



*Training Course:  
OpenStack Essentials: Daily Operations and  
Administration*

*24 - 28 August 2026  
Barcelona (Spain)*

## Training Course: OpenStack Essentials: Daily Operations and Administration

Training Course code: SC235698 From: 24 - 28 August 2026 Venue: Barcelona (Spain) - Training Course Fees: 6300 € Euro

### Introduction

Red Hat OpenStack has become a cornerstone for cloud infrastructure, offering flexibility, scalability, and robust tools for managing cloud environments. This training program is designed to provide participants with a comprehensive understanding of OpenStack's daily operations and administration. Through hands-on learning and theoretical insights, this program aims to empower participants to efficiently deploy, manage, and optimize OpenStack environments.

OpenStack's ability to integrate with diverse systems makes it a powerful tool for organizations transitioning to cloud solutions. By mastering its components and operations, participants will be well-equipped to address real-world challenges, enhance performance, and ensure cloud continuity.

### Objectives

By the end of this program, participants will:

- Understand the fundamentals and architecture of OpenStack.
- Gain proficiency in managing core OpenStack components such as Nova, Neutron, Cinder, and Keystone.
- Learn advanced networking and storage management techniques.
- Implement robust user and security management practices.
- Master monitoring, troubleshooting, and performance optimization.
- Plan and execute maintenance and upgrade strategies.
- Address practical challenges through real-world case studies and best practices.

### Target Audience

This program is designed for IT professionals who:

- Are system administrators or cloud engineers transitioning to OpenStack environments.
- Work in IT operations and require knowledge of cloud infrastructure.
- Want to gain expertise in OpenStack for career growth.
- Are responsible for managing cloud environments in medium to large organizations.

## Outlines:

### Day 1:

#### Introduction and Core OpenStack Architecture

- Introduction to OpenStack:
  - Overview and history of OpenStack.
  - Use cases and its significance in cloud environments.
  - Comparison between OpenStack and traditional cloud management systems.
- Core OpenStack Components:
  - Nova Compute, Neutron Networking, Cinder Block Storage, Keystone Identity.
  - Interconnection and interactions between components.
- Cloud Infrastructure Basics:
  - Distributed systems and how clouds operate in OpenStack.
- Operations Overview:
  - Definition and importance for cloud continuity.
  - Examples of day-to-day operations.

### Day 2:

#### Advanced Networking and Storage Management

- Networking with Neutron:
  - Network types VLAN, VXLAN, Flat.
  - Configuring virtual networks and interconnections.
  - Managing static and dynamic IP addresses.
- Routing and Gateways:
  - Configuring virtual routers.
  - Connecting public and private networks.
- Storage Management with Cinder and Swift:
  - Differences between Block and Object Storage.

- Creating and attaching volumes to instances.
- **Advanced Networking and Storage Options:**
  - Load Balancer as a Service LBaaS.
  - Security Group configurations and management.

### Day 3:

#### User and Security Management

- **Identity Management with Keystone:**
  - Creating and managing users, projects, and roles.
- **Role-Based Access Control RBAC:**
  - Designing and implementing access control policies.
  - Best practices for permissions management.
- **Enhancing OpenStack Security:**
  - Implementing TLS/SSL certificates.
  - Securing communications between components.
  - Mitigating common attacks like brute force.
- **Governance Policies:**
  - Defining and enforcing policies.
  - Log monitoring and compliance tracking.

### Day 4:

#### Monitoring, Troubleshooting, and Performance Optimization

- **Performance Monitoring:**
  - Telemetry Ceilometer overview.
  - Using visualization tools like Grafana.
  - Creating alerts for performance issues.
- **Log Analysis and Troubleshooting:**

- Reading and interpreting OpenStack logs.
- Identifying common errors in Nova, Neutron, and Cinder.
- Failure Management:
  - Addressing critical failures in networks and storage.
- Performance Tuning:
  - Optimizing Compute and Storage performance.
  - Resource consumption reduction strategies.

## Day 5:

### Maintenance, Upgrades, and Practical Challenges

- Preventative Maintenance:
  - Scheduling periodic maintenance.
  - Verifying component integrity.
- Updates and Upgrades:
  - Planning upgrades to minimize downtime.
  - Safely upgrading individual components.
- Daily Operational Challenges:
  - Examples of challenges in large-scale OpenStack environments.
  - Rapid response strategies for incidents.
- Case Studies and Discussions:
  - Real-world OpenStack challenges and solutions.
  - Sharing best practices and practical advice.

## Registration form on the Training Course: OpenStack Essentials: Daily Operations and Administration

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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