**Spring Boot Syllabus**

**1.Spring boot introduction**

Introduction to Spring Boot Featur

Value Proposition of Spring Boot

Creating a simple Boot application using Spring Initializer website ,

Itroduction to IOC(dependency injection), spring beans and dependecny injection,dependency management using spring boot starter

## 2. Spring Boot: Basics and Configurations

## sb-tomcat deployment

Configuring STS(Spring Tool Suit)for Web Application.

Adding dependencies from Spring Repository.

sb-code structure

Running SB application

Sb runner

sb-application properties

sb-change port

application event and listener

admin features

externalised configaration

property file

typesafe configuration

spring boot annotations

sb starter,starter parent,starter web,starter test,starter

sb service component

sb packaging

sb auto configuration

service component

[Change the default port of an embedded server](https://howtodoinjava.com/spring-boot/change-server-default-port/)

[Changing Context Path](https://howtodoinjava.com/spring-boot/change-application-root-context-path/)

[Disable banner at startup](https://howtodoinjava.com/spring-boot2/disable-logo-banner/)

[Get all loaded beans with Class Type Information](https://howtodoinjava.com/spring-boot/get-loaded-beans-class-type-information/)

[Custom PropertyEditor Configuration Example](https://howtodoinjava.com/spring-boot/custom-property-editor-example/)

[CommandLineRunner interface example](https://howtodoinjava.com/spring-boot/command-line-runner-interface-example/)

[Configure Jetty Server](https://howtodoinjava.com/spring-boot/configure-jetty-server/)

[Embedded Tomcat Configuration](https://howtodoinjava.com/spring-boot2/embedded-tomcat-configuration/)

[Read a file from the resources folder](https://howtodoinjava.com/spring-boot2/read-file-from-resources/)

[Inject Application Arguments in @Bean and @Compoment](https://howtodoinjava.com/spring-boot2/application-arguments/)

[Configuring Properties](https://howtodoinjava.com/spring-boot/properties-with-spring-boot/)

**3.Introduction to Spring Boot MVC and request processing**

webdevelopement,spring application

Configuring Spring MVC with Spring Boot

Spring mvc flow diagram

Spring Boot packaging options, JAR or WAR

Understanding Controller

configaration Controller method signatures

Creating Controller Class.

Using @Controller,@RequestMapping,.

* @ ResponseBody.
* @ RequestBody.
* @ RequestMapping.
* @ GetMapping.,@PostMapping,@PutMapping,@DeleteMapping,@PatchMapping
* @ PathVariable.
* @ RequestParam.
* @ExceptionHandler
* @ResponseStatus
* @ModelAttribute
* @RequstHeader
* @ResponseHeader
* @PostMapping

Creating Views using JSP.

**4.Creating Simple Application Using Sb MVC**

UndertandingModelMap,@RequestParam

How auto-configuration works

● Configuration properties

● Overriding auto-configuration

● Using CommandLineRunner

**5. integration of sb with hibernate,jpa**

Quick introduction to ORM with JPA ,hibernate

Benefits of using Spring with JPA

JPA configuration in Spring boot

Configuring Spring JPA using Spring Boot

Spring Data JPA dynamic repositories

## 6.Spring Boot AOP

**7.Creating Registration and Login using spring boot project**

**8.DatabaseHandeling Using CRUD operations.**

**9.An introduction to the REST architectural style**

Controlling httpresponse code with @ResponseStatus

Implementing REST with Spring MVC,@RequestMapping,@RequestBody,@ResponseBody etc

Using @Controller,@RequestMapping,.

@RestController

@ ResponseBody.

* @ RequestBody.
* @ RequestMapping.
* @ GetMapping.,@PostMapping,@PutMapping,@DeleteMapping,@PatchMapping
* @ PathVariable.
* @ RequestParam.
* @ExceptionHandler
* @ResponseStatus
* @ModelAttribute
* @RequstHeader
* @ResponseHeader
* @PostMapping

Spring mvc HttpMesageConverter and automatic content negotiation

Rest template

**10.spring boot aop**(aspect,pointcut,targetobject,weaving,joinpoint,advice)

**11.** Sb exception handling,service componets ,scheduling,batch service,sb interceptor,internationalization, spring boot webclient,spring boot async apis

**12.eureka server**

**13.Actuators, Metrics, and Health Indicators**

Exposing Spring Boot Actuator endpoints

Custom Metrics

Health Indicators

Creating custom Health Indicators

External monitoring systems

**14.securing web applications**

What problems does Spring Security solve?

