1) What is Spring Boot?

Spring Boot is a Spring module which provides RAD (Rapid Application Development) feature to Spring framework.

It is used to create stand alone spring based application that you can just run because it needs very little spring configuration.

2) What are the advantages of Spring Boot?

- Create stand-alone Spring applications that can be started using java -jar.
- Embed Tomcat, Jetty or Undertow directly. You don't need to deploy WAR files.
- It provides opinionated 'starter' POMs to simplify your Maven configuration.
- It automatically configure Spring whenever possible.

3) What are the features of Spring Boot?

- Web Development
- SpringApplication
- Application events and listeners
- Admin features

4) How to create Spring Boot application using Maven?

There are multiple approaches to create Spring Boot project. We can use any of the following approach to create application.

- Spring Maven Project
- Spring Starter Project Wizard
- Spring Initializr
- Spring Boot CLI

8) What are the Spring Boot Annotations?

The @RestController is a stereotype annotation. It adds @Controller and @ResponseBody annotations to the class. We need to import org.springframework.web.bind.annotation package in our file, in order to implement it.

9) What is Spring Boot dependency management?

Spring Boot manages dependencies and configuration automatically. You don't need to specify version for any of that dependencies.

Spring Boot upgrades all dependencies automatically when you upgrade Spring Boot.

10) What are the Spring Boot properties?

Spring Boot provides various properties which can be specified inside our project's **application.properties** file. These properties have default values and you can set that inside the properties file. Properties are used to set values like: server-port number, database connection configuration etc.

11) What are the Spring Boot Starters?

Starters are a set of convenient dependency descriptors which we can include in our application.

Spring Boot provides built-in starters which makes development easier and rapid. For example, if we want to get started using Spring and JPA for database access, just include the **spring-boot-starter-data-jpa** dependency in your project.

12) What is Spring Boot Actuator?

Spring Boot provides actuator to monitor and manage our application. Actuator is a tool which has HTTP endpoints. when application is pushed to production, you can choose to manage and monitor your application using HTTP endpoints.

13) What is thymeleaf?

It is a server side Java template engine for web application. It's main goal is to bring elegant natural templates to your web application.

It can be integrate with Spring Framework and ideal for HTML5 Java web applications.

16) How to connect Spring Boot application to database using JDBC?

Spring Boot provides starter and libraries for connecting to our application with JDBC. Here, we are creating an application which connects with Mysql database. It includes the following steps to create and setup JDBC with Spring Boot.

17) What is @RestController annotation in Spring Boot?

The @RestController is a stereotype annotation. It adds @Controller and @ResponseBody annotations to the class. We need to import org.springframework.web.bind.annotation package in our file, in order to implement it.

18) What is @RequestMapping annotation in Spring Boot?

The **@RequestMapping** annotation is used to provide routing information. It tells to the Spring that any HTTP request should map to the corresponding method. We need to import org.springframework.web.annotation package in our file.

5) Explain different phases of RAD model.

This is a frequently asked job interview. Various phases of RAD mode are:

- Business Modeling: Based on the flow of information and distribution between various business channels, the product is designed.
- Data Modeling : The information collected from business modeling is refined into a set of data objects that are significant for the business.
- Application Generation: Automated tools are used for the construction of the software, to convert process and data models into prototypes.

6) What is RAD model?

RAD or Rapid Application Development process is an adoption of the waterfall model; it targets developing software in a short period. RAD follow the iterative

SDLC RAD model has the following phases:

- Business Modeling
- Data Modeling
- Process Modeling
- Application Generation
- Testing and Turnover

32) What is the main difference between JPA and Hibernate?

- The main difference between both of them is that JPA is a specification/Interface, whereas Hibernate is only JPA implementations.

62) Explain different types of dependency injection.

There are two types of dependency injection in Spring Boot. They are as follows:

- Constructor based dependency injection: It is a technique in which one class object supplies the dependency of another object.
- Setter-based dependency injection: It is a dependency injection in which the framework injects the primitive and string-based values using setter method.

63) What are the advantages of micro service?

Following are the major advantages of micro service:

- It makes development fast and easy.
- Compatible with all container.
- Reduce production time.
- It's a lightweight model that supports a major business application.

4. What is the difference between spring and spring boot?

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.

6. How to change port in spring boot?

The default port number to start your SpringBoot application is 8080.

8. How to create war file in spring boot?

To create a war file in spring boot you need to define your packaging file *as war* in your pom.xml(if it is maven project).

