**SPRING BOOT : -**

* Spring Boot is an open source Java-based framework developed by Pivotal Team.
* The main aim of Spring boot is to give you a production-ready application. So, the moment you create a spring-boot project, it is runnable and can be executed on the server.
* It comes with features like autoconfiguration, Auto Dependency Resolution, embedded servers, security, health checks which enhances the productivity of a developer.

**FEATURES OF SPRINGBOOT :-**

* Spring Boot was designed on the top of existed Spring Framework to simplify and speedup the spring based applications.
* Spring Boot reduces application development time.
* Spring Boot will improve Productivity.
* Spring Boot will provide very simple approach to integrate Spring Boot Application with its Spring Ecosystem like Spring JDBC, Spring ORM, Spring Data, Spring Security etc.
* Spring Boot follows “Opinionated Defaults Configuration” approach to reduce Developer effort, that is,Spring Boot avoids writing lots of boilerplate Code,Annotations and XML Configuration.
* Spring Boot provides Embedded HTTP servers like Tomcat, Jetty etc. to develop and test our web applications very easily.

## Why Spring Boot?

Because of the features and benefits it offers as given here −

* In Spring Boot, everything is auto configured; no manual configurations are needed.
* It provides a flexible way to configure Java Beans, XML configurations, and Database Transactions.
* It provides a powerful batch processing and manages REST endpoints.
* It offers annotation-based spring application
* Eases dependency management
* It includes Embedded Servlet Container.

**Mention a few features of Spring Boot.**

Few important features of Spring Boot are as follows:-

1. **Spring CLI** – Spring Boot CLI allows you to Groovy for writing Spring boot application and avoids boilerplate code.
2. **Starter Dependency** – With the help of this feature, Spring Boot aggregates common dependencies together and eventually improves productivity
3. **Auto-Configuration** – The auto-configuration feature of Spring Boot helps in loading the default configurations according to the project you are working on. In this way, you can avoid any unnecessary WAR files.
4. **Spring Initializer** – This is basically a web application, which can create an internal project structure for you. So, you do not have to manually set up the structure of the project, instead, you can use this feature.
5. **Spring Actuator** –  This feature provides help while running Spring Boot applications.
6. **Logging and Security** – The logging and security feature of Spring Boot, ensures that all the applications made using Spring Boot are properly secured without any hassle.

**Advantages of Spring Boot :🡪**

The advantages of Spring Boot are as follows:

* Provides auto-configuration to load a set of default configuration for a quick start of the application
* Creates stand-alone applications with a range of non-functional features that are common to large classes of projects
* It comes with embedded tomcat, servlet containers jetty to avoid the usage of WAR files
* Spring Boot provides an opinionated view to reduce the developer effort and simplify maven configurations
* Provides CLI tool to develop and test applications
* Comes with Spring Boot starters to ensure dependency management and also provides various security metrics
* Consists of a wide range of APIs for monitoring and managing applications in dev and prod.
* Integrates with Spring Ecosystem like Spring JDBC, Spring ORM, Spring Data, Spring Security easily by avoiding boilerplate code.

**Difference between Spring and Spring boot are as follows**:

**Spring –**

1. Is a dependency injection framework.
2. It is basically used to manage the life cycle of java classes (beans). It consists of a lot of boilerplate configuration.
3. Uses XML based configuration.
4. It takes time to have a spring application up and running and it’s mainly because of boilerplate code.

**Spring boot-**

1. It is a suite of pre- configured frameworks and technologies which helps to remove **boilerplate** **configuration**.
2. Uses annotations.
3. It is used to create a production-ready code.

## How does it work?

Spring Boot automatically configures your application based on the dependencies you have added to the project by using **@EnableAutoConfiguration** annotation. For example, if MySQL database is on your classpath, but you have not configured any database connection, then Spring Boot auto-configures an in-memory database.

The entry point of the spring boot application is the class contains **@SpringBootApplication** annotation and the main method.

Spring Boot automatically scans all the components included in the project by using **@ComponentScan** annotation.