Spring Boot, Micro Services Course Overview

Attend Spring Boot Training by Expert. Spring Boot is a powerful framework, used to build web applications quickly with less code. The Course will cover how to use Spring Boot to build the various projects with knowledge.

Pre-Requisites of the course

- Java programming language
- Web Development Experience HTML5, CSS3 and JavaScript

Spring Boot, Micro Services Training Contnet

Introduction to spring boot

- Types of software architectures
- SOA and Monolith Architecture
- Why Microservices
- Detailed MicroService Architecture
  – App Layer
  – Business Layer
- Enteprise Layer
  – Infra Layer
- Need of Spring Boot
- Difference between Spring & Spring Boot
- Advantages with Micro Services

Building Spring Boot Application

- Normal Spring Manual Approach
- Maven Overview
- Spring Initializer
- STS
- Eclipse with STS Plugin
- Understanding the Spring Boot auto configuration

Rest Annotation with In Memory Database & CRUD Operations

- H2
- Derby
- HSQL
- Redis Cache
- PostMan or Swagger Overview

Rest Annotation with Relation DB

- MySql
- PostGresSQL

JPA Repository Concepts

- Crud Repository
- JPA Query Concepts
- NamedQueries
- QueryAnnotation
- AsyncResults
- Pagination and Sorting

Actuator Concepts

- Production Monitoring
- Health Check Concepts
- Security Measurements

Spring Boot Custom Logging

- Logging Level
- Patterns Changes
- Rolling Logs

Spring Boot Profile Components

- Introduction
- Multiple Properties
- YML File
- Command Line Runner Example
- Real time scenarios of components

Auto Configuration

- Introduction
- @Conditional Flow
- Customize conditional annotations
- Spring Boot built in conditional annotations

Thymleaf Concepts

- Introduction
- Example on Web Application
- Validatins on Web Applications
- Internalization i18n Concepts

Integration with Spring Web

- Using **Spring Web MVC**
- Using **Spring Restful**
- Need of embedded servers & customization

Spring Boot Security

- Basics
- Basic Authentication
- Form Based Authentication
- Authorization
- Role Based Access Control
- Attribute Based Access Control
- LDAP Based
- SSL Security
- TLS Security

Database Concepts

- Spring JDBC
- Database to CSV
- Spring Batch
- Flyway Database Migration
- Liquid Database Migration
- Flyway vs Liquid
- Hikari Connection Pool

Core Concepts

- Spring Boot AOP
- Spring Boot Cache
- Guava Cache integration
- Caffenine Cache
- EH Cache
- MultiResourceItemReader
- Spring MVC vs JAX-RS
- SprinBoot with Jersey
- Junit Integration
- Rest Integration Test Cases

Micro Services

- Micro Services Introduction
- Principle and Characteristics
- Use cases and Benefits
- Challenges
- Design standards
- Micro Services Communication
  – Synchronous
  – Asynchronous
- Pitfalls

Micro Services Design Considerations

- Micro Services per JVM?
- Micro Services share the data stores?
- Micro Services Transaction boundaries
- User Interfaces integration with Micro Services

- Challenges in Micro Services implementation

Spring Cloud

- Introduction
- Cloud Architecture
- Cloud application benefits

Spring Cloud Config

- Introduction
- Setup version control repository
- Integration with repository

Netflix

- Introduction
- Eureka Server & Eureka Client
- Feign Client
- Ribbon

Fault Tolerance Concepts

- Circuit Breaker Pattern
- Hystrics Concepts, Hystrix Dashboard

API Gateway

- Introduction to ZUUL
- Design standards
- Integration

Messaging Queue Concepts (CloudBus)

- Apache KAFKA
- RabbitMQ
- JMS

Oatuh2 Concepts

- Client Types
- Protocol End Points
- Grant Types
- Implantation with Token Based
- JWT Tokens

Swagger API

- Introduction
- Integration

Cloud Hosting

- Pivotal Cloud Foundry Account Setup
- Hosting to Pivotal
- AWS Account Setup
- Hosting to AWS
- Enabling cloud features like load balancing, security