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# Nginx Training

2 days (14 hours)

## Overview

Nginx is an open-source web server, reverse proxy and load balancer, renowned for its performance, low resource consumption and flexibility. It is widely used for high-traffic hosting, balancing, caching and application security.

Our Nginx training course will help you master the configuration, optimization and security of modern web servers.

You'll learn how to create virtual hosts, deploy dynamic applications (PHP?FPM, Node.js), set up reverse proxies, load balancing and caching strategies.

At the end of the course, you'll know how to configure a high-performance, secure Nginx environment, integrate your applications into scalable architectures and maintain your services in operational condition.

As with all our training courses, this one features the latest stable version [v1.29.0 of Nginx](#).

## Objectives

- Understand Nginx architecture and operation
- Install and configure a Nginx web server
- Set up a reverse proxy and load balancing
- Secure web sites and applications
- Optimize performance and manage cache
- Supervising and maintaining a server in production

## Target audience

- Linux/Unix system administrators
- DevOps engineers
- Web developers
- IT managers

## Prerequisites

- Basic Linux administration
- Notions of networks and HTTP/HTTPS protocols
- Experience in deploying web applications desirable

## Our Nginx training program

### Introduction to Nginx and installation

- Nginx overview: web server, reverse proxy, load balancer
- Comparison with Apache HTTP Server and other web servers
- Installation on Linux and Windows
- Directory structure and configuration files
- First start-up and service verification
- Workshop: Installation and basic configuration of a static site

### Virtual host configuration and routing

- Understanding server blocks
- Managing domain names and listening ports
- Routing requests with location blocks
- Managing static files and MIME types
- Simple redirects and rewrites
- Workshop: Two distinct sites on a single server

### Nginx security and optimization

- Enabling HTTPS (auto-signed and Let's Encrypt)
- Good security practices
- Protection against DDoS, injection, directory listing
- Logging and analysis of access/error logs
- Key performance optimization
- Workshop: Secure site with HTTPS and security rules

### Nginx as reverse proxy and load balancer

- Reverse proxy operation and benefits
- Proxy to a backend
- Load balancing: round robin, least connections, IP hash

- Cache management on the proxy side
- Backend health check
- Workshop: Reverse proxy with load balancing

## Nginx for dynamic web applications

- Integration with PHP-FPM for dynamic sites
- Configurations for Node.js, Python (WSGI), Ruby (Passenger)
- Headends for REST APIs and WebSockets
- Optimization for CDN and heavy content
- gzip and brotli compression
- Workshop: Deploying a web application with Nginx + PHP-FPM

## Supervision, maintenance and best practices

- Supervision (Prometheus, Grafana, Nginx export)
- Configuration backup and restore
- Update management and module compatibility
- Automation with Ansible or Terraform
- Ongoing maintenance and documentation
- Workshop: Nginx supervision dashboard

## Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

## Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the forthcoming training course, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## Teaching methods

Practical training: 60% hands-on, 40% theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire is used to check that skills have been correctly acquired.

## Certification

A certificate will be awarded to each trainee who completes the training course.