

Spring boot interview Questions

What is Spring boot?

Spring boot is a Java-based spring framework used for Rapid Application Development (to build stand-alone microservices). It has extra support of auto-configuration and embedded application server like tomcat, jetty, etc.

Features of Spring Boot that make it different?

Creates stand-alone spring application with minimal configuration needed.

It has embedded tomcat, jetty which makes it just code and run the application.

Provide production-ready features such as metrics, health checks, and externalized configuration.

Absolutely no requirement for XML configuration.

What are the Spring Boot key components?

Below are the four key components of spring-boot:

Spring Boot auto-configuration.

Spring Boot CLI.

Spring Boot starter POMs.

Spring Boot Actuators

Why Spring Boot over Spring?

Starter POM.

Version Management.

Auto Configuration.

Component Scanning.

Embedded server.

InMemory DB.

Actuators

What are starter dependencies?

Spring boot starter is a **maven template** that contains a collection of all the relevant transitive dependencies that are needed to start a particular functionality.

Like we need to import **spring-boot-starter-web** dependency for creating a web application

```
<dependency>
<groupId> org.springframework.boot</groupId>
<artifactId> spring-boot-starter-web </artifactId>
</dependency>
```

What is Spring Initializer?

Spring Initializer is a web application that helps you to create an initial spring boot project structure and provides a maven or gradle file to build your code. It solves the problem of setting up a framework when you are starting a project from scratch

What is Spring Boot dependency management?

Spring Boot dependency management is used to manage dependencies and configuration automatically without you specifying the version for any of that dependencies

Can we create a non-web application in Spring Boot?

Yes, we can create a non-web application by removing the web dependencies from the classpath along with changing the way Spring Boot creates the application context.

Is it possible to change the port of the embedded Tomcat server in Spring Boot?

Yes, it is possible. By using the server.port in the application.properties.

What is the default port of tomcat in spring boot?

The default port of the tomcat server-id 8080. It can be changed by adding sever.port properties in the application.property file.

Can we override or replace the Embedded tomcat server in Spring Boot?

Yes, we can replace the Embedded Tomcat server with any server by using the Starter dependency in the pom.xml file. Like you can use spring-boot-starter-jetty as a dependency for using a jetty server in your project.

Can we disable the default web server in the Spring boot application?

Yes, we can use application.properties to configure the web application type i.e spring.main.web-application-type=none.

How to disable a specific auto-configuration class?

You can use exclude attribute of @EnableAutoConfiguration if you want auto-configuration not to apply to any specific class

`@EnableAutoConfiguration(exclude={className})`

What is the difference between RequestMapping and GetMapping?

RequestMapping can be used with GET, POST, PUT, and many other request methods using the method attribute on the annotation. Whereas getMapping is only an extension of RequestMapping which helps you to improve on clarity on request

What is the use of Profiles in spring boot?

While developing the application we deal with multiple environments such as dev, QA, Prod, and each environment requires a different configuration. For eg., we might be using an embedded H2 database for dev but for prod, we might have proprietary Oracle or DB2. Even if DBMS is the same across the environment, the URLs will be different.

To make this easy and clean, Spring has the provision of Profiles to keep the separate configuration of environments.

What is Spring Actuator? What are its advantages?

An actuator is an additional feature of Spring that helps you to monitor and manage your application when you push it to production. These actuators include auditing, health, CPU usage, HTTP hits, and metric gathering, and many more that are automatically applied to your application.

How to enable Actuator in Spring boot application?

To enable the spring actuator feature, we need to add the dependency of “spring-boot-starter-actuator” in pom.xml.

```
<dependency>  
<groupId> org.springframework.boot</groupId>  
<artifactId> spring-boot-starter-actuator </artifactId>  
</dependency>
```

What are the actuator-provided endpoints used for monitoring the Spring boot application?

