Introduction to Spring Boot – Hands-on Workshop

Workshop Overview

Objective: This workshop is designed as an introduction to Spring Boot, a powerful framework for building Java-based web applications. By the end of the session, participants will have hands-on experience in creating a simple web application from scratch. The workshop will cover key concepts such as setting up a Spring Boot project, developing RESTful endpoints, and running the application locally.

Duration: 30 minutes (presentation) + 60 minutes (hands-on labs)

Target Audience: This workshop is aimed at:

- Java developers with little to no experience in Spring Boot.
- Professionals interested in learning web application development using Java.
- Developers familiar with basic Java concepts who want to explore the Spring ecosystem.
- Participants are looking for a quick and practical introduction to creating web applications with minimal configuration.

Outcome: By the end of this workshop, attendees will:

- Understand the fundamentals of Spring Boot and its advantages.
- Be able to set up a new Spring Boot project.
- Develop a simple RESTful web application.
- Deploy and run the application on a local environment.

Pre-Requisites

Environment:

- **Operating System:** Windows, macOS, or Linux
- **Java Development Kit (JDK):** Version 17 or higher
- **IDE:** IntelliJ IDEA, Eclipse, or Visual Studio Code (with Java extensions)
- **Maven:** Pre-installed on the system (if not using an IDE with built-in support)

Software to Install:

- Java JDK
- An IDE (e.g., IntelliJ IDEA, Eclipse)

- Git (optional, for version control)
- Postman (optional, for testing REST APIs)
- Docker or Podman

Accounts:

- GitHub account (optional, for version control and repository management)

Preparation:

- Ensure all installations are working and verify the PATH for Java and Maven.

Lab Instructions

Lab 1 – Setting up spring boot project

Instructions for Lab 1 are here.

Lab 2 – Setting Up a Simple MVC Front End Using Thymeleaf

Instructions for Lab 2 are here.

Lab 3 – Creating REST endpoints

Instructions for Lab 3 are here.

Lab 4 – Integrating with database

Instructions for Lab 4 are here.

Lab 5 – Testing and debugging

Instructions for Lab 5 are here.

Lab 6 – Adding metrics monitoring

Instructions for Lab 6 are here.

Lab 7 – Packaging and deploying

Instructions for Lab 7 are here.