

**Red Hat Enterprise Linux 8 (RHEL 8) System Administration II**

**Course Number:** LNX-132
**Duration:** 5 days

**Overview**

This Red Hat Enterprise Linux 8 (RHEL 8) System Administration II training course teaches attendees the commands and methods needed to set up and manage a RHEL 8 system using a problem-solving approach with advanced topics for long-term management.

This course is comparable to [Red Hat course 134.](https://www.redhat.com/en/services/training/rh124-red-hat-system-administration-i) Along with Accelebrate's [Red Hat Enterprise Linux 8 (RHEL 8) System Administration I](file:////training/red-hat-enterprise-linux-8-system-administration-i) class, this course is preparation for the [RHCSA 8 certification examination](https://www.redhat.com/en/services/training/ex200-red-hat-certified-system-administrator-rhcsa-exam).

**Prerequisites**

Students should have taken Accelebrate's [Red Hat Enterprise Linux 8 (RHEL 8) System Administration I training](file:////training/red-hat-enterprise-linux-8-system-administration-i) course, or have the equivalent experience.

**Materials**

All Red Hat Linux training attendees receive comprehensive courseware.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computers for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will work well.

**Objectives**

* Install, update, and boot the RHEL 8 operating system
* Set up user accounts and directories
* Perform backups for integrity and performance
* Monitor the system for performance and do basic setup of network software and capabilities

**Outline**

* Introduction
* Improve Command Line Productivity
	+ vim editor
	+ invoking vim
	+ .vimrc file
	+ key vim features
	+ advanced vim features
	+ gvim
	+ using command aliases and shell scripts
* Using Regular Expressions with grep
	+ regular expressions
* Schedule Future Tasks
	+ submitting a batch job with at
	+ batch job logging with at
	+ submitting a batch job with crontab
	+ crontab file entry layout
	+ uses of crontab entries
	+ system level periodic processing via crond
	+ periodic processing via a systemd timer
* Control Access to Files with ACLs
	+ special file attributes (SUID, SGID, STICKY)
	+ special directory attributes (SGID, STICKY)
	+ Access Control Lists (ACLs)
	+ default directory access control lists (dACLs)
* Install Red Hat Enterprise Linux 8 (with kickstart)
	+ building a kickstart File
	+ initiating Installation via a kickstart File
	+ upgrading Red Hat Enterprise Linux 8
	+ KVM virtual machine requirements
	+ KVM virtual machine creation
* Control the Boot Process
	+ RHEL 8 system initialization sequence
	+ Grand Unified Boot Loader (GRUB 2)
	+ Grand Unified Boot Loader (GRUB 2) - components
	+ Grand Unified Boot Loader (GRUB 2) - variables
	+ Grand Unified Boot Loader (GRUB 2) - menuentries
	+ RHEL 8 server single user mode
	+ RHEL reset forgotten root password
	+ kernel boot parameters
	+ shutdown
	+ install rescue mode
* Maintain Basic Storage
	+ disk device and partition operations
	+ disk device information
	+ MBR partition table concepts
	+ GPT partition table concepts
	+ Red Hat Enterprise Linux 8 system (boot) disk
	+ MBR partition operations
	+ GPT partition operations
	+ file system operations
	+ Red Hat Enterprise Linux 8 ext\* file system layout
	+ ext4 filesystem
	+ superblock backup areas
	+ Red Hat Enterprise Linux 8 xfs file system layout
	+ xfs filesystem
	+ unmounting filesystems
	+ swapping and paging spaces
	+ encrypted filesystems
	+ changes to /tmp
* Manage Logical Volumes
	+ logical volume management concepts
	+ logical volume management utilities
	+ using the logical volume manager
	+ physical volumes
	+ volume groups
	+ logical volumes
	+ logical volume mirroring
	+ logical volume backup
	+ using logical volumes as swap space
* Implement Advanced Storage Features
	+ Stratis volume management concepts
	+ using Stratis as a volume managing filesystem
	+ Stratis volume management commands
	+ using Stratis
	+ VDO volume management concepts
	+ using VDO as for volume compression
	+ VDO volume management commands
	+ using VDO
* Manage Network Security
	+ service specific access control
	+ firewalld components
	+ firewall interface - firewall-cmd
	+ firewall interface - cockpit
	+ iptables firewall
* Access Network-Attached Storage
	+ Network File System concepts
	+ Network File System configuration
	+ setting up the Network File System
	+ starting up the Network File System
	+ using the Network File System
	+ Automounter - direct / indirect maps
* Manage SELinux Security
	+ SELinux concepts
	+ SELinux files and utilities
* Tune System Performance
	+ Overview of performance management
	+ Utilities for performance monitoring
	+ Changing system and kernel parameters
	+ Using tuned to define performance profiles
* Running Containers
	+ Download an existing container
	+ Start, run and stop a container using podman
	+ Run a service inside a container
	+ Attach persistent storage to a container
* Conclusion