Mockito Exercises – JUnit 5 Integration

(Week 2)

This document demonstrates Mockito integration with JUnit 5 in a non-Maven Java project. It includes complete examples for mocking, stubbing, and verifying interactions.

# Project Structure

MockitoProject/  
├── lib/  
│ ── junit-platform-console-standalone-1.9.3.jar  
│ ── mockito-core-4.11.0.jar  
│ ── objenesis-3.3.jar  
├── src/  
│ -─ ExternalApi.java  
│ ── MyService.java  
│ ── MyServiceTest.java  
│ -─ ExternalApi2.java  
│ ── MyService2.java

# Exercise 1: Mocking and Stubbing

## Code

ExternalApi.java

public interface ExternalApi {  
 String getData();  
}

MyService.java

public class MyService {  
 private ExternalApi api;  
 public MyService(ExternalApi api) {  
 this.api = api;  
 }  
 public String fetchData() {  
 return api.getData();  
 }  
}

MyServiceTest.java

import static org.mockito.Mockito.\*;  
import org.junit.jupiter.api.Test;  
import static org.junit.jupiter.api.Assertions.\*;  
import org.mockito.Mockito;  
  
public class MyServiceTest {  
 @Test  
 public void testExternalApi() {  
 ExternalApi mockApi = Mockito.mock(ExternalApi.class);  
 when(mockApi.getData()).thenReturn("Mock Data");  
 MyService service = new MyService(mockApi);  
 String result = service.fetchData();  
 assertEquals("Mock Data", result);  
 }  
}

## Commands to Compile and Run

Compile:

javac -cp "lib/\*" src/\*.java

Run:

java -jar lib/junit-platform-console-standalone-1.9.3.jar --classpath src --select-class MyServiceTest

## Output

Thanks for using JUnit!  
├─ MyServiceTest ✔  
│ └─ testExternalApi() ✔  
Test run finished...

# Exercise 2: Verifying Interactions

## Code

**ExternalApi2.java**

public interface ExternalApi2 {

    String getData();

}

**MyService2.java**

public class MyService2 {

    private ExternalApi2 api;

    public MyService2(ExternalApi2 api) {

        this.api = api;

    }

    public String fetchData() {

        return api.getData();

    }

}

**MyServiceTest2.java**

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

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

import org.mockito.Mockito;

public class MyServiceTest2 {

    @Test

    public void testVerifyInteraction() {

        // Arrange: create a mock of the external API

        ExternalApi2 mockApi = Mockito.mock(ExternalApi2.class);

        // Inject the mock into the service

        MyService2 service = new MyService2(mockApi);

        // Act: call the method

        service.fetchData();

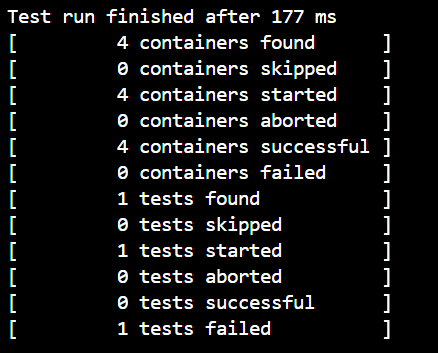
        // Assert: verify the interaction occurred

        verify(mockApi).getData();  // ✅ This ensures the method was called

    }

}

**Output : -**

****