



Quick answers to common problems

# OpenStack Networking Cookbook

Harness the power of OpenStack Networking for public and private clouds using 90 hands-on recipes

Sriram Subramanian  
Chandan Dutta Chowdhury

[PACKT] open source\*  
PUBLISHING community experience distilled

# Openstack Networking Cookbook

**James Denton**



## **Openstack Networking Cookbook:**

**OpenStack Networking Cookbook** Sriram Subramanian, Chandan Dutta Chowdhury, 2015-10-23 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

**OpenStack Cloud Computing Cookbook** Kevin Jackson, Cody Bunch, Egle Sigler, James Denton, 2018-01-29 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 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 [OpenStack Cookbook](#) Jorven

Halquin,2024-08-14 OpenStack Cookbook is specifically tailored for cloud professionals network administrators and engineers who express a desire to augment their proficiency in effectively managing OpenStack environments The book provides a pragmatic and interactive methodology with recipes that specifically target solutions to tackle the actual difficulties encountered in implementing and overseeing cloud infrastructure Every chapter presents systematic solutions enabling you to develop proficiency in designated OpenStack components These recipes provide instructions on how to install configure and optimize OpenStack services such as Keystone for identity management Glance for image processing Neutron for networking Nova for computing management Cinder for block storage and Octavia for load balancing Some of the more advanced topics covered in the book include how to use Heat for Infrastructure as Code IaC how to automate and repeat infrastructure deployments and how to use Heat and Ceilometer to create auto scaling solutions that dynamically

adjust resources according to demand Typical problems with stack creation resource management and orchestration tasks will be explained and solved The book encompasses a broad spectrum of situations ranging from the prevention of stack creation failures and template validation errors to the effective management of resource dependencies and performance issues With the knowledge you gain from this book you will be able to set up administer and fix OpenStack environments with ease No matter your level of expertise with OpenStack this cookbook will equip you with the practical knowledge and solutions you need to use OpenStack efficiently in real world scenarios Key Learnings Get the environment quickly settled with all the OpenStack services including Nova Keystone Glance and Neutron Make easy management of OpenStack cloud environments a reality with these real world solutions Get your cloud infrastructure up and running consistently and reliably every time with the help of Heat templates Improve your resource allocation skills with practical experience in auto scaling with Heat and Ceilometer Keep operations stable by troubleshooting common OpenStack issues and providing step by step solutions Vertigo XLAN and security group configurations are just a few of the advanced networking techniques you can learn about in Neutron Secure your cloud with SSL termination and volume encryption Optimize traffic management and guarantee high availability by deploying Octavia based load balancing solutions Build automated cloud environment management with Infrastructure as Code IaC Table of Content Setting up OpenStack Infrastructure Identity Management with Keystone Image Management with Glance Networking with Neutron Compute Resources with Nova Block Storage with Cinder Load Balancing with Octavia Orchestration with Heat

**OpenStack Cloud Computing Cookbook - Third Edition**  
Kevin Jackson,Cody Bunch,Egle Sigler,2015-07-31 Over 110 effective recipes to help you build and operate OpenStack cloud computing storage networking and automationAbout 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 DetailOpenStack 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

**Cyber Security Intelligence and Analytics** Zheng Xu,Kim-Kwang Raymond Choo,Ali Dehghantanha,Reza Parizi,Mohammad Hammoudeh,2019-04-24 This book presents the outcomes of the 2019 International Conference on Cyber Security Intelligence and Analytics CSIA2019 an international conference dedicated to promoting novel theoretical and applied research advances in the interdisciplinary field of cyber security particularly focusing on threat intelligence analytics and countering cyber crime The conference provides a forum for presenting and discussing innovative ideas cutting edge research findings and novel techniques methods and applications on all aspects of Cyber Security Intelligence and Analytics

OpenStack Cloud Computing Cookbook Kevin Jackson,Cody Bunch,Egle Sigler,2015-08-19 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 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 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

