Tomcat v7 Administration

Course Summary

Description
Tomcat is the leading open source enterprise java web container with support for the Servlet and JSP specifications. This course provides a solid introduction to tomcat administration, covering all the key skills that administrators need to know to put tomcat into production. The course includes numerous exercises where students are able to apply what they learn. By the end of the course students will be able to administer tomcat in a production environment.

Topics

- Tomcat Overview
- Tomcat Files and Directories
- Tomcat Administration Scripts
- Understanding JEE Web Applications
- Tomcat server.xml configuration file
- Tomcat connectors
- Configuring SSL
- Connecting to Databases
- Configuring Access Logs
- Administration Applications
- Session Manager
- Securing Tomcat
- Integrating Tomcat and Apache HTTPD using mod_jk
- Load Balancing with mod_jk
- Monitoring Tomcat using JMX

Audience

This course is designed for developers or administrators that want to learn how to administer Tomcat v7.

Prerequisites

There are no prerequisites required for this course.

Duration

Three days

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Course Outline

I. Tomcat Overview
- A. Tomcat overview
- B. Enterprise Java overview
- C. Tomcat and Enterprise Java
- D. Running Tomcat

II. Tomcat Files and Directories
- A. Tomcat directory structure
- B. Classifying tomcat directories
- C. Tomcat environment variables
- D. Running multiple instances of tomcat using a single set of binaries

III. Tomcat Administration Scripts
- A. Administration scripts architecture
- B. Administration script details
- C. Using the administration scripts

IV. Web Applications
- A. Web applications overview
- B. WAR file structure
- C. Servlets overview
- D. JSP overview
- E. web.xml
- F. Deploying applications
- G. Packaging and deploying a WAR

V. Tomcat server.xml Configuration File
- A. Tomcat architecture
- B. Tomcat request processing pipeline
- C. Server.xml
- D. Server Element
- E. Listener Element
- F. GlobalNamingResource Element
- G. Service Element
- H. Engine Element
- I. Host Element
- J. Administering server.xml

VI. Tomcat Connectors
- A. Connectors overview
- B. Blocking vs. non blocking IO
- C. Java vs. native libraries
- D. Choosing a connector implementation
- E. APR connectors
- F. Common connector attributes
- G. Default http connector settings
- H. Common scenarios
- I. Executors
- J. Administering Connectors

VII. Tomcat and SSL
- A. SSL Overview
- B. SSL and Tomcat
- C. Java SSL support
- D. Configuring SSL connectors

VIII. Connecting to Databases
- A. Connection Pools
- B. Configuring a JDBC connection
- C. Administering database connections

IX. Access Logs
- A. Access Log Valve
- B. Configuring log files names
- C. Configuring log file rotation
- D. Configuring log file content
- E. Configuring log file format
- F. Configuring access logs

X. Administration Applications
- A. Tomcat Manager
- B. Tomcat Ant tasks
- C. JMX Proxy Servlet

XI. Tomcat Session Manager
- A. Cookie based sessions
- B. URL Rewriting sessions
- C. Session Hijacking
- D. SSL based sessions
- E. Tomcat session managers
- F. Tomcat standard session manager
- G. Tomcat persistent session manager
- H. Clustering session managers
- I. Administering Tomcat session managers

XII. Securing Tomcat
- A. Tomcat Security Overview
- B. Securing tomcat files
- C. Securing tomcat process

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Course Outline (cont'd)

D. Access Filter Valve
E. Java security manager
F. Tomcat security realms

XIII. Integrating Tomcat & Apache HTTPD

A. Integration architecture
B. Mod_jk overview
C. Installing and configuring mod_jk
D. Load balancing with mod_jk
E. Sticky session routing

XIV. Tomcat Monitoring with JMX

A. JMX Architecture
B. Tomcat MBeans
C. Monitoring Tomcat with JConsole

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