

# Oracle Linux 8: System Administration I

## Course Outline

### **Module 1 : Course Introduction**

- Course Introduction
- Demonstration
- Practice 1-1: Exploring the Gateway Machine
- Practice 1-2: Exploring the host02 VM
- Practice 1-3: Exploring the host03 VM
- Practice 1-4: Logging Off from Your Gateway Machine

### **Module 2 : Introduction to Oracle Linux**

- Introduction to Oracle Linux
- Oracle Linux
- Practice 2-1: Quiz - Introduction to Oracle Linux
- Practice 2-2: Viewing Kernel Information

### **Module 3 : Installing Oracle Linux 8**

- Installing Oracle Linux 8
- Installation Destination
- Demonstration: Installing Oracle Linux 8

### **Module 4 : OpenSSH**

- OpenSSH
- Demo 4-1: System Installation
- Practice 4-1: Connecting to a Remote Server by Using SSH
- Practice 4-2: Configuring OpenSSH to Connect Without a Password

### **Module 5 : The GRUB Bootloader**

- The GRUB Bootloader
- GRUB 2 Bootloader Configuration
- Practice 5-1: Exploring the GRUB 2 Bootloader
- Practice 5-2: Booting Different Kernels
- Practice 5-3: Rebuilding the initramfs
- Demonstration: Accessing the GRUB Menu to Select Different Kernels and to Modify Boot Parameters

### **Module 6 : Introduction to systemd**

- Introduction to systemd
- The Service Unit File

- Demoe 6-1: Grub Menu and Command Line
- Practice 6-1: Exploring systemd Units
- Practice 6-2: Working with systemd Service Units

### **Module 7 : Managing Time**

- Managing Time
- Automating System Tasks
- Practice 7-1: Configuring Date and Time
- Practice 7-2: Configuring Chrony
- Practice 7-3: Automating Tasks with chron
- Practice 7-4: Automating Tasks Using systemd Timers

### **Module 8 : Kernel and Device Configuration**

- Kernel and Device Configuration
- The sysfs File System
- Demo 8-1: Update or Upgrade Using DNF
- Practice 8-1: Using Loadable Kernel Modules
- Practice 8-2: Exploring the /proc File System
- Practice 8-3: Exploring the sysfs File System
- Practice 8-4: Using the sysctl Utility
- Practice 8-5: Exploring and Configuring udev Rules

### **Module 9 : Package Management**

- Package Management
- Using dnf to Install, Upgrade, or Remove Packages
- Practice 9-1: Using the rpm Utility
- Practice 9-2: Accessing the Oracle Linux Yum Server
- Practice 9-3: Creating a Local Yum Repository
- Practice 9-4: Using the dnf Utility
- Practice 9-5: Using dnf Modules

### **Module 10 : Oracle Ksplice**

- Oracle Ksplice
- Ksplice Web Interface: System Status Detail
- Practice 10-1: Installing the Ksplice Offline Client and Kernel Updates
- Practice 10-2: Ksplice Online Updates

### **Module 11 : User and Group Administration**

- User and Group Administration
- Group Account Administration
- Demo 11-1: Install and use oracle/ local case file
- Practice 11-1: Administering User Accounts

- Practice 11-2: Administering Group Accounts
- Practice 11-3: Implementing User Private Groups
- Practice 11-4: Configuring Password Aging
- Practice 11-5: Restricting the Use of the su Command
- Practice 11-6: Allowing the Use of the sudo Command

## **Module 12 : Partitions, File Systems, and Swap**

- Partitions, File Systems, and Swap
- Practice 12-5: Removing Partitions and Additional Swap Space
- File System Types
- Practice 12-1: Listing the Current Disk Partitions
- Practice 12-2: Partitioning a Storage Device
- Practice 12-3: Creating ext4 File Systems
- Practice 12-4: Increasing Swap Space

## **Module 13 : Network Configuration**

- Network Configuration
- The nmcli radio Object
- Practice 13-1: Configuring the eth1 Network Interface
- Practice 13-2: Using the nmcli Utility
- Practice 13-3: Using the nmtui Utility
- Practice 13-4: Using the ip Utility

## **Module 14 : Network Security**

- Network Security
- Starting firewalld
- Practice 14-1: Exploring firewalld
- Practice 14-2: Configuring firewalld
- Practice 14-3: Configuring nftables

## **Module 15 : Oracle On Oracle**

- Oracle On Oracle
- Oracle-Related Shell Limits
- Practice 15-1: Installing and Running Oracle Database Preinstall
- Practice 15-2: Preparing disks for ASM use
- Practice 15-3: Installing and Configuring ASMLib
- Practice 15-4: Reverting Changes Made to host02

## **Module 16 : System Monitoring and Management**

- System Monitoring and Management
- top Utility
- OSWatcher Analyzer (OSWbba)

- Practice 16-1: Using sosreport to Collect System Information
- Practice 16-2: Using Standard Linux Performance Monitoring Tools
- Practice 16-3: Installing and Using OSWatcher
- Practice 16-4: Using OSWatcher Analyzer

### **Module 17 : System Logging**

- System Logging
- Configuring Log Rotation (logrotate)
- Practice 17-1: Configuring System Logging
- Practice 17-2: Using rsyslog Templates
- Practice 17-3: Using logwatch
- Practice 17-4: Using systemd-journald

### **Module 18 : Troubleshooting**

- Troubleshooting
- Practice 18-1: Transferring Utilities from Gateway & System Utility Commands Fail