

# 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