Ödev - 6

Q1 - What is the difference between manual testing and automated testing?

A: Manual testing is running tests manually by people. Automated testing is implementing test cases into an automated flow. These cases can be rerun periodically or after each build. Even though automated testing cannot have human instincts, it is more convenient in a long run to increase the quality of life of testing.

Q2 - What does the Assert class do?

A: Assert class is a java class used in testing. It provides a handful of methods to compare expected results and verify the integrity of the result.

Q3 - How can be tested 'private' methods?

A: It can be done via “Reflection” or using wrapping public class. Public implementations of the method can also be tested to test private methods.

Q4 - What is Monolithic Architecture?

A: Monolithic architecture is a design pattern where different components of a software application are built in a single piece. This pattern has advantages over microservice architecture in complexity.

Q5 - What are the best practices to write a Unit Test Case?

A: Unit tests need to be well thought through and organized. They need to test the logic of the method, not its integration. Test cases should be simple, deterministic, and repeatable.

Q6 - Why does JUnit only report the first failure in a single test?

A: Unit tests are supposed to be short and simple and test single scenarios. If a unit test requires to be able to return multiple failures in case of happening, it indicates it is too long and covers too much more than it is supposed to.

Q7 - What are the benefits and drawbacks of Microservices?

A: Microservice architecture is easier to scale depending on the need and more resilient to errors in other services. Each service is deployed separately. On the other hand, communication can be complicated between services and this architecture can consume more resources.

Q8 - What is the role of the actuator in spring boot?

A: Actuator is a monitoring tool that can be customized further to investigate the status of a running program as well as get information about it.

Q9 - What challenges does one have to face while using Microservices?

A: Maintaining data and its security is one of the major difficulties while working with microservices. Inner communication between services can be also hard to manage. Formatting and integrity of data need to be carefully taken care of.

Q10 - How do independent microservices communicate with each other?

A: Microservices communicate through synchronous and asynchronous protocols. Asynchronous communication can be done with AMQP brokers like Rabbit MQ and Kafka. Synchronous communication can be achieved via sending requests with HTTP protocol.

Q11 - What do you mean by Domain-driven design?

A: Domain-driven design is a design method where class properties, object models, and naming of classes are alike to how they are defined in the business domain.

Q12 - What is a container in Microservices?

A: Containers are an ideal method to deploy a microservice. This can help to increase the scalability of microservice and isolate it.

Q13 - What are the main components of Microservices architecture?

A: This can vary depending on the definitions but there are 8 typical components of a microservice; Client, Identity Provider, API Gateway, Messaging formats, Database, Static content, Management, Service discovery.

Q14 - How does a Microservice architecture work?

A: In microservices, smaller components of services that normally would be in a single build in a monolithic architecture are distributed to different pieces. This prevents building hard-to-manage, highly coupled programs. Microservices communicate among them to complete a user journey while distributing the concerns on different services.

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