

**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