

**Introduction to Apache httpd**

**Course Number:** SRV-120  
**Duration:** 2 days

**Overview**

Apache httpd is the world's leading Web server software. In this course, attendees learn how to set up, configure, administer, and secure Apache httpd 2.4 or later.

**Prerequisites**

All attendees should be familiar with general principles of Web server administration.

**Materials**

All Apache httpd training students receive courseware covering the topics in the class.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computers for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will work well.

**Objectives**

* Learn how to build, configure, monitor, and tune Apache httpd 2.4 or later
* Master deploying Web sites and server-side applications to Apache httpd
* Discover how to secure applications running on Apache httpd

**Outline**

* Introduction
* Downloading and installing Apache server
  + Building Apache httpd from source (optional)
    - Why build from source?
    - Downloading the source
    - Choosing an MPM
    - Setting configuration options
    - Selecting modules to enable/disable
  + Installing Apache httpd from a package (the package environment used would be set based on your platform)
* Starting, Stopping, and Restarting Apache HTTP
* Configuration with httpd.conf
  + Directives, containers, and comments
  + Container scopes
  + Options
  + Determining which module is supplying the given directive
  + Determining where a directive is valid
* Setting up virtual hosts
  + IP-based
  + Name-based
  + Port-based
  + Running several Apache daemons simultaneously
* Handling service of MIME and file types
* mod\_alias
  + Alias and AliasMatch
  + Redirect and RedirectMatch
    - Understanding various redirect http status codes
  + ScriptAlias and ScriptAliasMatch
* Directory indexing
  + Controlling IndexOptions
  + Excluding files from indexing
  + Security issues
* mod\_rewrite
  + Regular expressions primer (if needed)
  + Why rewrite URLs?
  + Turning on the rewrite engine
  + Configuring mod\_rewrite logging
  + RewriteRule and RewriteCond
  + Common URL rewriting tasks
    - Redirecting http requests to https
    - Mapping URL pieces to query string parameters
    - Filtering requests by IP
    - Other common rewriting tasks
* Performance tuning and load testing
  + Monitoring Apache httpd with mod\_status
  + Building Apache with just the modules you need
  + Understanding Apache MPM (multiprocessor modules)
  + Tuning your specific MPM
  + Load testing with ab
  + Load testing with JMeter
  + Caching and proxying
  + Other performance enhancement strategies
* Logging and Troubleshooting
  + Error logging and interpreting the error logs
  + Access logs and interpreting your access logs
  + Log rotation
  + Apache httpd troubleshooting for crashes, freezes, errors, and other situations
  + Apache httpd tracing
* Handlers and filters
* Managing applications on Apache (only the application platforms applicable to your environment would be taught)
  + PHP
  + Java (running on Apache Tomcat or another application server behind Apache httpd)
  + Others upon request
* Basics of Apache security
  + Items to consider when creating a strategy
  + Understanding file permissions
  + Limiting modules and extensions
  + .htaccess settings
* Fundamentals of authentication and authorization
  + Basic authentication
  + Digest authentication
  + Authentication modules
  + Access control
* SSL with mod\_ssl
  + Building Apache httpd with SSL support
  + Generating a certificate signing request
  + Protecting your server's private key
  + Installing a certificate
  + Generating a self-signed certificate for testing purposes
  + Requiring SSL for specific URLs
* Other topics upon request
* Conclusion