

KOENIG SOLUTIONS • COURSE OUTLINE

CompTIA Linux+ (XK0-006)

Learn to manage, secure, automate and troubleshoot Linux systems, from storage and services to scripting and performance tuning.

5

MODULES

29

TOPICS

COURSE OVERVIEW

This course covers core Linux system management, including the boot process, kernel, device and storage configuration, networking, shell operations, backups, and virtualization. It then addresses services and user management, covering file permissions, account administration, process control, software and systems management, and containers. Security topics follow, including authentication, firewalls, OS hardening, account security, cryptography, and compliance, before moving into automation, orchestration, and scripting with Ansible, Puppet, shell scripting, Python, Git, and responsible use of AI tools. The final section covers troubleshooting system monitoring, hardware, storage, networking, security, and performance issues.

WHO THIS COURSE IS FOR

Linux Administrators

System Administrators

Network Administrators

Security Administrators

DevOps Engineers

IT Support Technicians

LEARNING OBJECTIVES

- Identify boot process steps, kernel components, and filesystems
- Configure storage using LVM, RAID, partitions, and mounted volumes
- Manage users, groups, processes, and software packages
- Operate container runtimes and manage container images and networks
- Configure authentication, firewalls, and OS hardening measures
- Apply cryptography and compliance checks to secure systems
- Automate tasks using Ansible, Puppet, and shell or Python scripts
- Diagnose and resolve networking, security, and performance issues

5 Modules, 29 Topics

01

23%

System Management

TOPICS

- **Linux basics:** Identify boot process steps, kernel, filesystems, and architectures
- **Device management:** Manage kernel modules, hardware components, and device utilities
- **Storage management:** Configure LVM, RAID, partitions, and mounted storage
- **Network configuration:** Set up hosts, DNS, interfaces, and network tools
- **Shell operations:** Use navigation, editing, redirection, and environment variables
- **Backups and restores:** Perform archiving, compression, and data recovery
- **Virtualization:** Deploy hypervisors, create VMs, and manage disk images

02

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Services and User Management

TOPICS

- **Files & directories:** Control permissions, create links, and manage special files
- **Account management:** Add, remove, and modify users and groups
- **Process control:** Monitor states, adjust priorities, and schedule jobs
- **Software management:** Install, update, or remove packages and repositories
- **Systems management:** Start, stop, and review services, logs, and timers
- **Containers:** Operate container runtimes, manage images, and create networks

03

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Security

TOPICS

- **Auth & accounting:** Configure PAM, LDAP, Kerberos, and enable auditing
- **Firewalls:** Set firewalls using iptables, nftables, UFW, and zone rules
- **OS hardening:** Apply permissions, configure sudo, and secure remote access
- **Account security:** Enforce password policies, restrict shells, and enable MFA
- **Cryptography:** Encrypt files, use hashing, and manage certificates
- **Compliance:** Verify integrity, run scans, and maintain standards

04**17%**

Automation, Orchestration, and Scripting

TOPICS

- **Automation:** Automate tasks with Ansible, Puppet, and CI/CD tools
- **Shell scripting:** Write and troubleshoot variables, functions, and logic flows
- **Python basics:** Develop scripts using environments, packages, and data types
- **Version control:** Manage code with Git workflows and tagging
- **AI best practices:** Apply code generation and prompt engineering responsibly

05**22%**

Troubleshooting

TOPICS

- **System monitoring:** Monitor health, logs, and event alerts
- **Hardware/storage:** Diagnose boot, mount, and repair issues
- **Networking:** Resolve firewall, routing, DNS, and connectivity problems
- **Security:** Fix SELinux, permission, and vulnerability issues
- **Performance:** Analyze CPU, memory, I/O, and optimize response times

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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