup and RADOS Block Device mirroring Gain hands-on experience with Ceph Metrics and VSM for cluster monitoring Familiarize yourself with Ceph operations such as maintenance, monitoring, and troubleshooting Understand advanced topics including erasure-coding, CRUSH map, cache pool, and general Ceph cluster maintenance In Detail Ceph is a unified distributed storage system designed for reliability and scalability. This technology has been transforming the software-defined storage industry and is evolving rapidly as a leader with its wide range of support for popular cloud platforms such as OpenStack, and CloudStack, and also for virtualized platforms. Ceph is backed by Red Hat and has been developed by community of developers which has gained immense traction in recent years. This book will guide you right from the basics of Ceph , such as creating blocks, object storage, and filesystem access, to advanced con-

cepts such as cloud integration solutions. The book will also cover practical and easy to implement recipes on CephFS, RGW, and RBD with respect to the major stable release of Ceph Jewel. Towards the end of the book, recipes based on troubleshooting and best practices will help you get to grips with managing Ceph storage in a production environment. By the end of this book, you will have practical, hands-on experience of using Ceph efficiently for your storage requirements. Style and approach This step-by-step guide is filled with practical tutorials, making complex scenarios easy to understand.

This practical cookbook covers a broad range of topics in an easy-to-understand manner. Step-by-step instructions guide you through even the most complicated of tools in Minitab. This book is great for anyone who is familiar with statistics and who wants to learn how Minitab works. Whilst you do not need to be an expert in all areas of statistics, you should understand the basics of the chapters you are interested in.

Summary OpenStack in Action offers the real world use cases and step-by-step instructions you can take to develop your

own cloud platform from from inception to deployment. This book guides you through the design of both the physical hardware cluster and the infrastructure services you'll need to create a custom cloud platform. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology OpenStack is an open source framework that lets you create a private or public cloud platform on your own physical servers. You build custom infrastructure, platform, and software services without the expense and vendor lock-in associated with proprietary cloud platforms like Amazon Web Services and Microsoft Azure. With an OpenStack private cloud, you can get increased security, more control, improved reliability, and lower costs. About the Book "OpenStack in Action" offers real-world use cases and step-by-step instructions on how to develop your own cloud platform. This book guides you through the design of both the physical hardware cluster and the infrastructure services you'll need. You'll learn how to select and set up virtual and physical servers, how to implement software-defined networking, and technical details of designing, deploy-

ing, and operating an OpenStack cloud in your enterprise. You'll also discover how to best tailor your OpenStack deployment for your environment. Finally, you'll learn how your cloud can offer user-facing software and infrastructure services. What's Inside
Develop and deploy an enterprise private cloud
Private cloud technologies from an IT perspective
Organizational impact of self-service cloud computing
About the Reader
No prior knowledge of OpenStack or

cloud development is assumed. About the Author
Cody Bumgardner is the Chief Technology Architect at a large university where he is responsible for the architecture, deployment, and long-term strategy of OpenStack private clouds and other cloud computing initiatives.
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