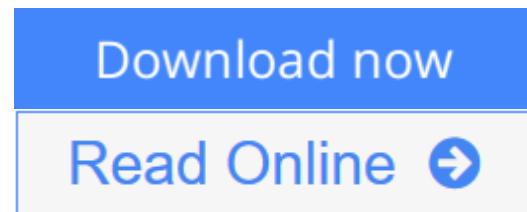# Learning OpenStack High Availability

By Rishabh Sharma

Learning OpenStack High Availability By Rishabh Sharma

Build a resilient and scalable OpenStack cloud, using advanced open source tools

About This Book

- Leverage the power of OpenStack to achieve high availability
- Get to grips with concepts such as Galeria Cluster for Glance and Cinder, MariaDB, and validation
- Using clustering and high-availability solutions, this book provides a comprehensive plan for you to connect them with Red Hat Enterprise Linux OpenStack Platform

Who This Book Is For

This book is for OpenStack administrator, cloud administrator, cloud engineer, or cloud developer with some real time understanding of cloud computing, OpenStack and familiarity with Linux command is essential to start with this book.

What You Will Learn

- Grasp an understanding of what a highly available design should be using RTO, MTTR, and SLA concepts
- Set up and configure Galera and RabbitMQ clusters to build an efficient and reliable messaging cluster
- Get to know the advanced areas of network load balancing using configurations of HAproxy and keepalived
- Control active/passive OpenStack services by setting up a cluster for two or more nodes
- Gain a deeper understanding of how OpenStack services work in cooperation with a stateless mode to offer a scalable cloud framework
- Configure and run a distributed neutron installation based on openvswitch and different tunneling protocols
- Explore the rudimental configuration of different shared storage options and

provide backup services of OpenStack
- Get acquainted with how an OpenStack-based cloud can survive various failures using network partitioning split brain, automatic failover, and geo-replication
- Distribute applications and services among availability zones in OpenStack to achieve maximum uptime and reliability of service
- Control and maintain a cloud with key concepts and tools to correctly measure and control the operations of an OpenStack cloud
- Get to know more about the relevant HA deployments of OpenStack with use cases

In Detail

OpenStack is one of the most popular open source cloud computing platforms, and it is used most of all for deploying Infrastructure as a Service (IaaS) solutions. Enabling high availability in OpenStack is a required skill for cloud administrators and cloud engineers in today's world.

This book helps you to achieve high availability and resiliency to OpenStack. This means clustering, fencing, load-balancing, distributed networking, leveraging shared storage, automatic failover, and replication. We start with a basic understanding of what a highly available design is meant to achieve in OpenStack and various ways to achieve high availability in OpenStack through simple step-by-step procedures.

Through hands-on examples, you will develop a solid knowledge of horizontally-scalable, fault-resistant, and highly-available OpenStack clusters and will be able to apply the techniques from this book in your day-to-day projects. This book also sheds light on the principles of application design for high availability, and monitoring for high availability, with examples.

Style and approach

This is a step-by-step guide that uses clustering and high-availability solutions available in the market and provides a comprehensive plan to connect them with Red Hat Enterprise Linux OpenStack Platform to make you a competent OpenStack administrator.

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Editorial Review

About the Author

Rishabh Sharma

Rishabh Sharma is currently working as a chief technology officer (CTO) at JOB Forward, Singapore. Prior to working for JOB Forward, he worked for Wipro Technologies, Bangalore, as a solution delivery analyst. He was involved in research projects of cloud computing, proof of concepts (PoC), infrastructure automation, big data solutions, and various giant customer projects related to cloud infrastructure and application migration. In a short span of time, he has worked on various technologies and tools such as Java/J2EE, SAP(ABAP), AWS, OpenStack, DevOps, big data, and Hadoop. He has also authored many research papers in international journals and IEEE journals on a variety of issues related to cloud computing. He has authored five technical books until now. He recently published two books with international publications: Learning Chef (https://www.packtpub.com/networking-and-servers/learning-chef). Cloud Computing: Fundamentals, Industry Approach and Trends (http://www.wileyindia.com/cloud-computing-fundamentals-industry-approach-and-trends.html). He is also an open source enthusiast and writes for the Open Source For You (OSFY) magazine. You can get in touch with him at er.rishabh.sharma@gmail.com.

Users Review

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