

Oracle Linux: System Administration on Oracle Cloud Infrastructure Ed 2 LVC

Course Duration: 24 Hours

Course code: LINUXADMIN

1. Course Overview

This course provides learners with the knowledge and skills required to install, configure, manage, and troubleshoot Oracle Linux systems on OCI. Participants will gain hands-on experience in user and group management, file systems, package management, networking, security, and system monitoring. The course also covers cloud-specific administration tasks, such as managing OCI compute instances, storage, and networking. By the end of the course, learners will be able to efficiently administer Oracle Linux environments on OCI.

2. What you'll learn?

By the end of this course, you should be able to:

- Describe Oracle Linux architecture and features
- Deploy and configure Oracle Linux instances on OCI
- Manage users, groups, and permissions
- Configure storage, file systems, and disk management
- Monitor and maintain system performance and logs
- Implement security policies, firewall rules, and access control
- Automate tasks using shell scripts and OCI CLI
- Troubleshoot common system and network issues
- Understand OCI-specific administration best practices

3. Target Audience

- System Administrators managing Oracle Linux on OCI
- Cloud Engineers responsible for compute and storage resources
- IT professionals seeking hands-on Linux administration skills in the cloud

4. Pre-Requisites

Familiarity with:

- Basic Linux commands and concepts
- Oracle Cloud Infrastructure fundamentals
- Networking and storage concepts

5. Course content

Lesson 1: Course Introduction

- Course Topics
- Course Lessons

Lesson 2: Foundations of OCI

- Objectives
- Complete Cloud Infrastructure Platform
- OCI Architecture
- Each OCI Region Comprises Three Availability Domains
- Avoid Single Points of Failure
- OCI Identity Concepts
- Resources and Compartments
- Compartment basics
- Resource Compartments
- Compartment Access
- Interaction of Resources
- Multiple Regions and Nested Compartments
- Setting Quotas and Budgets on Compartments
- Flexible Shapes and Processor Choices
- How to Identify an OCI Resource (OCIDs)
- Example OCIDs
- Creating an Instance in OCI
- Storage Requirements
- OCI Storage Services

Lesson 3: Introduction to Oracle Linux

- Objectives
- Linux Architecture, Kernel, and OCI Cloud Shell
- Linux OS Architecture
- Oracle Cloud Shell and OCI Cloud Shell Connection
- Linux File System
- Hierarchical File System Structure
- File Listing Explained
- Linux Hosts in OCI
- Accessing Linux Hosts in OCI
- Direct Access by IP Address
- Indirect Access Through a Bastion Jump Host
- VIM Editor
- VIM Editor at a Glance
- Working with the VIM Editor
- Steps to Create a Script
- Manage Users and Groups
- How to Create and Manage Users/Groups
- Command-Line Tools for User and Group Management

Lesson 4: Operating System Management

- Objectives
- Enabling OCI Utilities
- Validating and Configuring OCI Utilities
- Use Cases for OCI Utilities
- OS Management
- Ease of Use and Access
- Simplifying Updating and Patching
- Grouping Instances with the Same OS
- Manage Linux OS Compliance

- Checking OS Security Compliance
- Prerequisites for Compliance Reports
- Preparing OS Management Agent
- Using and Running Compliance Reports
- Sample Compliance Report Output

Lesson 5: Patching and GUI Configuration

- Objectives
- Patching with Ksplice
- Zero Downtime Security Patching with Ksplice
- Dedicated OCI Ksplice Resources
- Enabling GUI and Configuring VNC Access
- GUI Use Cases on OCI Linux Instances
- Installing Linux Services for GUI
- Configuring VNC for the opc User
- Configuring VNC Server Properties
- Linux Desktop Environment Walkthrough
- Optional: Unsecure VNC Access (No Traffic Encryption)

Lesson 6: Managing iSCSI and OCFS Storage

- Objectives
- OCI Utilities for iSCSI Storage Management
- Managing iSCSI Volumes
- Preparing iSCSI Utilities
- Sample iSCSI Commands
- Configuring iSCSI Target
- iSCSI Target and Initiator Topology
- Preparing iSCSI Target and Initiator Hosts
- Target Instance Configuration with targetcli
- Disabling Authentication Requirement
- Completing iSCSI Target Configuration

- Configuring iSCSI Initiator
- Initiator Instance Setup
- Completing Initiator Configuration
- Connecting and Using iSCSI Share
- Configuring and Testing OCFS Cluster
- What is Oracle Cluster File System v2 (OCFS2)?
- OCFS2 Topology Example
- Setting Up an OCFS2 Cluster
- Configuring Cluster Members and Mounting Volumes
- Setting Up Oracle Linux Storage Appliance
- Instance Setup & Installation
- Firewall Ports and VCN Stateful Ingress Rules
- Appliance Configuration
- Adding Block Volumes
- Creating Storage Pools
- Appliance Web Console Overview
- Administration Controls
- Managing Shared File Systems
- Using NFS Share by Client
- Monitoring Appliance and Shares