Actuators provide below pre-defined endpoints to monitor our application -

Health

Info

Beans

Mappings

Configprops

Httptrace

Heapdump

Threaddump

Shutdown

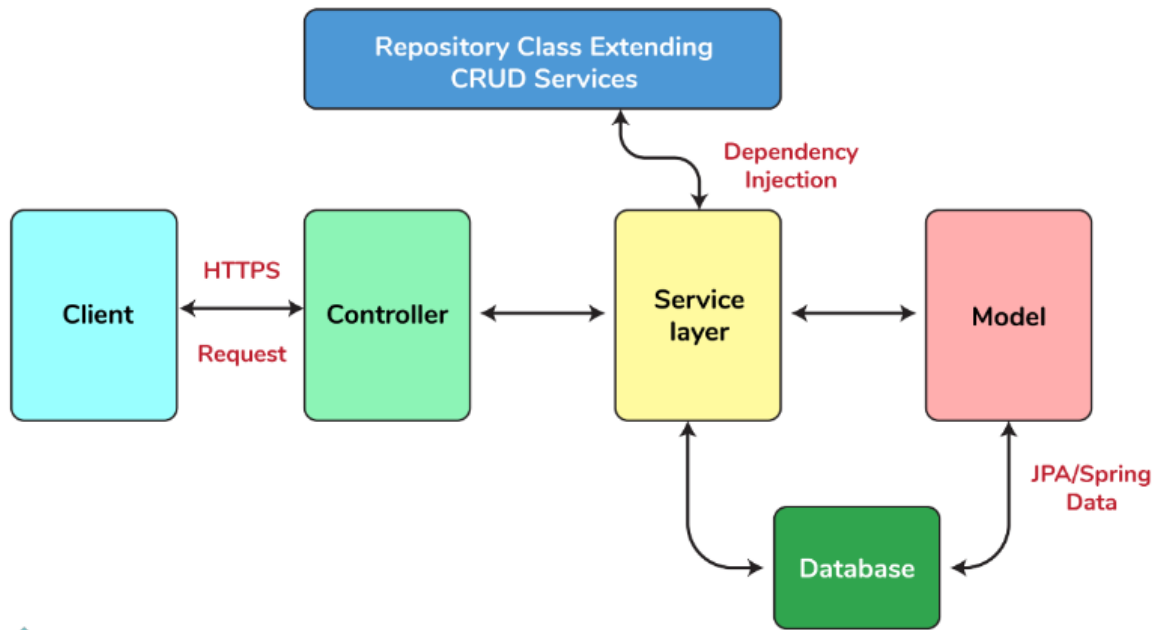
How to get the list of all the beans in your Spring boot application?

Spring Boot actuator “/**Beans**” is used to get the list of all the spring beans in your application.

How to check the environment properties in your Spring boot application?

Spring Boot actuator “/**env**” returns the list of all the environment properties of running the spring boot application

Spring Boot Flow Architecture



How to enable debugging log in the spring boot application?

Debugging logs can be enabled in **three ways** -

We can start the application with **--debug** switch.

We can set the **logging.level.root=debug** property in application.property file.

We can set the logging level of the root logger to debug in the supplied **logging configuration file**.

What are the key dependencies of Spring Boot?

Mentioned below are important Spring Boot dependencies that need to be added to a Gradle-based or Maven-based application, to ensure application compatibility with Spring Boot features.

spring-boot-starter-parent

spring-boot-maven-plugin

spring-boot-starter-test

spring-boot-starter-security

spring-boot-starter-actuator

Spring-boot-starter-web

What is thyme leaf?

Thyme leaf is a popular templating engine used in Spring Boot applications for building dynamic web pages. Moreover, it is humanly readable and developers can use it to create templates that can be rendered in HTML

To use Thymeleaf in a Spring Boot application you should include **the thymeleaf-spring-boot-starter** dependency in your project

What is a Swagger in Spring Boot?

Swagger is used for clearly detailing and documenting RESTful APIs in a machine-readable and human-readable format, which is easily comprehensible for testers and developers, as well as individuals having little knowledge of source code.

Enabling hassle-free application discovery, development, and integration, Swagger allows API consumers to interact with remote services with minimum implementation logic.

How to connect Spring Boot to the database using JPA?

Spring Boot provides ***spring-boot-starter-data-jpa*** starter to connect Spring application with relational database efficiently. You can use it into project POM (Project Object Model) file.

How to Change the Default Port in Spring Boot?

We can change the default port of a server embedded in Spring Boot using one of these ways:

Using a properties file – We can define this in an application.properties (or application.yml) file using the property **server.port**

Programmatically – In our main **@SpringBootApplication class**, we can set the server.port on the SpringApplication instance.

Using the command line – When running the application as a jar file, we can set the server.port as a java command argument:

java -jar -Dserver.port=8081 myspringproject.jar