Top 100 Java + Spring Boot Interview Questions (Updated)

Core Java

1. What is the difference between JDK, JRE, and JVM?

2. Explain the concept of OOPs in Java.

3. What are the main features of Java 8?

4. What is the difference between == and equals()?

5. What are access modifiers in Java?

6. Explain method overloading and overriding.

7. What is the difference between abstract class and interface?

8. What is a constructor in Java?

9. Explain the concept of inheritance.

10. What is the final keyword in Java?

Exception Handling

11. What is the difference between checked and unchecked exceptions?

12. How does try-with-resources work in Java?

13. What is the use of finally block?

14. What is custom exception in Java?

15. How do you create your own exception class?

Collections

16. What is the difference between ArrayList and LinkedList?

17. How does HashMap work internally?

18. What are the differences between HashSet and TreeSet?

19. What is the difference between List and Set?

20. What is the use of Iterator in Java?

Multithreading

21. What is the difference between Runnable and Callable?

22. What is the Executor framework in Java?

23. What are synchronized methods and blocks?

24. What is the difference between wait() and sleep()?

25. Explain deadlock and how to avoid it.

Spring Boot

26. What is Spring Boot?

27. How does Spring Boot differ from Spring?

28. What are starters in Spring Boot?

29. What is @SpringBootApplication annotation?

30. How does auto-configuration work in Spring Boot?

31. What are Spring Profiles?

32. How do you handle exceptions in Spring Boot?

33. What is the use of application.properties file?

34. How to create a REST API using Spring Boot?

35. What is the use of @RestController and @RequestMapping?

Spring Core

36. How does dependency injection work in Spring?

37. What is the difference between @Component, @Service, and @Repository?

38. Explain the Spring Bean lifecycle.

39. What is the use of @Autowired annotation?

40. What is the difference between constructor and setter injection?

Spring Data JPA & Hibernate

41. What is the difference between JPA and Hibernate?

42. How does @OneToMany and @ManyToOne relationship work in JPA?

43. What is the use of @Entity and @Table annotations?

44. How does lazy and eager loading work in JPA?

45. What is the purpose of EntityManager?

46. How do you write custom queries using @Query in Spring Data JPA?

47. What are transactions and how are they managed in Spring?

48. What is cascading in JPA?

49. How do you implement pagination and sorting in Spring Data JPA?

50. Explain the use of CrudRepository and JpaRepository.

Microservices

51. What are microservices?

52. How is Spring Boot used to create microservices?

53. What is Spring Cloud?

54. How does service discovery work with Eureka?

55. What is API Gateway and how does it work?

56. What is Circuit Breaker pattern?

57. What are Feign clients?

58. What is the role of Config Server?

59. How do you secure microservices?

60. What is distributed tracing?

Advanced Topics

61. What are design patterns used in Java and Spring?

62. Explain the Singleton pattern with an example.

63. What is dependency injection and inversion of control?

64. What is AOP in Spring?

65. Explain the use of Kafka or RabbitMQ in microservices.

66. What is Docker and how do you use it with Spring Boot?

67. What is the difference between monolithic and microservices architecture?

68. What is Swagger and how do you integrate it?

69. How do you monitor Spring Boot applications?

70. Explain the deployment of Spring Boot apps in cloud platforms.

Additional Questions

71. What is the difference between HashMap and ConcurrentHashMap?

72. What are the new features in Java 17?

73. What is a functional interface?

74. What is the Stream API in Java?

75. How do you handle CORS in Spring Boot?

76. What is the difference between PUT and PATCH in REST?

77. How can you version REST APIs?

78. How do you validate request bodies in Spring Boot?

79. What is Lombok and how does it help in Spring Boot development?

80. How do you create and consume a REST API in Spring Boot using RestTemplate?

81. What is WebClient in Spring WebFlux?

82. How does Spring Security work?

83. How to configure JWT in Spring Boot?

84. What is the role of AuthenticationManager in Spring Security?

85. What is the difference between OAuth2 and JWT?

86. How do you test a Spring Boot application?

87. What is MockMvc in Spring Boot testing?

88. What are annotations used for testing in Spring Boot?

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89. What is the role of DevTools in Spring Boot?

90. How do you externalize configuration in Spring Boot?

91. What is the difference between synchronous and asynchronous communication?

92. How do you use @Async in Spring Boot?

93. What is the difference between ResponseEntity and @ResponseBody?

94. How do you log in a Spring Boot application?

95. What logging frameworks are commonly used in Spring Boot?

96. What are the different scopes of a Spring bean?

97. What are interceptors in Spring Boot?

98. What is an embedded server in Spring Boot?

99. What are advantages of using Spring Boot?

100. What is the difference between Spring MVC and Spring WebFlux?