Training Course:
Advanced Linux

6 - 10 July 2025
Manama (Bahrain)
Fraser Suites

Training Course:
Advanced Linux

Introduction

The Advanced Linux Training Program is designed by Global Horizon to provide participants with an in-depth understanding of Linux operating systems and equip them with advanced skills to effectively manage and administer Linux environments. This comprehensive program covers a wide range of topics, from system administration and networking to security, scripting, automation, and scalability. Participants will gain hands-on experience through practical exercises and real-world scenarios, enabling them to confidently navigate complex Linux environments.

Methodologies

The training program follows a blended learning approach, combining theoretical instruction, practical exercises, hands-on labs, and interactive discussions. Participants will engage in a variety of activities, including guided demonstrations, group projects, and individual assignments. Real-world examples and case studies will be used to illustrate the application of Linux concepts in practical scenarios. Participants will have access to a Linux environment for hands-on practice, ensuring they can apply their knowledge in a realistic setting.

Target Audience

The Advanced Linux Training Program is ideal for:

- IT professionals and system administrators who want to enhance their Linux skills and gain expertise in managing complex Linux environments.

- Software developers who work with Linux-based systems and want to deepen their understanding of Linux administration and automation.

- Network administrators who need to configure and maintain Linux-based network services.

- IT managers and decision-makers who want to broaden their knowledge of Linux systems to make informed strategic decisions.

Objectives

By the end of the training program, participants will:

- Have a comprehensive understanding of Linux operating systems, their history, and different distributions.

- Possess advanced skills in Linux system administration, including user and group management, package management, and system monitoring.

- Be proficient in network configuration, firewall management, and secure remote access using SSH.

- Understand file systems, storage management, and advanced concepts like logical volume management and disk encryption.

- Acquire scripting skills to automate tasks, manipulate files, and process text efficiently.

- Gain expertise in advanced system administration techniques, troubleshooting, and debugging.

- Be able to configure and manage web services, DNS, virtualization, containers, and orchestration using tools like Docker and Kubernetes.

- Understand the principles of automation and configuration management with Ansible.

- Possess the knowledge to monitor system performance, optimize resources, and troubleshoot performance issues.

- Have a strong foundation in Linux security practices, including network security, vulnerability assessment, and system hardening.

- Understand high availability concepts, scalability techniques, and the integration of Linux with cloud computing platforms.

Course Outline

Day 1: Linux Fundamentals and System Administration

- Linux history, philosophy, and distributions

- Installation of Linux Ubuntu, CentOS, or Fedora

- Command-line interface CLI essentials

- Basic file system navigation and manipulation

- User and group management

- File permissions and ownership

- Process management

- Package management apt, yum, or dnf

- System monitoring and resource utilization

- Backup and recovery strategies

Day 2: Networking and Security

- TCP/IP networking fundamentals

- Configuring network interfaces

- Network troubleshooting tools and techniques

- Network services and protocols DHCP, DNS, FTP, etc.

- Network file sharing with NFS and Samba

- Linux security overview

- Basic system hardening techniques

- User and group security

- File system security and access control lists ACLs

- Introduction to firewalls iptables or firewalld

Day 3: Shell Scripting and Automation

- Introduction to shell scripting

- Variables, conditions, and loops

- File manipulation and text processing

- Script debugging and error handling

- Scripting best practices

- Advanced user and group management

- Advanced package management and repositories

- Disk encryption LUKS

- Systemd service management

- Troubleshooting and debugging techniques

Day 4: Web Services and Virtualization

- Apache HTTP Server configuration

- Domain Name System DNS setup bind9 or dnsmasq

- Virtualization concepts KVM or VirtualBox

- Containerization with Docker

- Introduction to Kubernetes

- Introduction to Ansible

- Ansible inventory and variables

- Creating playbooks and roles

- Managing configuration files

- Deploying and managing applications

Day 5: Advanced Topics in Security, Scalability, and Cloud Integration

- Advanced network configuration VLANs, bridges

- Network troubleshooting and debugging

- Intrusion detection and prevention systems

- Security audits and vulnerability assessment

- VPN setup and configuration

- Understanding file systems ext4, XFS, Btrfs

- Disk management and partitioning

- Logical Volume Manager LVM advanced concepts

- Network File System NFS advanced configuration

- Disk quotas and RAID

- Advanced troubleshooting techniques and methodologies

- Performance tuning for specific workloads database, web servers

- Advanced storage management SAN, iSCSI

- Linux integration with cloud platforms AWS, Azure, GCP

- Real-world case studies and practical scenarios

Registration form on the Training Course:
Advanced Linux

Training Course code: IT1937 From: 6 - 10 July 2025 Venue: Manama (Bahrain) - Fraser Suites Training Course Fees: 4900 ⬜ Euro

Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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