Then just do *maven clean and install* so that your application will start building. Once the build is successful, just go into your Target folder and you can see .war file generated for your application.

10. How to save image in database using spring boot?

1. First configure mysql in your spring boot application.
2. Then you can map your entities with your db tables using JPA.
3. And with the help of save() method in JPA you can directly insert your data into your database

13. How to resolve whitelabel error page in spring boot application?

This is quite common error in spring boot application which says 404(page not found).

We can mostly resolve this in 3 ways:

1. **Custom Error Controller** – where you will be implementing ErrorController interface which is provided by SpringFramework and then overriding its getErrorPath() so that you can return a custom path whenever such type of error is occurred.
2. **By Displaying Custom error page** – All you have to do is create an error.html page and place it into the src/main/resources/templates path. The BasicErrorController of of springboot will automatically pick this file by default.
3. **By disabling the whitelabel error page** – this is the easiest way where all you need to do is server.error.whitelabel.enabled property to false in the application.properties file to disable the whitelabel error page.

14. How to fetch data from database in spring boot?

You can use the following steps to connect your application with MySQL database.
1. First create a database in MySQL with create DATABASE student;
2. Now, create a table inside this DB:
CREATE TABLE student(studentid INT PRIMARY KEY NOT NULL AUTO_INCREMENT, studentname VARCHAR(255));
3. Create a SpringBoot application and add JDBC, MySQL and web dependencies.
4. In application.properties, you need to configure the database.

4. In your controller class, you need to handle the requests.
5. Run the application and check the entry in your Database.

19. How to create jar file in spring boot?

To create a jar file in spring boot you need to define your packaging file as ***jar*** in your pom.xml(if it is maven project).

Then just do maven build with specifying ***goals as package*** so that your application will start building.

Once the build is successful, just go into your Target folder and you can see .jar file generated for you application.

20. How to handle exceptions in spring boot?

To handle exceptions in spring boot, you can use ***@ControllerAdvice*** annotation to handle your exceptions globally.

In order to handle specific exception and send customized response, you need to use ***@ExceptionHandler*** annotation.

21. What is dependency injection in spring boot?

Dependency injection is a way through which the Spring container injects one object into another. This helps for loose coupling of components.

For example: if class student uses functionality of department class, then we say student class has dependency of Department class. Now we need to create object of class Department in your student class so that it can directly use functionalities of department class is called dependency injection.

22. How to store image in MongoDB using spring boot?

One of the way for storing image in MongoDB is by using Spring Content. And also you should have the below dependency in your pom.xml.

You should have a GridFsTemplate bean in your applicationContext.

Now add attributes so that your content will be associated to your entity.

23. Which is the ui web framework that is built to use spring boot?

The best UI web framework that can be used with springboot is ***JHipster.***

With this you can generate your web-applications and microservices within less time.

25. Why spring boot is used for microservices?

In microservices, you can write code for your single functionality. You can use different technology stacks for different microservices as per the skill set.

You can develop this type of microservices with the help of Spring boot very quickly as spring boot gives priority to convention over configuration which increases the productivity of your developers.

32. What are the @RequestMapping and @RestController annotation in Spring Boot used for?

The ***@RequestMapping*** annotation can be used at class-level or method level in your controller class.

The global request path that needs to be mapped on a controller class can be done by using ***@RequestMapping*** at class-level. If you need to map a particular request specifically to some method level.

45. How to insert data in mysql using spring boot?

First configure mysql in your spring boot application.

Then you can map your entities with your db tables using JPA.

And with the help of save() method in JPA, you can directly insert your data into your database.

Spring	Spring Boot
A web application framework based on Java	A module of Spring
Provides tools and libraries to create customized web applications	Used to create a Spring application project which can just run/ execute
Spring is more complex than Spring Boot	Spring Boot is less complex than the Spring framework
Takes an unopinionated view	Takes an opinionated view of a platform

@RequestMapping	@RestController
This annotation is used to provide the routing information and tells to Spring that any HTTP request must be mapped to the respective method.	This annotation is used to add the @ResponseBody and @Controller annotation to the class
To use this annotation, you have to import org.springframework.web. bind.annotation.RequestMapping;	To use this annotation, you have to import org.springframework.web. bind.annotation.RestController;

JPA	Hibernate
JPA is a Data Access Abstraction used to reduce the amount of boilerplate code	Hibernate is an implementation of Java Persistence API and offers benefits of loose coupling

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