

Advanced Java Cheat Sheet

Quick 10-minute revision guide for interviews.

JDBC Flow

Step	Description
1	Load Driver - <code>Class.forName("com.mysql.cj.jdbc.Driver")</code>
2	Establish Connection - <code>DriverManager.getConnection(url, user, pass)</code>
3	Create Statement - <code>Statement</code> / <code>PreparedStatement</code>
4	Execute Query - <code>executeQuery()</code> / <code>executeUpdate()</code>
5	Close Connection - Avoid leaks

Servlet Request Flow

Step	Description
1	Client sends HTTP request to server
2	Servlet Container maps request to a servlet
3	Servlet's <code>service()</code> method called
4	Generates response
5	Response sent back to client

Hibernate Architecture

- Configuration -> SessionFactory -> Session -> Transaction -> Query -> Result
- ORM maps Java objects to database tables
- Annotations: `@Entity`, `@Table`, `@Id`, `@OneToMany`, etc.

Spring Boot Auto-Configuration

- Uses `@SpringBootApplication` annotation
- Scans components automatically (`@ComponentScan`)
- Auto-configures beans based on classpath dependencies
- Runs embedded Tomcat server by default

Microservices Communication Flow

- Client -> API Gateway -> Service Discovery -> Microservice Instance
- Services communicate via REST or messaging (Kafka, RabbitMQ)
- Database per service
- Fault tolerance via Circuit Breaker (Resilience4j/Hystrix)