# Spring\_BOOT PREP

Features of Spring Boot are below,

* Spring Boot starters
* Auto configuration

Bootstrapping an application

* Spring Initializer

Data Access   
Spring MVC  
Rest API development  
How to make Spring Boot application production ready using "Spring Boot Actuator"  
Unit and Integration testing

Basiclly Spring Boot sits on the top of Spring Framework and makes application development easy.  
Q. What were the problem of Spring framework at time of application development ?  
Ans - Below are the high level of problems of Spring based application,

* XML based configuration of Spring application using schema. This becomes tedoius at times and you starting about whether you are a Java programmer or XML programmer.
* To solve XML problem, annotation was introduced, however it could not eliminate the problem completely.

On the high level what is there in a Spring MVC based application,

* XML configuration file of Spring Application
* Controllers
* Service layer
* Data Access Layer / Repository layer which interacts with Database

Q. What are features of Spring Boot appplication ?  
Ans - Below are the features of spring boot application,

* Automatic configuration is done depending on the library added to the classpath
* Starter dependencies
* Command line interface
* Actuator

One of the fantastic feature is concept of "Starter Dependency". Starter dependency is added /present in our POM file and it acts as a one stop shop for all of dependency for a particular type of application or a module type. Example of such starters are,

* spring-boot-starter-web
* spring-boot-starter-test
* spring-boot-starter-data-jpa
* spring-boot-starter-thymleaf

Actuator :- We can monitor running application with the help of actator. We can manage application using HTTP endpoints or JMX. We can monitor below things using actuator,

* Health status
* Metrics
* Manage Logggers (Like Log Level)
* Audit events
* HTTP trace

Simple steps to generate project with the help of Spring Initializer at website start.spring.io

Example :- Let say we added property "logging.level.org.springframework: DEBUG" to the application.properties file present in the "src/main/resources" folder and then re-start the Spring Boot application. We will see in "console output" something like,

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CONDITIONS EVALUATION REPORT

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Positive matches:

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Q. What is @SpringBootApplication annotation ?  
Ans - @SpringBootApplication annotation is a very important annotation. It is basically a shortcut annotation which applies 3 annotation in one go. It is basically combination of 3 annotations,

* @Configuration
* @EnableAutoConfiguration
* @ComponentScan

Important : Below is very important URL which contains list of properties that can be mentioned in a Spring Boot application,

<https://docs.spring.io/spring-boot/docs/current/reference/html/appendix-application-properties.html#common-application-properties>

Spring Boot Profiles : -

Profiles are fundamentals to spring framework. Typically we have different environments dedicates for an application,

* Development
* Test
* Production

spring.profiles.active=dev - This property tells the active profile  
 application-{profile}.properties

* application-dev.properties
* application-test.properties
* application-prod.properties