

## Oracle Linux System Administration – Exam Study Guide

The **Oracle Linux System Administration Exam Study Guide** highlight the training options mapped to each exam topic to guide students in their preparation to pass the [Oracle Linux System Administration \(1Z0-403\)](#). The exam is primarily intended for implementation consultants that have a high level of proficiency with Enterprise Linux including system administration, networking and security.

The exam objectives are defined by learner or practitioner level of knowledge.

*Learner-level:* questions require the candidate to recall information to derive the correct answer

*Practitioner-level:* questions require the candidate to derive the correct answer from an application of their knowledge

For each exam topic there have been identified alternative training options that are available at Oracle. Please note that some of the training recommended can cover multiple exam topics.

**The exam covers 13 topics.**

### Topic 1: Installing Oracle Linux

#### Objectives

- Install Oracle Linux on any supported architecture
- Create partitions, software RAID and LVM storage configurations
- Select Packages for Installation

#### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

### Topic 2: PC Hardware & Linux

#### Objectives

- Get detailed information about all PCI & USB devices that are connected to a Linux system
- Identify, load, unload and configure kernel modules
- Tune the running kernel using the /proc/ filesystem

#### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

### Topic 3: Post-Install System Configuration

#### Objectives

- Set and maintain the system clock with date, hwclock and NTP
- Install, update and remove RPM packages with the rpm & yum commands
- Configure printers with CUPS
- Create and use Kickstart files for automated, hands-off installations

#### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

## Topic 4: Boot Process & SysV Init

### Objectives

- Configure the GRUB boot loader
- Manage SysV Init scripts, including customizing files under the /etc/sysconfig/ directory to tune SysV Init scripts
- Configure and use SysV runlevels
- Shutdown & reboot Linux systems

### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

## Topic 5: User/Group Administration and NFS

### Objectives

- Describe and apply the User Private Group scheme
- Create, delete and configure user and system accounts
- Create, delete and configure groups
- Customize the PAM configuration
- Configure and control access to su and sudo
- Configure Linux systems to use centralized authentication and user information stores for system logins
- Implement a file server to share files with NFS v3 & v4
- Configure the automounter (autofs) allowing un-privileged users to mount filesystems on-demand

### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

## Topic 6: Filesystem Administration

### Objectives

- Work with device nodes and udev
- Partition hard drives after installation
- Create and tune filesystems
- Mount filesystem, including persistent configuration in the /etc/fstab file
- Create, manage and tune swap devices
- Configure, manage, assign and maintain quotas on filesystems
- Create, use and remove File Access Control Lists (ACLs)

### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

## Topic 7: LVM & Raid

### Objectives

- Configure Logical Volume Manager volume groups and logical volumes
- Create and use software RAID devices
- Grow and shrink logical volumes and the filesystems on them
- Use LVM snapshots to create consistent, reliable backups

## Training Options

OU Class

- [Enterprise Linux: System Administration](#)

## Topic 8: Task Automation & Process Accounting

### Objectives

Use the at & batch facilities to run one-time tasks  
Manage cron jobs for recurring tasks, both system-wide and peruser  
Configure syslog for central system logging  
View, manage and kill running processes  
Monitor system and application logs on a daily basis with logwatch  
Configure process accounting and examine the resulting logs  
Limiting and measuring resource usage (ulimit, pam, sar, vmstat, iostat)

## Training Options

OU Class

- [Enterprise Linux: System Administration](#)

## Topic 9: Client Networking

### Objectives

Configure TCP/IP networking on Linux systems  
Configure static routing on a Linux system  
Aggregate multiple network links into a single interface via the bonding driver's Etherchannel and 802.3ad support  
Configure a Linux system to participate in multiple VLANs on a managed switch via 802.1q frame tagging  
Configure and maintain a DHCP server  
Using networking diagnostics tool (ping,arp,ethtool)

## Training Options

OU Class

- [Enterprise Linux: System Administration](#)

## Topic 10: The X window System

### Objectives

Create a working X server configuration  
Configure the GDM & KDM display managers  
Configure X to allow remote logins via XDMCP  
Securely deploy VNC

## Training Options

OU Class

- [Enterprise Linux: System Administration](#)

## Topic 11: Security Concepts

### Objectives

- Perform basic system hardening by minimizing the number of services that are installed
- View and set SELinux security context labels
- Use TCP Wrappers to control network access to local services
- Create simple, secure Netfilter firewalls via the iptables command

### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

## Topic 12: Linux Kernel Compilation

### Objectives

- Compile and install kernel modules externally from the kernel source tree
- Apply a kernel patch to add additional support
- Configure and compile a Linux kernel from source

### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)

## Topic 13: Troubleshooting

### Objectives

- Use standard system commands to gather information about a running system
- Recover a damaged Master Boot Record
- Enter the Rescue environment

### Training Options

- OU Class
  - [Enterprise Linux: System Administration](#)



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