

SPRING MICROSERVICES Interview Questions

1) What is spring boot?

Ans) Spring boot has been built on top of existing spring framework which provides:

- I. Starters to minimize number of dependencies in pom.xml file
- II. Autoconfiguration to reduce spring configuration file size
- III. Embedded server to avoid external server
- IV. Actuators to get insight about our project such as total list of beans, dependency details, autoconfig report, health, environment, metrics, etc

2) How to write Hello World program by using Spring Boot?

Ans) @RestController

@SpringBootApplication

```
public class Example { //bootstrap class
    @RequestMapping("/")
    public String home() {
        return "Hello World!";
    }
    public static void main(String[] args) throws Exception {
        SpringApplication.run(Example.class, args);
    }
}
```

3) How to disable Actuator endpoint security in Spring Boot?

Ans) Add **management.security.enabled=false** in application.properties file.

4) How to implement security for Spring boot application ?

- I. Add below starter security dependency in pom.xml file

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

- II. Add @EnableWebSecurity in bootstrap class

```
@SpringBootApplication(scanBasePackages = {"edu.aspire.config"})
```

@EnableWebSecurity

```
public class Application {
    public static void main(String[] args) {
        SpringApplication.run(Application.class, args);
    }
}
```

- III. Turn on spring securing in application.properties file

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management.security.enabled=true

IV. Add username and password properties in application.properties file

security.user.name=aspire

security.user.password=aspire123

5) Have you integrated Spring Boot and RabbitMQ ?

i) Add below dependency in pom.xml file

```
<dependency>
```

```
    <groupId>org.springframework.boot</groupId>
```

```
    <artifactId>spring-boot-starter-amqp</artifactId>
```

```
</dependency>
```

ii) Create queue in RabbitMQ server

```
Return new Queue("SearchQ", false);
```

iii) Use below code to send or receive from above queue:

```
template.convertAndSend("SearchQ", map);
```

```
@RabbitListener(queues = "SearchQ")
```

6) What is Swagger ? Have you implemented it using Spring Boot ?

7) How to run Spring boot application to custom port ?

Ans) Add **server.port=9090** in application.properties file.

8) How to check whether boot application is running or not?

9) What is @ConditionalOnClass annotation?

10) How to integrate Spring with Hibernate using Spring Boot?

Ans)

i) Add starter-data-jpa in pom.xml file

ii) Add @EnableAutoConfiguration in spring configuration file to avoid most of the commonly used built-in classes configuration.

11) How to customize spring boot actuator?

12) What is @SpringBootApplication annotation and SpringApplication class?

Ans) The @SpringBootApplication internally same as 3 annotations such as @SpringBootConfiguration, @EnableAutoConfiguration and @ComponentScan. Also @SpringBootApplication annotation makes class as a bootstrap class.

The SpringApplication class automatically creates context based on type of configuration file.

13) How to use Jetty instead of Tomcat with spring boot?

Ans) Exclude tomcat and include jetty maven dependency in pom file.

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14) How to reflect code changes without restarting boot application?

- i) Add **spring-boot-devtools** dependency in pom.xml file

```
<dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-devtools</artifactId>
    <optional>true</optional>
</dependency>
```
- ii) Spring-loaded
- iii) JRebel

15) How did you use microservice design patterns (aggregator, proxy) ?

16) Microservices testing (bucket, split running, selenium, etc)

17) API gateway

18) How do you connect multiple databases using Spring Boot?

19) How did you write Logs in microservices?

Ans) Using ELK or Graylog or Splunk, etc

20) How session is maintained/validated in MicroService?

21) How to achieve service-to-service communication?

Ans) Synchronous vs Asynchronous

22) What are the twelve factor principles?

Ans)

- I. Single code base
- II. Bundling Dependencies
- III. Externalizing Configurations
- IV. ...

23) What is circuit-breaker?

Ans) Using Hysterix

24) What did you do distributed tracking?

Ans) Using Sleuth

25) What is the difference between Web Services and Micro Services?

26) How to create Fat jar in spring boot?

Ans) Add below plug-in in pom.xml file to create Fat jar:

```
<build>
```

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```
<plugins>
  <plugin>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-maven-plugin</artifactId>
  </plugin>
</plugins>
</build>
```

Later give goal as “package” in Run configurations.

27) What is microservices?

Ans) Microservices is an **architectural style** which says **decompose** big applications into smaller services which are autonomous, self-contained, loosely coupled, independently deployable and each microservice has its own Presentation Layer, Service Layer and Model Layer.

28) How to design MicroService project?

Ans)

- i) Identify microservice boundaries
- ii) Define Endpoints in every microservice
- iii) Communicate microservices either Synchronously or Asynchronously
- iv) We can use multiple schemas for multiple microservices
- v) ...

29) Difference between Spring framework and Spring Boot?

30) What is Spring Boot Initializer?

Ans) It is a web tool which is provided by Spring on official site. We can create Spring Boot project by providing project details.

Select Maven project and dependencies. Fill other details and click on generate project.

31)
