

Java:

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- Difference between JVM, JRE and JDK
- What is classloader and its types
- What is heap and stack memory
- What is Marker interface
- What is functional interface and its examples
- What is Comparator and Comparable
- Internal working of HashMap
- Hash collision
- Difference between interface and abstract classes
- SOLID principles
- Java Design Patterns on high level
- Different OOPs principles
- What is JIT compiler
- What is string constant pool
- Can we overload method having different return type
- Can we overload main method in java
- Why Java doesn't support multiple inheritance?
- In depth knowledge on garbage collection
- Difference between String, StringBuffer, and StringBuilder
- Collections in Java - List, Map and Set
- Basics of Exception Handling
- Copy constructor
- How do you create read-only and write-only class in Java
- Inner classes
- Java 8 features(Streams, Lambda expressions, Anonymous class, Optional class etc)

Spring:

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- Spring IOC container
- What is BeanFactory and ApplicationContext and differences between them
- Dependency injection and its types(Constructor Based Dependency Injection, Field or Property-Based Dependency Injection and Setter Based Dependency Injection)
- Bean lifecycle
- Bean scopes
- What is Autowiring
- Global exception handling in spring boot
- Difference between @RequestParam and @PathVariable Annotations
- @Transactional, @SpringBootApplication annotations
- How to create REST API
- Purpose of using @ComponentScan in the class files
- What is ORM framework
- Difference between JPA and Hibernate
- Different types of mapping in jpa
- Difference between JPA and CRUD Repository
- What is @Entity
- Role of EntityManager in JPA
- Types of Cascading operations in JPA
- Use of @Verision annotation

Microservices:

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- Features of Microservices
- What is Spring Actuator and how do you enable in spring boot application

Service discovery

What is the importance of API gateway in microservices

How does microservice interact with each other(message brokers like Kafka, AWS SQS)

SQL:

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Query to find nth highest salary in mysql

ACID properties

Normalization

Joins

AWS:

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EC2

S3

Lambda function

RDS

API Gateway

Load Balancers