Interview questions for a Nuuday account

Java:

1. Explain the difference between an abstract class and an interface in Java.

2. What are the different access modifiers in Java, and what do they signify?

3. How does exception handling work in Java? Explain the try-catch-finally block.

4. What is the difference between method overloading and method overriding?

5. Can you explain the concept of multithreading in Java? How do you create and manage threads?

6. What is the difference between an ArrayList and a LinkedList in Java? When would you use one over the other?

7. What is the difference between == and equals() method in Java?

8. Explain the concept of polymorphism in Java with an example.

9. What is the purpose of the 'static' keyword in Java? How is it used?

10. How do you handle memory management in Java? Explain the role of the garbage collector.

Java 8:

11. What are the new features introduced in Java 8?

method 12. Explain the concept of lambda expressions in Java 8. How are they used?

13. What is the Stream API in Java 8? How do you use it for processing collections?

14. Explain the Optional class in Java 8. When and why would you use it?

15. What are the default methods in interfaces? How do they improve the flexibility of interfaces in Java 8?

16. How do you use the new Date and Time API introduced in Java 8?

17. What is the purpose of the 'forEach' in Java 8? How is it used?

18. Explain the concept of method references in Java 8. How are they different from lambda expressions?

19. What are the advantages of using the new functional interfaces introduced in Java 8?

20. How do you use the 'filter', 'map', and 'reduce' operations with Streams in Java 8?

Spring Boot:

21. What is Spring Boot, and what are its advantages over traditional Spring Framework?

22. Explain the concept of auto-configuration in Spring Boot.

23. How do you create a RESTful API using Spring Boot?

24. What is Spring Data JPA, and how do you use it with Spring Boot for database access?

25. How do you handle cross-cutting concerns like logging and security in Spring Boot?

26. What is the purpose of Spring Boot Actuator? How do you enable and configure it?

27. How do you handle exceptions in a Spring Boot application?

28. Explain the concept of profiles in Spring Boot. How do you use them?

29. How do you deploy a Spring Boot application? What are the deployment options?

30. What are the different ways to configure properties in a Spring Boot application?

Microservices:

31. What is a microservices architecture, and what are its benefits?

32. How do microservices communicate with each other? Explain synchronous and asynchronous communication.

33. What are the challenges associated with distributed systems and microservices architecture?

34. How do you ensure data consistency across microservices?

35. What is service discovery, and how is it implemented in a microservices environment?

36. Explain the concept of API gateways in microservices architecture. How do they help?

37. What is circuit breaking, and why is it important in microservices architecture?

38. How do you monitor and manage microservices in production?

39. What are the common security concerns in microservices architecture? How do you address them?

40. What is the role of containers and container orchestration platforms like Docker and Kubernetes in microservices deployment?