KOENIG
step forward

Tomcat - Basic to Expert + DOCKER

Duration: 4 days (8hrs/day)

Prerequisites: Basic Knowledge of networking and Java

Course Objective: This course aims to empower participants with a thorough understanding of Tomcat from basic to advance and tomcat with Docker.

Tomcat Version: Latest

Lab Requirement: Windows/linux machine with internet connection

Module 1 – Introduction to Tomcat and Installation

What is tomcat?
Tomcat Architecture
Lab: Download and install tomcat
Understanding Folder Structures in Tomcat
Tomcat Configuration File Arch
Understanding Server Configuration file
Users & Roles Arch

Module 2 – Configuration of Tomcat & Apache HTTP Server

Lab: Accessing Default Applications
Lab: Setting Up Users & Roles
What is Deployment Architecture?
Lab: Auto Deployment in Tomcat
Lab: Deployment from Web Console
Lab: Disabling Auto Deployment
Apache HTTP Server Introduction Arch
Lab: Apache HTTP Server Installation & Overview

Module 3 –Tomcat SSL Configuration + Apache HTTP SSL Configuration

SSL Introduction
SSL Trust & Key Store
Lab: Tomcat SSL Configuration

Module 4: Virtual Host and HA Clustering

Introduction to Virtual Host
Lab: Configuring Virtual Host
Type of Cluster Arch
LB Algorithms Arch
Lab: Setting Up Multiple Tomcat Instance

Module 5: Load Balancing

Lab: Load Balancing Tomcat using NGINX
Lab: Setting up Apache and Mod_Jk Connector
Lab: Distributing Traffic with Apache Load Balance

Module 6: Session Management and Connection Pooling

Sticky Sessions Introduction
Lab: Configuring Sticky Sessions on NGINX and Apache LB
Session Replication Introduction
Lab: Configuring Session Replication
Understanding JNDI
Understanding Connection Pooling
Lab: Creating JNDI and JDBC Connection Pooling

Module 7: Understanding Tomcat Heap and Garbage Collection

Basic Understanding on Memory
Understanding Heap Generations
Understanding Out Of Memory Exception
Heap Values Explained
Lab: Memory Optimization – Heap and Metaspace

Module 8: Custom Error Page and Tomcat Logging

Lab: Configuring Custom Error Page
Lab: Configuring Tomcat Logging

Module 9 – Performance Tuning and Optimization

Performance Tuning Overview
Lab: Setting Up Monitoring
Connectors and Executor Thread Optimization
Enable HTTP Response Compression

Module 10 – Tomcat With Docker

Introduction to Containers
Introduction to Docker
Lab: Downloading and Installing Docker
Docker Essential Commands
Understanding Docker Images
Lab: Hosting Tomcat on Container with Custom WAR file