

**Red Hat Enterprise Linux 9 (RHEL 9) System Administration I**

**Course Number:** LNX-138  
**Duration:** 5 days

**Overview**

This Red Hat Enterprise Linux 9 (RHEL 9) System Administration I training course teaches attendees the basic working environment of a Linux system and introduces commonly required operations that can be performed by entering commands interactively in a command terminal.  Students also learn how to leverage the functions available in the GNOME Desktop Environment.

This course covers topics similar to Red Hat course 124. Along with Accelebrate's [Red Hat Enterprise Linux 9 (RHEL 9) System Administration II](file:////training/rhel-9-administration-ii) class, this course is preparation for the [RHCSA 9 certification exam](https://www.redhat.com/en/services/training/ex200-red-hat-certified-system-administrator-rhcsa-exam).

**Prerequisites**

Students must be proficient in general computing skills but not necessarily experienced with Linux or Unix.

**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**

* Use RHEL 9 Bash Shell techniques and commands
* Maintain collections of files
* Create files using interactive editor utilities
* Create and execute basic command procedures
* Communicate with other users
* Tailor the interactive environment to meet their needs
* Use basic administrative features to set up a functioning RHEL 9 system

**Outline**

* Introduction
* Get Started with RHEL 9/Access the Command Line
  + Graphical login
  + Non-graphical login
  + Virtual consoles
  + Unix / Linux standards
  + BASH environment
  + BASH command line format
  + Aliases (defining and using)
  + RHEL 9 system messages
  + Editing shell command lines
  + Keyboard control characters
* Configure and Secure SSH - Part 1
  + Command line operations - local host
  + Command line operations - remote host
* Get Help in RHEL 9
  + RHEL 9 help information
  + BASH command help information
  + RHEL 9 package help information
  + RHEL 9 on-line documentation
  + Linux graphical help information
* Access Linux Filesystems
  + Complete file specification
  + Default parts of file specifications
  + Directory specifications
  + File specification
  + File characteristics information
  + Locating files and directories
* Manage Files from the Command Line
  + Basic file manipulation commands
  + More file manipulation commands
  + Defining and using hard links
  + Defining and using symbolic links
  + Redirection of input, output, and error information
  + Pipelines
* Archive and Transfer Files
  + tar
  + gzip and gunzip
  + Remote file operations - wget  utility
  + Remote file operations - ssh utilities
  + rsync
  + vsftpd package
  + Managing vsftpd
* Control Access to Files
  + Protecting files (chmod, umask)
  + Special file attributes (chattr, lsattr)
* Create, View, and Edit Text Files
  + File manipulation commands
  + Redirecting standard output
  + Vim editor (introduction)
  + Gedit editor (introduction)
  + Nano editor (introduction)
* Monitor and Manage Linux Processes
  + User working environment
  + User process characteristics
  + Displaying process information (static) - ps
  + Displaying process information (dynamic) - top
  + Controlling process execution
  + Adjusting process priority
  + Process monitoring tools
  + Cache management
  + Process affinity
* Install Red Hat Enterprise Linux 9
  + installing RHEL 9 system software
  + RHEL 9 directed installation
  + RHEL 9 directed installation - firstboot
* Analyze Servers and Get Support
  + RHEL 9 administrative software
  + Cockpit
  + RHEL 9 web-based portal
* Install and Update Software
  + Managing RHEL 9 software packages
  + rpm command usage
  + dnf / yum command usage
  + Legacy (non-streamed) package repository setup
  + Streamed (AppStream)package repository setup
  + Apache web server configuration
* Manage Local Linux Users and Groups
  + user account management
  + /etc/passwd file
  + /etc/group file
  + User account creation
  + Environment files
  + Password aging
  + PAM
  + Account deletion
  + RHEL 9 administrator responsibilities
  + Using the root account
* Configure and Secure Open SSH Service - Part 2
  + Command line operations - remote host - ssh
  + Manage Networking
  + Network configuration
  + Host configuration
  + Gateway configuration
  + Maintaining system time via an ntp server
  + Maintaining system time via chrony
  + Time zone manipulation
* Control Services and Daemons
  + RHEL 9 startup configuration
  + systemd target files
  + systemd services
  + systemd actions
  + systemd  startup services
  + Boot logging
  + Systems journal logging
* Analyze and Store Logs
  + System logging mechanism
  + Kernel message logging
  + System logging configuration
  + Remote system logging
  + Logrotate
* Conclusion