

# Gentoo Linux Administrator Training

*COURSE CONTENT*

## GET IN TOUCH



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## About Multisoft

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## About Course

Gentoo Linux Administrator Training offered by Multisoft Systems provides a comprehensive overview for individuals seeking to master the intricacies of Gentoo Linux administration. This training program is meticulously designed to equip participants with the knowledge and skills necessary to effectively manage Gentoo Linux systems in diverse computing environments.

## Module 1: Introduction to Gentoo

- ✓ Overview of Gentoo and its history.
- ✓ The philosophy behind Gentoo: flexibility, optimization, and customization.

## Module 2: Installation

- ✓ Preparing the environment for a Gentoo installation.
- ✓ Disk partitioning and file system selection.
- ✓ Installing the base system, setting up the kernel, and boot configuration.

## Module 3: Portage Package Manager

- ✓ Introduction to Portage, the heart of Gentoo.
- ✓ Understanding USE flags and their significance.
- ✓ Searching, installing, and updating packages.
- ✓ Working with overlays.

## Module 4: Kernel Configuration

- ✓ Customizing the Linux kernel for your hardware and requirements.
- ✓ Manual kernel compilation and the benefits of doing so.
- ✓ Kernel modules and drivers.

## Module 5: System Initialization and Services

- ✓ Understanding Gentoo's init systems.
- ✓ Managing and customizing system services.

## Module 6: System Configuration

- ✓ Configuring the system for networking, locale, time zones, etc.
- ✓ User management and permissions.

## Module 7: Optimization

- ✓ CPU-specific optimizations and the benefits they offer.
- ✓ Fine-tuning system performance through various settings and configurations.

## Module 8: Gentoo Maintenance

- ✓ Keeping the system up-to-date.
- ✓ Handling system upgrades and potential issues.
- ✓ Troubleshooting common problems.

## Module 9: Advanced Portage Features

- ✓ Working with slots, profiles, and eselect.
- ✓ Masking and unmasking packages.

## Module 10: Security

- ✓ Setting up a secure Gentoo system.
- ✓ Hardening and best practices.
- ✓ Introduction to SELinux or other mandatory access controls on Gentoo.

## Module 11: Desktop and Software Installation

- ✓ Installing and customizing desktop environments.
- ✓ Introduction to popular software and their Gentoo-specific configurations.

## Module 12: Utilities and Tools

- ✓ Using tools like `emerge`, `revdep-rebuild`, and `dispatch-conf`.
- ✓ System logging and monitoring.

## Module 13: Hands-on Projects

- ✓ Practical exercises that challenge you to apply what you've learned.

- ✓ Setting up specific server roles, desktop configurations, or embedded systems.

## Apache Gentoo

### Module 1: Apache

- ✓ Installing Apache through Portage.
- ✓ Basic configuration of an Apache web server: virtual hosts, `.htaccess`, `mod_rewrite`, etc.
- ✓ Setting up SSL for secure connections.
- ✓ Optimization and performance tuning specific to Gentoo.

### Module 2: NFS (Network File System)

- ✓ Installation and configuration of the NFS server and client packages.
- ✓ Exporting and mounting filesystems.
- ✓ Security and permissions.
- ✓ Best practices in Gentoo specific scenarios.

### Module 3: DNS (Domain Name System)

- ✓ Setting up BIND or other DNS servers.
- ✓ Configuring zones, forwarding, and caching.
- ✓ Securing your DNS server.
- ✓ DNS troubleshooting and tools.

### Module 4: ZFS

- ✓ Introduction to the ZFS filesystem.
- ✓ Installing the ZFS kernel modules and userland utilities on Gentoo.
- ✓ Creating and managing ZFS pools and datasets.
- ✓ Snapshots, replication, and other advanced features.

## Module 5: Postgres

- ✓ Installing PostgreSQL from Portage.
- ✓ Initializing a PostgreSQL database cluster.
- ✓ Basic database operations: creating databases, tables, and managing users.
- ✓ Performance tuning and maintenance tasks.
- ✓ Backup and restore procedures.

## Module 6: MySQL

- ✓ Installing MySQL (or MariaDB) on Gentoo.
- ✓ MySQL server configuration.
- ✓ User management, database creation, and basic operations.
- ✓ Performance tuning, backups, and restoration.

## Module 7: GNOME and/or KDE Desktop

- ✓ Installing GNOME or KDE from Portage.
- ✓ Configuring display managers like GDM or SDDM.
- ✓ Customizing your desktop environment.
- ✓ Introduction to key applications and utilities in GNOME/KDE.
- ✓ Performance optimization and theme customization.

## Module 8: Integration and Advanced Scenarios

- ✓ Integrating Apache with Postgres or MySQL for web applications.
- ✓ Setting up ZFS for optimized database storage.
- ✓ Centralized authentication for services.
- ✓ Troubleshooting and recovery scenarios.