

**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