**Exercise 1:** Mocking and Stubbing

**Exercise 2:** Verifying Interactions

**Solution:**

Step 1: Create Maven Project

Step 2: Add Dependencies to pom.xml

Step 3: Update Maven Project

Step 4: Create Interface ExternalApi.java

public interface ExternalApi {

String getData();

}

Step 5: Create Class MyService.java

public class MyService {

private ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

Step 6: Create Test Class MyServiceTest.java

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

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

public class MyServiceTest {

// Exercise 1: Mocking and Stubbing

@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);

}

// Exercise 2: Verifying Interactions

@Test

public void testVerifyInteraction() {

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

MyService service = new MyService(mockApi);

service.fetchData(); // should call mock's getData()

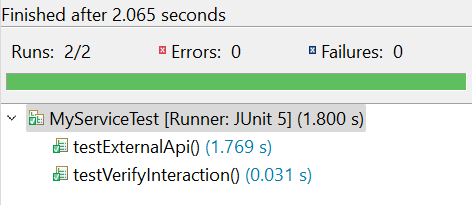
*verify*(mockApi).getData(); // verify it was called

}

}

Step 7: Run the Test

**Output:**

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