

# Apache and Secure Web Server Administration

Learn to install, configure, secure and tune Apache web servers, from virtual hosts and SSL to logging and performance.

**3 Days**

24 HOURS

**11**

MODULES

**46**

TOPICS

**42**

HANDS-ON LABS

## COURSE OVERVIEW

The Apache and Secure Web Server Administration course is a comprehensive program designed to equip learners with the skills and knowledge necessary to install, configure, maintain, and secure Apache web servers. This course covers a wide range of topics from initial installation to advanced configuration and performance tuning. Module 1 begins with various installation methods, including using package managers on Linux distributions like Red Hat and Debian, installing on Windows, and compiling from source. It provides practical guidance on managing the server lifecycle, choosing the correct version of Apache, and optimizing the installation process. Module 2 through Module 11 delve into adding modules, logging, virtual hosts, security, SSL, dynamic content, error handling, and performance, respectively. By completing Apache training courses like this one, learners will gain hands-on experience with the apache web server course, enabling them to build and manage robust, secure web servers effectively. Through this curriculum, participants will become proficient in Apache administration, which is an essential skill set for IT professionals working with web technologies.

## WHO THIS COURSE IS FOR

The Apache and Secure Web Server Administration course is designed for IT professionals responsible for managing web server environments.

System Administrators

Network Administrators

Technical Support Specialists

Web Developers

IT Security Specialists

DevOps Engineers

Infrastructure Architects

Site Reliability Engineers (SREs)

IT Managers overseeing web server operations

Professionals looking to enhance their web server management skills

Technical Consultants providing web server solutions

Cloud Engineers managing web server deployments on cloud platforms

## What You Will Learn

- Install Apache using package managers or compiled source
- Configure virtual hosts for name-based and address-based setups
- Apply aliases, redirects and rewrite rules to URLs
- Configure logging for access, errors and virtual hosts
- Implement authentication and password management for security
- Configure SSL using the mod\_ssl module
- Enable dynamic content through CGI scripts
- Tune Apache performance and memory requirements

## COURSE SYLLABUS

## 11 Modules, 46 Topics

01

5 Labs

### Installation

## TOPICS

- Web Servers and Their Components
- Apache Web Server and Architecture
- Apache Core and Its Modules
- Concurrency in Apache
- Starting, Stopping, and Restarting Apache
- Choosing the Right Apache Version
- Starting Apache at Boot
- Apache Configuration File
- Upgrading Using config.nice
- Locating Apache Files

02

5 Labs

### Adding Common Modules

## TOPICS

Generic Third-Party Modules · Finding Modules Using Modules.Apache.Org · Apache mod\_security Module

03

6 Labs

### Logging

## TOPICS

Enhancing Log Detail · Improving Error Logging · Logging POST Contents · Logging a Proxy Client's IP Address · Logging Client MAC Addresses · Logging Cookies · Logging Hostnames Instead of IP Addresses

04

8 Labs

### Virtual Hosts

## TOPICS

Setting Up Name-Based Virtual Hosts · Mass Virtual Hosting Using Rewrite Rules · Splitting Up a Log File · Defining Virtual Hosts in a Database

05

3 Labs

### Aliases, Redirecting, and Rewriting

## TOPICS

Creating a New URL for Existing Content · Redirecting to Another Location

**06****Lab**

## Security

### TOPICS

- Using System Account Information for Web Authentication
- Setting Up Single-Use Passwords
- Expiring Passwords
- Managing .htpasswd Files
- Creating Password Files for Digest Authentication
- Relaxing Security in a Subdirectory

**07****2 Labs**

## SSL

### TOPICS

SSL and Its Components · Apache mod\_ssl Module · Generating a Trusted CA · Authenticating with Client Certificates

**08****2 Labs**

## Dynamic Content

### TOPICS

- Dynamic Content in Apache
- CGI Scripts
- Enabling CGI Scripts in Non-Script Aliased Directories
- Testing CGI Setup
- Invoking a CGI Program for Specific Content Types

