

# CentOS 9 Linux Administration-I

**Duration:** 5days (8hrs/day)

**Prerequisites:** NA

**Course Objective:** Gain sufficient skill to perform core system administration tasks on CentOS 9 Linux Administration.

**Lab Requirement:** Koenig-DC (CentOS 9)

## Module 1 – Using Essential Tools

Basic Shell Skills

Editing Files with vim

**Lab:** Vim editor for editing files

Understanding the Shell Environment

Finding Help

**Lab:** Finding Help

## Module 2 - Essential File Management Tools

Working with the File System Hierarchy

Managing Files

Using Links

**Lab:** Difference between Hardlinks and softlinks

Working with Archives and Compressed Files

**Lab:** Compressing files with gzip,bzip2 and xz tools

## Module 3 - Working with Text Files

Using Common Text File–Related Tools

A Primer to Using Regular Expressions

Using grep to Analyze Text

**Lab:** Using grep to analyze text

Working with Other Useful Text Processing Utilities

## **Module 4 - SSH**

Working on Local Consoles

Using SSH and Related Utilities

Configuring Key-Based Authentication with Passphrases

**Lab:** Configure ssh key-based authentication

## **Module 5 - User and Group Management**

Different User Types

Managing User Accounts

**Lab:** Manage local user accounts

Creating and Managing Group Accounts

**Lab:** Manage local group accounts

## **Module 6 – Permissions Management**

Managing File Ownership

**Lab:** Changing file ownership

Managing Basic Permissions

**Lab:** Changing file permissions

Managing Advanced Permissions

**Lab:** Changing advance permissions

Managing ACLs

**Lab:** Changing file ACL permissions

Setting Default Permissions with umask

**Lab:** Changing Umask value

Working with User-Extended Attributes

## **Module 7 - Managing Processes**

Introduction to Process Management

Managing Shell Jobs

**Lab:** Managing shell jobs

Using Common Command-Line Tools for Process Management

**Lab:** Managing command-line tools

Using top to Manage Processes

Using tuned to Optimize Performance

**Lab:** Configure performance tuning

## **Module 8 – Working with Systemd**

Understanding Systemd

Managing Units Through Systemd

**Lab:** Managing services with systemd

## **Module 9 - Configuring Logging**

Understanding System Logging

Configuring rsyslogd

**Lab:** Configuring rsyslog

Rotating Log Files

**Lab:** Configure log rotation

Working with journal

**Lab:** Configure and managing journal

## **Module 10 - Configuring Networking**

Networking Fundamentals

Managing Network Addresses and Interfaces Validating

**Lab:** Managing network addresses

Network Configuration

Configuring Network Configuration with nmtui and nmcli

**Lab:** Network configuration with nmtui and nmcli

Setting Up Hostname and Name Resolution

**Lab:** Setting up hostname and name resolution

Understanding Local Time

**Lab:** Configuring Local Time

## **Module 11 - Operating Running Systems**

Foundation Topics

Managing Software Packages with yum

**Lab:** Managing software packages with yum

Using yum

**Lab:** Configure yum repositories

Managing Package Module Streams

**Lab:** Managing package modules

Managing Software Packages with rpm

**Lab:** Managing software packages with rpm

## **Module 12 - Installing CentOS Linux 9**

Preparing to Install CentOS Linux 9

Performing a Manual Installation

**Lab:** CentOS 9 Installation