

Basic Linux Usage and Administration

Learn to navigate the Linux filesystem, manage users and permissions, and administer processes from the command line.

3 Days

8 HOURS A DAY

5

MODULES

37

TOPICS

8

HANDS-ON LABS

COURSE OVERVIEW

This course is designed for participants with little to no experience with Linux. It covers the core concepts, tools, and commands required to navigate and use a Linux system effectively. Participants will learn about the Linux filesystem, user and group management, basic shell commands, permissions, process management, and essential system administration tasks.

WHO THIS COURSE IS FOR

Non-developers, IT administrators, system administrators, and anyone looking to understand the fundamentals of Linux

PREREQUISITES

- Familiarity with using a computer and navigating file systems

TOOLS AND REQUIREMENTS

Lab Requirement

- Koenig DC

LEARNING OBJECTIVES

- Explain core Unix and Linux concepts and kernel architecture
- Apply command line basics including file name completion and shortcuts
- Navigate directories and manipulate files using commands such as cp and mv
- Locate files with tools such as grep, find and locate
- Describe filesystem concepts including inodes, links and the FHS
- Configure disk partitions and archive data with tar and gzip
- Administer users, groups and password policies
- Manage processes, priorities and scheduled jobs with cron and at

5 Modules, 37 Topics

01

Introduction to Unix/Linux

INTRODUCTION TO UNIX AND LINUX

- Brief history of Unix/Linux
- Operating systems, UNIX flavours, UNIX features
- Unix market, OSS, GNU GPL, philosophy, distribution
- Linux features and architecture
- The Linux kernel

02

Lab

Basic Linux Usage and Navigation

TOPICS

- Logging in and out
- Changing passwords
- Introduction to Shells
- Command line basics and file name completion
- Basic commands ('whoami', 'date', 'uname', 'hostname')
- On-line help and documentation ('man', 'info')

KEYBOARD SHORTCUTS AND NAVIGATION EFFICIENCY

- Common keyboard shortcuts for command line productivity

03

3 Labs

Working with Files, Directories, and the Linux Filesystem

TOPICS

- Files and Directories, Pathnames
- Directory navigation, home directory
- File manipulation commands ('cp', 'mv', 'rm')
- Directory manipulation commands ('mkdir', 'rmdir')
- Hidden files and viewing content ('ls -a')
- Finding files ('grep', 'find', 'locate', 'whereis')
- Piping and I/O redirection
- Wildcard patterns and basic utilities ('sort', 'wc', 'head', 'tail')

FILESYSTEM CONCEPTS AND MANAGEMENT

- Filesystem concepts, inodes
- Filesystem layout, FHS
- Hard and symbolic links
- Filesystem utilities ('mount', 'du', 'df')
- Archiving tools ('tar', 'gzip')
- Disk partitioning and management ('fdisk', 'gdisk', 'parted')

04

2 Labs

Users, Groups, and Permissions

TOPICS

Users and groups concept · Understanding the super-user (root) · Assuming root privileges · User and group administration · Password Policies and Security

FILE OWNERSHIP AND PERMISSIONS

Setting permissions ('chmod', 'chown')

05

2 Labs

Process Management and Scheduling

TOPICS

- Monitoring processes ('ps', 'top')
- Managing background processes and priorities ('nice', 'renice')
- Signals and process termination ('kill')

PROCESS SCHEDULING AND JOB MANAGEMENT

- Understanding 'cron' jobs, 'at' command, and job scheduling

CONCURRENT PROGRAMMING CONCEPTS

- Overview of concurrency and its challenges

HANDS-ON LABS

Practise What You Learn

#	MODULE	ACTIVITY
02	Basic Linux Usage and Navigation	Command line efficiently with keyboard shortcuts and basic commands
03	Working with Files, Directories, and the Linux Filesystem	■ Practicing file and directory commands ■ Exploring filesystem structure, creating and managing links ■ Performing disk partitioning and archiving tasks
04	Users, Groups, and Permissions	■ Creating, modifying, and deleting users and groups ■ Configuring password policies and performing security checks
05	Process Management and Scheduling	■ Monitoring and managing processes ■ Creating scheduled tasks with 'cron' and 'at'

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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