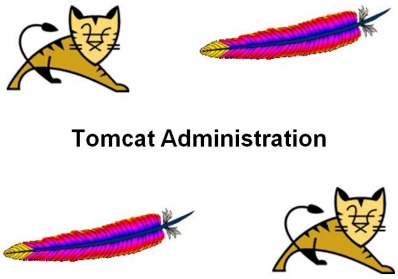
Tomcat Administration

Duration: 3 days **Price: € 1999**

Open Schedule



Audience Tomcat Administration Course

The course Tomcat Administration is intended for System Administrators and Web Developers who need to administer and control the Tomcat Server and who need to deploy applications onto it.

Prerequisites Course Tomcat Administration

Participants should be familiar basic computing skills like browsing the Web and accessing the directory structure. Knowledge of Web Applications and other Web Servers is beneficial.

Realization Training Tomcat Administration

The theory is covered using presentation slides. The concepts are further explained using demos. The theory is alternated with exercises.

Certificate Tomcat Administration

Attendants receive a certificate of participation in Tomcat Administration after successful completion of the course.

Content Course Tomcat Administration

In the course Tomcat Administration, participants learn to manage and control the Apache Tomcat web server. Tomcat is an open source web server that is available on Windows, Linux and Mac systems. Tomcat is used to host Java-based web applications and web services.

Tomcat Intro

The course Tomcat Administration starts with discussing the different installation options. Next it is shown how Java web applications using servlets and JSP's can be deployed on the server. The web application structure and configuration options with the deployment descriptor are also covered.

Tomcat Architecture

Participants will become familiar with the internal architecture of the server, with JMX (Java Management Extensions) and the use of JMX to manage and monitor the server.

Virtual Hosting

Attention is also payed to the setup of virtual hosting and the different ways to secure web applications using authentication and SSL.

Load Balancing

It is further discussed how to integrate with the Apache Web Server which may serve the static pages or which may have the role of load balancer. The way Tomcat can be configured to enable Web applications to connect to databases is also a course subject.

Clustering

Finally it is discussed how to configure a cluster to ensure the failover in cases of server crashes and to enable the scalability of applications.

JMeter

The JMeter tool will be used to test the performance of Web applications.

Modules Course Tomcat Administration

Module 1 : Tomcat Introduction	Module 2 : Java Web Applications	Module 3 : Tomcat Architecture
What is Tomcat?	Servlets and JSP's	Structure server.xml
What is the ASF?	Servlet Characteristics	The Server
Apache Name and Market Share	JSP Translation Time	The Service
Java Overview	JSP Request Time	Connectors
Java EE Servers	Form Submissions	Deployment Scenario's
Tomcat and JDK versions	POST and GET Data	The Engine
Servlet and JSP versions	Sessions	The Host
Tomcat Binary Distributions	Web Application Structure	The Context
Zip versus Exe Installation	WAR Files	Resources
Tomcat Directories	Deployment Descriptor	The Realm
Server Configuration Files	Defining Custom URL's	The Valves
Other Configuration Files	Preloading pages	Lifecycle Listeners
Webapps directory	Error pages	Apache Portable Runtime
Module 4 : Class Loading	**Module 5 : Tomcat and JMX**	**Module 6 : Virtual Hosting**
Class Loading Process	What is JMX?	Virtual Hosting
Class Loaders in JVM	JMX API	Name-based Virtual Hosts
Delegation Model	JMX Goal	Virtual Host Configuration
Custom Class Loaders	Where is JMX used?	Engine with Virtual Hosts
Class Loader Behavior	Managed Beans	Directory Structure Virtual Hosts
Class Loader Namespace	Standard Mbeans	Virtual Host Element
Custom Class Loaders	MBean Server	Host File Name-based Hosting
Tomcat Class Loaders	Naming MBeans	IP-based Virtual Hosts
System Class Loader	JMX Architecture	Multiple IP addresses per NIC
Common Class Loader	JVM Instrumentation MBeans	Separate JVM for Each Host
Web Application Class Loader	Accessing the JMX Agent	Server Configuration more JVM's
Class Loader Order	JMX in Tomcat	Host Configuration more JVM's
Module 7 : Connecting to Databases	**Module 8 : Tomcat Security**	**Module 9 : Logging**
Java Database Connectivity	Verifying Download Integrity	Logging in Java
JDBC Overall Architecture	Remove Default Applications	Java Util Logging
JDBC Executing a Statement	Change SHUTDOWN command	Levels and Log Methods
ClassNotFoundException	Special Tomcat Account	Tomcat Logging
Evolving JDBC versions	Securing JVM	Logging Configuration
JDBC Driver Types	Securing Web Applications	log4j Configuration
Tomcat and JDBC	HTTP Authentication	Loggers
JNDI Emulation and Pooling	Declarative security	Logger Output Hierarchy
Configuring JNDI Resources	Programmatic security	Inheriting Logging Levels
Context.xml in META-INF	Form-based Authentication	Logger Names
JDBC in Web Applications	Combined Security Mechanisms	Appenders and Layouts
Connection Pooling	SSL Characteristics	Log Analyzer Tools
Preventing Connection Leaks	SSL Handshakes	Commons Logging
Module 10 : Stack Tracing	**Module 11 : Tomcat and Apache**	**Module 12 : Clustering**
Exception Handling	Communication with Apache	Clustering Types
try, catch and finally	Advantages Using Web Server	Horizontal and Vertical Clustering
Exception information	Apache Directory Structure	Sticky Sessions
Generated Stack Trace	Configuring AJP	Load Balancing Configuration
NullPointerExceptions	Configuring mod_jk Connector	Property File Load Balancing
ClassCastExceptions	Install mod_jk	Session Sharing Backends
NumberFormat Exceptions	Create mod_jk.conf File	In-Memory Session Replication
Multiple catch clauses	Create a Worker	SimplecpCluster Configuration
User Defined Exceptions	Configure httpd.conf	Delta and BackupManager
Chained Exceptions	Proxying traffic to Tomcat	Persistent Session on File System
Reading Stack Traces	Using mod_proxy	Persistent Session in Database

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