



(An Autonomous Institution - AFFILIATED TO Anna University, Chennai)
S.P.O. Chintamani Road : E. Madhavaram Campus
S.P.O. Nagar, R. Velurudai - 605 001 (near VIRUDHUNAGAR)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Industry Certified Value Added Course on

"Linux System Administration with RHCSA "

01-06-2026 to 06-06-2026 (2026 – 2027 ODD)

COURSE OBJECTIVES

- Learn Linux command-line usage, file system management, and user administration.
- Understand and implement system security using permissions, SELinux, and firewalls.
- Manage software packages, processes, services, and system performance.
- Configure and administer storage devices, file systems, and logical volumes.
- Set up networking, logging, and task automation in Linux environments.
- Develop practical skills for Linux system administration and troubleshooting.

UNIT I – Accessing Systems and File Management

(10 Hours)

Accessing the Command Line, Configuring SSH Key-based Authentication, Red Hat Customer Portal, Red Hat Insights, Linux File System Hierarchy, File Management Commands, Links, User and Group Management, Superuser Access, Password Management.

UNIT II – Security Administration

(10 Hours)

File System Permissions, Default Permissions, SELinux Enforcement Modes, SELinux Contexts, SELinux Booleans, SELinux Troubleshooting, Firewall Management.

UNIT III – System Administration and Software Management

(10 Hours)

Process Management, Performance Monitoring, Tuning Profiles, Process Scheduling, System Registration, Yum Package Management, Repositories, Module Streams, Service Management, Boot Targets, Root Password Recovery, Boot-Time Troubleshooting.

UNIT IV – Storage Management

(10 Hours)

File System Mounting, Partitions, Persistent Mounts, Swap Management, Logical Volume Management (LVM), Stratis Storage, VDO Storage Optimization, NFS Storage, Automounting.

UNIT V – Networking, Logging and Automation

(10 Hours)

Network Configuration, Network Configuration Files, Host name and DNS Resolution, System Logging, Journal Management, Time Synchronization, Task Scheduling, Temporary File Management, Practical Administration and Troubleshooting Labs

Total: 50 Hours

COURSE OUTCOMES

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

CO. No.	Course Outcome	Knowledge Level
CO1	Apply Linux command-line tools to manage files, directories, users, groups, and system access efficiently.	K3
CO2	Demonstrate the use of file permissions, SELinux policies, and firewall rules for Linux system security.	K3
CO3	Apply Linux system administration techniques to manage processes, monitor system performance, handle software packages and services.	K3
CO4	Make use of Linux storage management tools to configure and maintain partitions, file systems, LVM, swap space, and network storage.	K3
CO5	Utilize networking, logging, scheduling, and automation services to maintain efficient Linux system operations.	K3

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO1:

Professional Skills: The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.

PSO2:

Problem - Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

CO - PO MAPPING

Course Name	CO. No.	POs											PSOs	
		1	2	3	4	5	6	7	8	9	10	11	1	2
Linux System Administration with RHCSA	CO1	H	L	-	-	H	-	-	-	-	-	L	H	M
	CO2	H	M	L	-	H	-	-	M	-	-	L	H	M
	CO3	H	H	L	L	H	-	-	-	-	-	L	H	H
	CO4	H	M	M	-	H	-	-	-	-	-	L	H	M
	CO5	H	M	L	L	H	-	-	-	L	L	M	H	H

H - High, M - Moderate, L - Low

SDG MAPPING

Linux System Administration with RHCSA	SDGs																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				✓				✓				✓					

S. Suresh

Trainer
Mr.S.Sureshkannan
Senior Corporate Trainer
School of Linux

S. C.

VAC Course Incharges
Mrs.S.Saraswathi AP/CSE
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Meenakshi

HOD - CSE
Dr.A.Meenakshi
Prof. & Head