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Tomcat Admin Basics Training

3 days (21 hours)

Overview

Apache Tomcat is an open source application server from the Apache Foundation. It runs Java web applications (Servlets, JSP) with an approach renowned for its lightness, speed and stability.

Our Tomcat Admin Basics course will enable you to master the installation, configuration and administration of a Tomcat server in a production environment.

You'll learn how to deploy Java applications, manage resources, secure the server and optimize performance.

You'll be able to configure connectors, set up a secure environment (HTTPS, role and user management), ensure supervision via logs and JMX, and carry out updates while minimizing service interruptions.

Like all our training courses, this one is based on the latest stable version v11.0.10 of Apache Tomcat.

Objectives

- Understand the architecture and operation of Apache Tomcat
- Install and configure a multi-OS Tomcat server
- Deploy and administer Java applications
- Set up HTTPS, roles and access restrictions
- Optimize performance and monitor the server
- Ensure maintenance and updates

Target audience

- System administrators
- DevOps
- Java developers
- Java environment technical managers

Prerequisites

- Basic knowledge of Java and system administration
- Notions of web applications and application servers

Our Tomcat Admin Basics training program

Introduction to Apache Tomcat and its ecosystem

- Understanding the role of Apache Tomcat in the Java EE / Jakarta EE architecture
- Differences between application server and web server
- Versions, lifecycle and roadmap
- Licensing and the open source community
- Basic installation (Windows, Linux)
- Workshop: Installing a Tomcat server on a local environment

Structure and initial configuration

- Organization of directories and key files
- Configuring ports, protocols and connectors
- Managing server.xml and web.xml files
- Environment variables and system paths
- Best practices for initial configuration
- Workshop: Basic configuration and port customization

Deploying web applications

- WAR formats and exploded directories
- Deployment methods: console, scripts, copy
- Context and path configuration
- Shared resources : JDBC, JNDI, libraries
- Auto deployment and reload options
- Workshop: Deploying and testing a Java application on Tomcat

Administration and management via web interface

- Introduction to Tomcat Manager
- Authentication and user roles
- Application monitoring and management
- Redeployment, start/stop, deletion

- Console limitations and security
- Workshop: Complete administration via Tomcat Manager

Tomcat security and hardening

- Best practices (rights, services, banners)
- HTTPS configuration and SSL/TLS certificates
- Admin console protection
- Realm management (JAAS, MemoryRealm)
- Prevention of common vulnerabilities
- Workshop: Setting up HTTPS on a Tomcat server

Performance monitoring and optimization

- Log setup and rotation (JULI, log4j)
- Monitoring with JMX and external tools
- Memory management and JVM tuning
- Response time analysis
- Bottleneck resolution
- Workshop: Optimizing performance on a test server

Advanced resource management

- JDBC datasource configuration
- Setting up connection pools
- Using JNDI environments
- Session management and replication
- Integration with Apache HTTP Server / Nginx
- Workshop: Setting up a JDBC datasource

Maintenance and updates

- Update and migration strategies
- Configuration backup and restore
- Security patch management
- Application compatibility and testing
- Rollback procedures
- Workshop: Updating an instance without interruption

Best practices and enterprise use cases

- Multi-environment management DEV / QA / PROD
- Automation with scripts and CI/CD
- Containerization: Docker & Kubernetes orchestration
- Frequent errors and remedies
- Essential resources & documentation

- workshop: Automating Tomcat deployment with scripts

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced IT technology, or to acquire specific business knowledge or modern methods.

Positioning at training start

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical training: 60% hands-on, 40% theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Certification

A certificate will be awarded to each trainee who has completed the entire course.