

## Spring Core:

(25 hours)

- Introduction to Spring Framework
- Modules of Spring in Spring 1.x,2.x,3.x,4.x and 5.x
- MVC Architecture
- Role of spring framework in MVC Architecture application development
- POJO Class, JavaBean, Component Class, spring bean classes
- Spring Interfaces
  - Bean Factory
  - Application Context
- Introduction to IOC
- Introduction to Spring Container/IOC Container
- Types of Dependency Injections
  - Setter injection
  - Constructor injection
- What is Autowiring?
- Types of Autowiring,
  - byName,
  - byType
- Autowiring advantages and modes
- Spring With Collections
- Reading values from a Properties file
- Expression Language in Spring
- Types of Spring Configurations
  - XML-based configuration
  - Annotation-based configuration
  - Java Based configuration
- Annotations
  - @Autowired
  - @Value
  - @Configuration
  - @Component
  - @Bean
  - @Primary
  - @Scope
  - @Required
- Spring AOP
  - AOP Terms
  - AOP Configurations
  - AOP Types of Advice
- Intro to Maven and dependencies

## Spring MVC

(70 hours)

- MVC Architecture in Spring
- About Dispatcher Servlet
- Types of Handler Mappings
- Types of Controllers
- Types of View Resolver
- Spring MVC Annotations
- JSP introduction
- JSP Tags
- Introduction to Hibernate
- Hibernate Architecture
- Framing Queries with Hibernate
- Hibernate Mappings
- Spring MVC with CRUD operations

## Spring ORM

- Introduction to ORM
- Spring ORM Advantage
- Integrating with Hibernate
- Spring with hibernate

## Spring Boot:

(25 hours)

- What is Spring Boot?
- Developing a Project with Spring Boot Initializer
- Developing a REST API Controller with Spring Boot
- application.properties file
- Spring stereotype annotations
  - @Component,
  - @Service
  - @controller
  - @Repository
- Need for Spring Data
- Spring Data JPA
- Spring Profiles
- Difference b/w Hibernate and Spring Data JPA
- Spring Boot with CRUD Operation
- Spring Boot Dev Tools - Overview
- Spring Boot Actuator – Overview
- Spring Boot Actuator - Accessing Actuator Endpoints