Faysal Aziz

Apache Web Server

3-day hands-on workshop

FA-0103 · 3-day

DevOps, Cloud & Infrastructure

Introduction

In this course, we will embark on an exciting journey to explore the fundamentals of web server technology, focusing on the widely used Apache Web Server. This course is specially designed for individuals looking to build a solid foundation in web server management and deployment, particularly on the Ubuntu Linux platform.

With the digital world evolving at an unprecedented pace, understanding how to configure and manage web servers has become a crucial skill for developers, system administrators, and IT professionals.

Apache, being one of the most popular and versatile web servers, serves as an excellent starting point for beginners. By the end of this course, you will not only be proficient in Apache server basics but also familiar with deploying your web server using Docker, securing connections with SSL, and managing domain configurations with A-records.

Learning outcomes

Upon completing this course, learners will be able to:

- Understand the basics of web servers and the role of Apache Web Server in the digital landscape.
- Install and configure Apache Web Server on Ubuntu Linux.
- Manage and troubleshoot common Apache server configurations.
- Deploy Apache Web Server using Docker containers.
- Configure domain settings with A-records to point to your Apache server.
- Secure your website with SSL certificates using Let's Encrypt.
- Understand the importance of web server security and best practices.

Prerequisites

- Basic understanding of how the internet and websites work.
- Familiarity with the Linux operating system, particularly Ubuntu.
- Basic knowledge of command-line interface (CLI) operations.
- An introductory understanding of Docker and containerization concepts.
- No prior experience with Apache Web Server is required.

Training outline

1. Section 1: Introduction to Web Servers and Apache

1. What is a Web Server?
2. Overview of Apache Web Server: History and Relevance
3. Apache vs. Other Web Servers: Nginx, IIS

2. Section 2: Setting up the Environment and prerequisites (long section)

Introduction to Ubuntu Linux

1. Basic Linux commands
2. Installing and updating software packages
3. Network Configuration and Management
4. User Management
5. System Monitoring and Maintenance

Introduction to Docker

1. What is Docker and why use it?
2. Basic Docker Concepts and Commands
3. Docker Images and Containers
4. Docker Volumes and Persistent Data
5. Docker Networking
6. Installing Docker on Ubuntu

3. Section 3: Installing and Configuring Apache Web Server

1. Installing Apache on Ubuntu
2. Understanding the Apache Configuration File Structure

3. Configuring Apache for Your First Website
4. Managing Apache Services: Start, Stop, and Restart
5. Basic Troubleshooting

4. Section 4: Advanced Apache Configuration

1. Hosting Multiple Websites on a Single Server (Virtual Hosts)
2. Configuring Directory Indexes and Aliases
3. Modifying File Permissions and Access Controls
4. Understanding .htaccess for Directory-Level Configurations
5. Performance Tuning and Optimization Tips

5. Section 5: Deploying Apache Web Server with Docker

1. Understanding Docker Containers and Images
2. Creating a Dockerfile for Apache Web Server
3. Building and Running Your Apache Docker Container
4. Managing Docker Containers: Logs, Stop, Start, and Remove

6. Section 6: Domain Configuration and A-Records

1. Basics of DNS and How Domains Work
2. Configuring A-Records to Point to Your Apache Server
3. Managing DNS Settings with Your Domain Registrar

7. Section 7: Securing Your Apache Server with SSL/TLS

1. Introduction to SSL/TLS and Why It's Important
2. Obtaining Free SSL Certificates with Let's Encrypt
3. Configuring Apache to Use SSL Certificates
4. Enforcing HTTPS on Your Website

8. Section 8: Best Practices and Security

1. Apache Security Best Practices
2. Regular Maintenance and Updates
3. Monitoring Apache Server Performance and Logs

9. Conclusion and Next Steps

1. Review of Key Learnings
2. Exploring Further Apache Modules and Features
3. Continuing Your Learning Journey in Web Technologies

This detailed course outline ensures a comprehensive understanding of Apache Web Server, from basic installation to securing and optimizing your web server. Each section is designed to build upon the previous one, ensuring a smooth learning curve for beginners.

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