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**Exercise 1: Mocking and Stubbing**

**Scenario:**

You need to test a service that depends on an external API. Use Mockito to mock the external API and stub its methods.

Steps:

1. Create a mock object for the external API.
2. Stub the methods to return predefined values.
3. Write a test case that uses the mock object.

**Solution Code:**

**pom.xml dependencies:**

<dependencies>

<dependency>

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

<artifactId>junit-jupiter</artifactId>

<version>5.9.2</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-core</artifactId>

<version>5.3.1</version>

<scope>test</scope>

</dependency>

</dependencies>

**ExternalApi.java**

package com.amogh.testing;

public interface ExternalApi {

String getData();

}

**MyService.java**

package com.amogh.testing;

public class MyService {

private ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

**MyServiceTest.java**

package com.amogh.testing;

import static org.junit.jupiter.api.Assertions.\*;

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

public class MyServiceTest {

@Test

public void testExternalApi() {

ExternalApi mockApi = mock(ExternalApi.class);

when(mockApi.getData()).thenReturn("Mock Data");

MyService service = new MyService(mockApi);

String result = service.fetchData();

assertEquals("Mock Data", result);

}

}

**Output:**

