**Exercise 1: Mocking and Stubbing Scenario**

**ExternalApi.java**

package com.example;

public interface ExternalApi {

String getData();

}

**MyService.java (depends on the external API)**

package com.example;

public class MyService {

private ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

**MyServiceTest.java (JUnit 5 + Mockito)**

package com.example;

import org.junit.jupiter.api.Test;

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

import static org.mockito.Mockito.\*;

import org.mockito.Mockito;

public class MyServiceTest {

@Test

public void testExternalApi() {

// Step 1: Create mock

ExternalApi mockApi = Mockito.mock(ExternalApi.class);

// Step 2: Stub method

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

// Step 3: Inject mock and test

MyService service = new MyService(mockApi);

String result = service.fetchData();

// Assert

assertEquals("Mock Data", result);

}

}

**pom.xml (JUnit 5 + Mockito)**

**xml**

<project xmlns="http://maven.apache.org/POM/4.0.0"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://maven.apache.org/POM/4.0.0

http://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.example</groupId>

<artifactId>MockitoExample</artifactId>

<version>1.0-SNAPSHOT</version>

<properties>

<maven.compiler.source>1.8</maven.compiler.source>

<maven.compiler.target>1.8</maven.compiler.target>

</properties>

<dependencies>

<!-- 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>4.11.0</version>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<!-- Needed to run JUnit 5 -->

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-surefire-plugin</artifactId>

<version>3.0.0-M8</version>

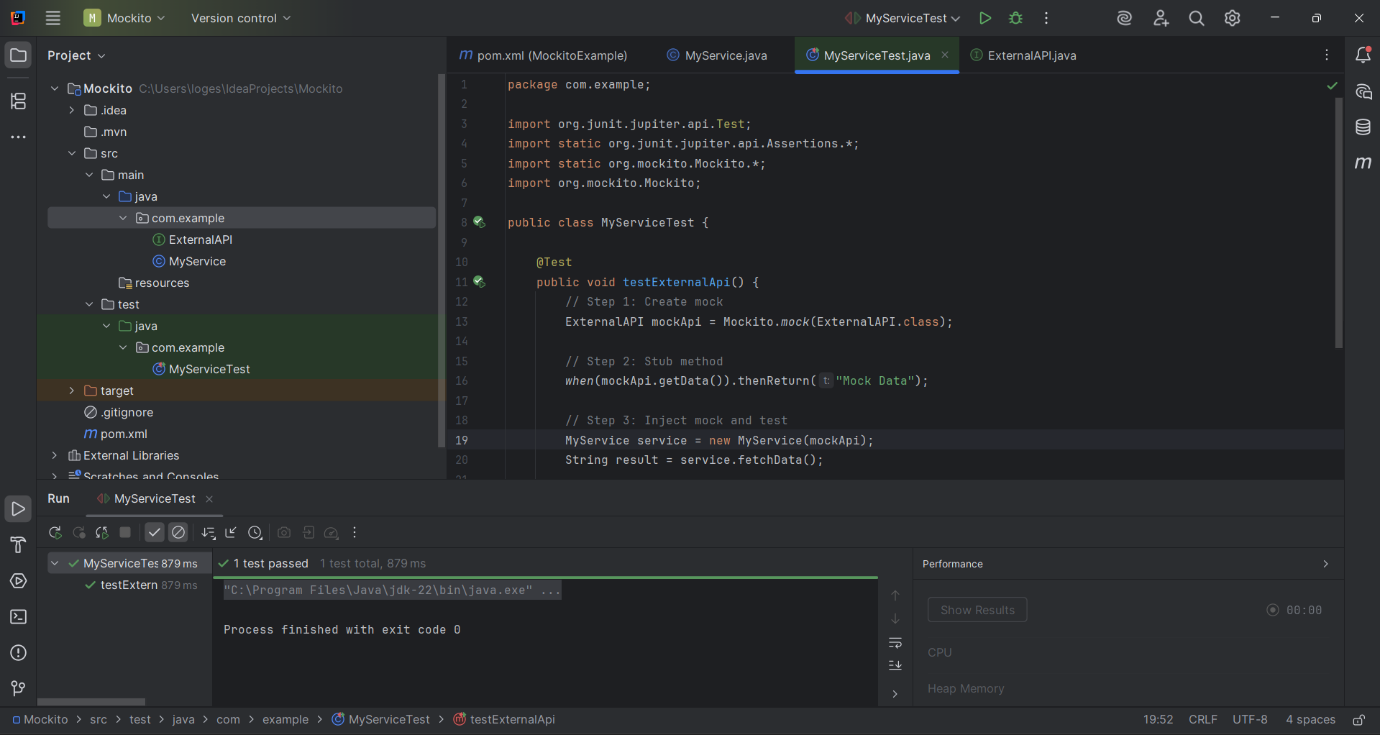
</plugin>

</plugins>

</build>

</project>

**OUTPUT ScreenShot:**

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