**Advanced Computing, Networking and Informatics- Volume 2** Malay Kumar Kundu,Durga Prasad Mohapatra,Amit Konar,Aruna Chakraborty,2014-05-26 Advanced Computing Networking and Informatics are three distinct and mutually exclusive disciplines of knowledge with no apparent sharing overlap among them However their convergence is observed in many real world applications including cyber security internet banking healthcare sensor networks cognitive radio pervasive computing amidst many others This two volume proceedings explore the combined use of Advanced Computing and Informatics in the next generation wireless networks and security signal and image processing ontology and human computer interfaces HCI The two volumes together include 148 scholarly papers which have been accepted for presentation from over 640 submissions in the second International Conference on Advanced Computing Networking and Informatics 2014 held in Kolkata India during June 24 26 2014 The first volume includes innovative computing techniques and relevant research results in informatics with selective applications in pattern recognition signal image processing and HCI The second volume on the other hand demonstrates the possible scope of the computing techniques and informatics in wireless communications networking and security

*OpenDaylight Cookbook* Mathieu Lemay,Alexis de Talhouet,Jamie Goodyear,Rashmi Pujar,Mohamed El-Serngawy,Yrineu Rodrigues,2017-06-29 Over 90 recipes to gain the critical skills needed to deploy and manage OpenDaylight based solutions About This Book This book will help you to build intelligent SDN networks that save your company time money and resources From eminent authors learn to

address real world challenges and troubleshoot day to day scalability and performance problems faced in OpenDayLight deployments This is the only book that offers you quick fixes to create your own branded OpenDaylight Who This Book Is For This book is for experienced network administrators and IT professionals who are using or deploying SDN OpenDaylight and are looking to gain expertise in building SDN solutions for organizations What You Will Learn Grasp the fundamentals of OpenDaylight Customize authenticate authorize in OpenDaylight Analyse network access control and policy Manage datacenter optimization Integrate OpenDaylight with third party frameworks Deploy configure and tune OpenDaylight based solutions In Detail OpenDaylight is an open source platform to program and build Software Defined Networks SDN Its aim is to accelerate the adoption of SDN and NFV With above 90 practical recipes this book will help you to solve day to day problems and maintenance tasks surrounding OpenDaylight s implementation This book starts with the OpenDaylight fundamentals In this book you will gain a sound understanding of the methods and techniques when deploying OpenDaylight in production environment Later on you will learn to create a Service Chain using SFC This book will address common problems and day to day maintenance tasks with OpenDaylight We ll also will teach you how to interact with OpenDaylight APIs and use the necessary tools to simulate networks You will also explore how to create your own branded OpenDaylight along with authorising and authenticating users using OpenDaylight Identity Manager By the end of this book you will have the necessary skills to operate an OpenDaylight SDN environment Style and approach With a diverse range of topics this will be a guide which will help the readers gain the necessary skills needed to deploy and operate OpenDaylight in your organisation through practical recipes      Software-Defined Networking (SDN) with OpenStack Sriram

Subramanian, Sreenivas Voruganti, 2016-10-28 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 details 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

*OpenStack Cloud Computing Cookbook - Fourth Edition* Kevin Jackson, Cody Bunch, Egle Sigler, 2018-01-25 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 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

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□□ □□□,□□□,□□□,2021-02-08 App      **Creating Development Environments with Vagrant - Second Edition** Michael Peacock,2015-03-12 If you are a developer who wants to have your development environment accurately reflect your live servers to tackle the ever increasing complexity of web and software projects this book is most certainly intended for you It is assumed that you know the basics of Linux systems in the context of web based projects      OpenStack Cloud Computing Cookbook - Fourth Edition ,2017 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 About This Book 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 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 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 In Detail 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 s *IBM Software Defined Environment* Dino Quintero, William M Genovese, KiWoon Kim, Ming Jun MJ Li, Fabio Martins, Ashish Nainwal, Dusan Smolej, Marcin Tabinowski, Ashu Tiwary, IBM Redbooks, 2015-08-14 This IBM Redbooks publication introduces the IBM Software Defined Environment SDE solution which helps to optimize the entire computing infrastructure compute storage and network resources so that it can adapt to the type of work required In today's environment resources are assigned manually to workloads but that happens automatically in a SDE In an SDE workloads are dynamically assigned to IT resources based on application characteristics best available resources and service level policies so that they deliver continuous dynamic optimization and reconfiguration to address infrastructure issues Underlying all of this are policy based compliance checks and updates in a centrally managed environment Readers get a broad introduction to the new architecture Think integration automation and optimization Those are enablers of cloud delivery and analytics SDE can accelerate business success by matching workloads and resources so that you have a responsive adaptive environment With the IBM Software Defined Environment infrastructure is fully programmable to rapidly deploy workloads on optimal resources and to instantly respond to changing business demands This information is intended for IBM sales representatives IBM software architects IBM Systems Technology Group brand specialists distributors resellers and anyone who is developing or implementing SDE

