**Verifying Interactions**

**Mocking**

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This test illustrates the use of **Mockito’s interaction verification** to ensure that the NotificationService correctly interacts with its dependency, SmsGateway, by sending the right SMS message during user notification.

**Objective:**

* **Mock Dependencies:** Replace the real SmsGateway with a mock to isolate and control the test environment.
* **Trigger Notification:** Call the notifyUser() method to simulate sending an OTP message to a user.
* **Verify Interaction:** Use verify() to confirm that sendSms() was invoked with the expected message.

**Implementation:**

### Create a Maven Java Project

**IntelliJ IDEA**: File → New → Project → Maven

### Add Mockito and JUnit to Your Project

#### By using ****Maven****: add the dependencies in pom.xml

<!-- JUnit 5 -->

<dependency>

<groupId>org.junit.jupiter</groupId>

<artifactId>junit-jupiter</artifactId>

<version>5.9.3</version>

<scope>test</scope>

</dependency>

<!-- Mockito -->

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-core</artifactId>

<version>5.6.0</version>

<scope>test</scope>

</dependency>

**Create a Interface to be Mocked, Service that uses API and Test Class using Mockito**

**SmsGateway.java:**

interface SmsGateway {

void sendSms(String message);

}

class NotificationService {

private final SmsGateway gateway;

public NotificationService(SmsGateway gateway) {

this.gateway = gateway;

}

public void notifyUser(String username) {

String message = "Hi " + username + ", your OTP is 123456.";

gateway.sendSms(message);

System.out.println("Notification sent: " + message);

}

}

**SmsServiceTest.java:**

import org.junit.jupiter.api.Test;

import static org.mockito.Mockito.mock;

import static org.mockito.Mockito.verify;

public class SmsServiceTest {

@Test

public void testSmsSentWithCorrectMessage() {

SmsGateway mockGateway = mock(SmsGateway.class);

NotificationService service = new NotificationService(mockGateway);

service.notifyUser("Karthy");

verify(mockGateway).sendSms("Hi Karthy, your OTP is 123456.");

System.out.println("SMS sent with correct message.");

}

}

**Output:**

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