**09****3 Labs**

## Error Handling

### TOPICS

- Error Handling in Apache
- Providing Error Documents in Multiple Languages

**10****3 Labs**

## Proxies

### TOPICS

Proxying in Apache

**11****4 Labs**

## Performance

### TOPICS

Determining Memory Requirements · Optimizing Symbolic Links

# Practise What You Learn

| #  | MODULE                              | ACTIVITY                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 | Installation                        | <ul style="list-style-type: none"> <li>■ Installing Apache</li> <li>■ Apache Tarball-Based Installation</li> <li>■ Apache Installation from Debian Packages</li> <li>■ Apache on Windows</li> <li>■ Uninstalling Apache</li> </ul>                                                                                                                                                                                                          |
| 02 | Adding Common Modules               | <ul style="list-style-type: none"> <li>■ Installing mod_dav on a Unix System</li> <li>■ Installing mod_perl on a Unix System</li> <li>■ Installing mod_php on a Unix System</li> <li>■ Installing mod_ssl</li> <li>■ Installing mod_security</li> </ul>                                                                                                                                                                                     |
| 03 | Logging                             | <ul style="list-style-type: none"> <li>■ Configuring Access Logs</li> <li>■ Configuring Error Logs</li> <li>■ POST Request Logging</li> <li>■ Excluding Image Requests from Logs</li> <li>■ Rotating Log Files at a Specific Time</li> <li>■ Rotating Logs on the First of the Month</li> </ul>                                                                                                                                             |
| 04 | Virtual Hosts                       | <ul style="list-style-type: none"> <li>■ Name-Based Virtual Hosts</li> <li>■ Setting a Default Name-Based Virtual Host</li> <li>■ Setting Up Address-Based Virtual Hosts</li> <li>■ Creating a Default Address-Based Virtual Host</li> <li>■ Mass Virtual Hosting with mod_vhost_alias</li> <li>■ Logging for Each Virtual Host</li> <li>■ Port-Based Virtual Hosts</li> <li>■ Displaying the Same Content on Multiple Addresses</li> </ul> |
| 05 | Aliases, Redirecting, and Rewriting | <ul style="list-style-type: none"> <li>■ Mapping a URL to a Directory</li> <li>■ Using the Redirect Directive</li> <li>■ Using the RedirectMatch Directive</li> </ul>                                                                                                                                                                                                                                                                       |
| 06 | Security                            | Setting Up Basic HTTP Authentication in Apache                                                                                                                                                                                                                                                                                                                                                                                              |
| 07 | SSL                                 | <ul style="list-style-type: none"> <li>■ Installing SSL Using mod_ssl</li> <li>■ Generating Self-Signed SSL Certificates</li> </ul>                                                                                                                                                                                                                                                                                                         |
| 08 | Dynamic Content                     | <ul style="list-style-type: none"> <li>■ Using CGI Scripts</li> <li>■ Enabling CGI Scripts in Apache Configuration</li> </ul>                                                                                                                                                                                                                                                                                                               |
| 09 | Error Handling                      | <ul style="list-style-type: none"> <li>■ Handling a Missing Host Field</li> <li>■ Customizing Error Messages</li> <li>■ Redirecting Invalid URLs to Another Page</li> </ul>                                                                                                                                                                                                                                                                 |

| #  | MODULE      | ACTIVITY                                                                                                                                                                                                  |
|----|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 | Proxies     | <ul style="list-style-type: none"> <li>■ Creating a Proxy Server in Apache</li> <li>■ Securing Your Proxy Server</li> <li>■ Preventing Your Proxy Server from Being Used as an Open Mail Relay</li> </ul> |
| 11 | Performance | <ul style="list-style-type: none"> <li>■ Benchmarking Apache with ab</li> <li>■ Tuning Keep-Alive Settings</li> <li>■ Monitoring Site Activity</li> <li>■ Avoiding DNS Lookups</li> </ul>                 |

#### WHAT IS INCLUDED

## Everything You Need to Succeed

- Koenig course material for every module
- Hands-on exercises throughout the course
- Delivery by certified instructors and subject matter experts
- Course completion certificate from Koenig

#### ABOUT KOENIG

## Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

#### FLEXIBLE DELIVERY

## Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

## Ready to Get Started?

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