Global Horizon
TRAINING CENTER

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

*31 January - 4 February 2027*
*Istanbul (Turkey)*
*DoubleTree by Hilton Istanbul Esentepe*

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

Training Course code: SC235698 From: 31 January - 4 February 2027 Venue: Istanbul (Turkey) - DoubleTree by Hilton Istanbul Esentepe 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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## Easy Ways To Register

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