Configuring authentication

Implementing authorization by intercepting URLs

Authorization at the Java method level

Understanding the Spring Security filter chain

Spring security testing

[CORS with Spring Boot](https://howtodoinjava.com/spring-boot2/spring-cors-configuration/)

[Spring Boot SSL [https] Example](https://howtodoinjava.com/spring-boot/spring-boot-ssl-https-example/)

[Adding Role-Based Security with Spring Boot REST APIs](https://howtodoinjava.com/spring-boot/role-based-security-jaxrs-annotations/)

[OAuth2 Authorization and Resource Servers](https://howtodoinjava.com/spring-boot2/oauth2-auth-server/)

[Securing Spring Boot REST API with Basic Auth](https://howtodoinjava.com/spring-boot2/security-rest-basic-auth-example/)

**15.testing spring boot application**

Spring Boot testing overview

Integration testing using @SpringBootTest

Web slice testing with MockMvc framework

Slices to test different layers of the application

16.oauth2 with jwt,oauth sign in

17.thymeleaf

18.spring boot advanced topics

zul proxy server and routing

spring cloud config. server,client

spring boot admin server,client

spring boot enabling swagger

* [Spring Boot - Creating Docker Image](https://www.tutorialspoint.com/spring_boot/spring_boot_creating_docker_image.htm)
* [Tracing Micro Service Logs](https://www.tutorialspoint.com/spring_boot/spring_boot_tracing_micro_service_logs.htm)
* [Spring Boot - Flyway Database](https://www.tutorialspoint.com/spring_boot/spring_boot_flyway_database.htm)
* [Spring Boot - Sending Email](https://www.tutorialspoint.com/spring_boot/spring_boot_sending_email.htm)
* [Spring Boot - Hystrix](https://www.tutorialspoint.com/spring_boot/spring_boot_hystrix.htm)
* [Spring Boot - Web Socket](https://www.tutorialspoint.com/spring_boot/spring_boot_web_socket.htm)
* [Spring Boot - Batch Service](https://www.tutorialspoint.com/spring_boot/spring_boot_batch_service.htm)
* [Spring Boot - Apache Kafka](https://www.tutorialspoint.com/spring_boot/spring_boot_apache_kafka.htm)
* [Spring Boot - Twilio](https://www.tutorialspoint.com/spring_boot/spring_boot_twilio.htm)
* [Spring Boot - Unit Test Cases](https://www.tutorialspoint.com/spring_boot/spring_boot_unit_test_cases.htm)
* [Spring Boot Interview Questions](https://howtodoinjava.com/interview-questions/spring-boot-interview-questions/)
* [Spring Boot Ehcache 2 Example](https://howtodoinjava.com/spring-boot/spring-boot-ehcache-example/)
* [Spring Boot SOAP Client – WebServiceTemplate Example](https://howtodoinjava.com/spring-boot/spring-soap-client-webservicetemplate/)
* [Spring boot RSS feed with Rome](https://howtodoinjava.com/spring-boot/spring-boot-rome-rss-and-atom-feed/)
* [Spring Boot SOAP Webservice Example](https://howtodoinjava.com/spring-boot/spring-boot-soap-webservice-example/)
* [Spring Boot JMSTemplate with Embedded ActiveMQ](https://howtodoinjava.com/spring-boot/spring-boot-jmstemplate-activemq/)
* [Spring Boot Send an email with an attachment](https://howtodoinjava.com/spring-boot2/send-email-with-attachment/)
* [Spring Boot JSP View Resolver Example](https://howtodoinjava.com/spring-boot/spring-boot-jsp-view-example/)
* [Gson with Spring boot](https://howtodoinjava.com/spring-boot2/gson-with-spring-boot/)
* [Spring Boot Filter](https://howtodoinjava.com/spring-boot/spring-filter-examples/)
* [Spring Boot Remoting – Spring RMI annotation example](https://howtodoinjava.com/spring-boot2/spring-remoting-rmi-hessian/)
* [Spring Boot and Angular Application](https://howtodoinjava.com/spring-boot/spring-boot-and-angular-application-example/)
* [Spring Boot and GraphQL](https://howtodoinjava.com/spring-boot/spring-boot-graphql-tutorial/)
* [How to Configure MyBatis with Spring Boot](https://howtodoinjava.com/spring-boot/spring-boot-mybatis-tutorial/)
* [Creating a Jasper Report with Spring Boot](https://howtodoinjava.com/spring-boot/spring-boot-jasper-report/)

## 19.  What’s New in Spring Boot 3

* [Spring ProblemDetail and ErrorResponse](https://howtodoinjava.com/spring-mvc/spring-problemdetail-errorresponse/)
* [Spring Declarative HTTP Client using @HttpExchange](https://howtodoinjava.com/spring-webflux/http-declarative-http-client-httpexchange/)
* [@RSocketExchange with Example](https://howtodoinjava.com/spring-boot/rsocketexchange-example/)
* [PartEvent API to Stream Multipart Form Uploads](https://howtodoinjava.com/spring-boot/partevent-api-example/)
* [Spring Boot @ServiceConnection](https://howtodoinjava.com/spring-boot/spring-boot-service-connection-example/)
* [Using Docker Compose with Spring Boot](https://howtodoinjava.com/spring-boot/spring-boot-docker-compose/)

[Spring RestClient (with Examples)](https://howtodoinjava.com/spring/spring-restclient/)

**14.Project Work**