**OpenStack: Building a Cloud Environment** Alok Shrivastwa, Sunil Sarat, Kevin Jackson, Cody Bunch, Egle Sigler, Tony Campbell, 2016-09-19 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 networking 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

**Learning OpenStack Networking (Neutron)** James Denton, 2014-10-10 If you are an OpenStack based cloud operator with experience in OpenStack Compute and nova network but are new to Neutron networking then this book is for you Some networking experience is recommended and a physical network infrastructure is required to provide connectivity to instances and other network resources configured in the book

**Learning OpenStack Networking** James Denton, 2018-08-31 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 plugins. 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.

**Securing Your Cloud: IBM Security for LinuxONE** Lydia Parziale, Edi Lopes Alves, Klaus Egeler, Karen Medhat Fahmy, Felipe Mendes, Maciej Olejniczak, IBM Redbooks, 2019-08-01. As workloads are being offloaded to IBM LinuxONE based cloud environments, it is important to ensure that these workloads and environments are secure. This IBM Redbooks publication describes the necessary steps to secure your environment from the hardware level through all of the components that are involved in a LinuxONE cloud infrastructure that use Linux and IBM z/VM. The audience for this book is IT architects, IT Specialists, and those users who plan to use LinuxONE for their cloud environments.

**Linux Networking Cookbook** Carla Schroder, 2007-11-26. This soup-to-nuts collection of recipes covers everything you need to know to perform your job as a Linux network administrator, whether you're new to the job or have years of experience. With *Linux Networking Cookbook*, you'll dive straight into the gnarly hands-on work of building and maintaining a computer network. Running a network doesn't mean you have all the answers. Networking is a complex subject with reams of reference material that's difficult to keep straight, much less remember. If you want a book that lays out the steps for specific tasks that clearly explains the commands and configurations and does not tax your patience with endless ramblings and meanderings into theory and obscure RFCs, this is the book for you. You will find recipes for: Building a gateway firewall and wireless access point on a Linux network. Building a VoIP server with Asterisk. Secure remote administration with SSH. Building secure VPNs with OpenVPN and a Linux PPTP VPN server. Single sign-on with Samba for mixed Linux/Windows LANs. Centralized network directory with OpenLDAP. Network monitoring with Nagios or MRTG. Getting acquainted with IPv6. Setting up hands-free networks. Installations of new systems. Linux system administration via serial console. And a lot more. Each recipe includes a clear, hands-on solution with tested code plus a discussion on why it works. When you need to solve a network problem without delay and don't have the time or patience to comb through reference books or the Web for answers, *Linux Networking Cookbook* gives you exactly what you need.

**Mastering OpenStack** Omar Khedher, 2015-07-30. This

comprehensive guide will help you to choose the right practical option and make strategic decisions about the OpenStack cloud environment to fit your infrastructure in production At the start this book will explain the OpenStack core architecture You will soon be shown how to create your own OpenStack private cloud Next you will move on to cover the key security layer and network troubleshooting skills along with some advanced networking features Finally you will gain experience of centralizing and logging OpenStack The book will show you how to carry out performance tuning based on OpenStack service logs By the end of this book you will be ready to take steps to deploy and manage an OpenStack cloud with the latest open source technologies

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