

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Value Added Course on

Red Hat Certified System Administrator (RHCSA)

14-02-2025 to 15-02-2025 & 19-02-2025 to 22-02-2025

Total: 45 Hrs

Course Objectives:

- To learn and build core Linux skills.
- To understand and manage the basic storage of Linux system administrator.
- To Understand the essential tools for handling files, directories, command-line environments, and documentation
- To Manipulate software packages with RPM
- To Create and maintain the Linux file system
- To get Red Hat Certified System Administrator Certification

UNIT 1 : Get started with Red Hat Enterprise Linux (9)

Describe and define open source - Linux distributions and Red Hat Enterprise Linux - Access the command line - Log into a Linux system and run simple commands using the shell - Manage files from the command line Copy, move, create, delete, and organize files while working from the bash shell - Create, view, and edit text files and Directory Operations - Manage text files from command output or in a text editor and Managing Directories. Control access to files - Set Linux file system permissions on files and interpret the security effects of different permission settings.

UNIT 2: Managing Basic Storage (9)

Create and manage storage devices, partitions, file systems, and swap spaces from the command line - Mounting and Unmounting Mapping file system with Mount Point -Manage logical volumes - Create and manage logical volumes containing file systems Swap - Create swap spaces from the command line.

UNIT 3: Manage Local users and groups (9)

Create, manage, and delete local users and groups, as well as administer local password policies - Control access to files with ACLs Interpret and set access control lists (ACLs) on files to handle situations requiring complex user and group access permissions - Breaking Root Password Schedule future tasks Schedule commands to run in the future, either one time or on a repeating schedule. Archive and Compression Backup Files and Directories by Zipping.

UNIT 4 : Managing network (9)

Configure network interfaces and settings on Red Hat Enterprise Linux servers - Control services and daemons - Control and monitor network services and system daemons using system - Manage network security Control network connections to services using the system firewall. Configure and secure SSH Configure secure command line service on remote systems, using OpenSSH - Secure Copy Securely copying Files & Directories from one machine to another in Network.

UNIT 5: Install and Update Software (9)

Download, install, update, and manage software packages from Red Hat and yum package repositories. Manage SELinux security Protect and manage the security of a server by using SELinux. Tune system performance Improve system performance by setting tuning parameters and adjusting scheduling priority of processes.

Implement advanced storage features

Manage storage using the Stratis local storage management system and use VDO volumes to optimize storage space in use - Control the boot process Manage the boot process to control services offered and to troubleshoot and repair problems - Install Red Hat Enterprise Linux Install Red Hat Enterprise Linux on servers and virtual machines - Run Containers Obtain, run, and manage simple, lightweight services as containers on a single Red Hat Enterprise Linux server.

RHCSA Exam Discussion

Course Outcomes:

After successful completion of the course, the students will be able to

CO. No.	Course Outcome	Knowledge Level
CO1	Apply fundamental Linux commands to effectively navigate, configure, and manage system administration tasks, including user management, file system operations, process control, and system monitoring.	K3
CO2	Identify basic storage management by utilizing essential tools for handling files, directories, command-line environments, and documentation.	K3
CO3	Organize and manage local users and groups by creating, modifying, and deleting user accounts, setting appropriate permissions, configuring group memberships, and ensuring secure access control to maintain a well-structured and secure system environment.	K3
CO4	Build and configure network settings by establishing connections, troubleshooting connectivity issues, managing network interfaces, setting up IP addresses, monitoring network traffic, and ensuring secure and efficient data communication within the system.	K3

CO5	Develop and manage software installations and updates by selecting appropriate packages, configuring settings, troubleshooting issues, and ensuring system compatibility for optimal performance and security.	K3
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