



*Training Course:  
Advanced Linux*

*12 - 16 May 2025  
Barcelona (Spain)  
Grupotel Gran Via 678*

## Training Course: Advanced Linux

Training Course code: IT1937 From: 12 - 16 May 2025 Venue: Barcelona (Spain) - Grupotel Gran Via 678 Training Course Fees: 6000 € Euro

### 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

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

### Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....  
Position: .....  
Telephone / Mobile: .....  
Personal E-Mail: .....  
Official E-Mail: .....

### Company Information

Company Name: .....  
Address: .....  
City / Country: .....

### Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....  
Position: .....  
Telephone / Mobile: .....  
Personal E-Mail: .....  
Official E-Mail: .....

### Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
- ☐ Please invoice me
- ☐ Please invoice my company

### Easy Ways To Register

Telephone:  
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E-mail to us :  
info@gh4t.com  
or training@gh4t.com

Complete & return the  
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to: Global Horizon  
3 Oudai street, Aldouki,  
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