Apache Web Server Training Course

Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: INTRODUCTION TO THE APACHE WEB SERVER & TOMCAT

- APACHE Architecture
- Client Side
- Server Side
- Installing the Java Runtime Environment (JRE)
- Performing the actual Tomcat installation

Session 2: INSTALLING APACHE WEB SERVER & TOMCAT

- APACHE Binaries
- Directories and Permissions
- Modules

Session 3: Installation of TOMCAT

- Installation of JAVA
- Installation of TOMCAT
- Setting Java_Home
- Examining the Tomcat installation directories
    - bin
    - conf
    - common (Tomcat 5.5 and earlier)
    - lib (Tomcat 6 and later)
    - logs
    - server (Tomcat 5.5 and earlier)
    - shared (Tomcat 5.5 and earlier)
    - temp
    - webapps
    - work

Session 4: STARTING APACHE WEB SERVER & TOMCAT

- Starting Web Server
- Starting of Tomcat
- Verifying the statup

Session 5: CONFIGURING APACHE WEB SERVER & TOMCAT

- httpd.conf File
- Security
- Document Root
- Basic Server Directives
- server.xml
- web.xml
- context.xml

Session 6: SECURITY CONFIGURATION

- Passwords
- Authentication
- Allow - Deny (Effect of Order)
- File system security
- Java security manager
- Realms, authentication, and authorization

Course Contents - DAY 2

Session 7: MULTIPLE SITES

- Virtual Hosting
- Name Based Virtual Hosting
- IP-Based Virtual Hosting
- Port-Based Virtual Hosting

Session 10: VALVES

- AccessLog and FastCommonAccessLog
- RequestFilterValve
- SingleSignOnValve (by request)
- RequestDumperValve (by request)

Session 10: Deployment

- Understanding Deployment
- Deploying the application

Session 10: LOGGING

- Standard Logging
- Customised Logging
- Tracking Site Usage
- JULI logging
- log4j logging

Session 12: Memory Parameters

- Understanding Java garbage collection
- Using JAVA_OPTS, JMX and JConsole to monitor and tune Tomcat memory usage
- Sizing Tomcat's JVM memory heap

Session 13: URL REWRITING

- Managing the lifecycle of content of the web server
- Rewrite moved or named URLS
- Provide access to pages based on the time of day

Course Contents - DAY 3

Session 13: Performance tuning strategies

- Additional JVM tuning tips
- Enabling parallel garbage collection
- Building native connectors
- Disabling/removing unneeded applications
- Tuning incoming connections and database connection pools
- Precompiling JSPs
- Preloading servlets

Session 14: Heap & Thread

- What is HEAP?
- What is THREAD?
- How to collect HEAP?
- How to collect THREAD?
- How to Analyse HEAP?
- How to Analyse THREAD?

Session 15: SSL

- Understanding Encryption mechanisms
- Configuring SSL and HTTPS access to Apache Web Server
- Configuring SSL and HTTPS access to Apache TOMCAT
- Testing secure web access using authentication over SSL

Session 16: LOAD BALANCING

- Effective Web Farm management
- Load Balancing with Apache
- Installing mod_jk (Apache httpd or IS) or mod_proxy_ajp and mod_proxy_balancer (Apache httpd 2.2 or later only)
- Configuring mod_jk (in Apache or IIS) or mod_proxy_balancer (Apache 2.2 or later only) as a load balancer
- Hardware load balancing as an alternative to software load balancing
- Sticky sessions
- Configuring a shared session back-end
- FileStore/JDBCStore (older approach, generally not recommended)
  - Using the <Cluster> tag