

TMC-108: Tomcat 8.x Administration

Course Length: 2 days

Course Description: Apache Tomcat is the most popular platform for deploying Java-based™ Web applications. In this two-day course, attendees learn how to administer the Tomcat server, deploy applications on the server, ensure the server's security, troubleshoot problems, and cluster Tomcat to ensure high availability.

Prerequisites: All attendees should be familiar with general principles of Web server administration and have some experience building Web applications. Prior experience with Java as an application server administrator or developer is helpful but not required.

Course Outline

Tomcat Overview

- Internal architecture of Tomcat
- Feature sets by versions 5.5 - 7.0
- Directory structure overview

Basic configuration

- **server.xml file sections**
 - Server/Service/Engine/Host/Context
 - Valve/Realm/Resource (overview)
 - Manager/Cluster (overview)
- **web.xml**
 - MIME types
 - welcome/error pages
- **Standalone config: Apache + Tomcat**

Deployments on Tomcat

- **Class-loading in Tomcat**
- **J2EE webapp overview**
 - Directory structure
 - Deployment descriptors
 - Deployment types (hot/cold, (un)exploded)
- **JNDI resources**
 - Resource definition/mapping
- **Virtual hosting configurations**

- **Using predefined Valves**

Tomcat security

- **OS level security**
- **AAA overview**
 - HTTP basic/digest
- **Configuring realms**
 - Database/JNDI/UserDatabase/JAAS
- **Application security**
 - web.xml AA related elements
 - security-constraint
 - login-config

Advanced configuration

- **HA config: Apache + Tomcat**
 - Using mod_jk
 - Using mod_proxy_balancer/mod_proxy_ajp
 - Using mod_cluster
- **Tomcat cluster**
 - HTTP session replication

Monitoring and tuning

- **Logging in Tomcat**
 - log4j
 - GC logs
- **JVM Monitoring**
 - About garbage collection
 - Basics of JVM tuning
 - jconsole/ jvisualvm
 - jps/jstat/jstack
- **Tomcat JMX MBeans**