Advanced Mockito Hands-On Exercises

Exercise 1: Mocking Databases and Repositories

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

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

public class ServiceTest {

@Test

public void testServiceWithMockRepository() {

Repository mockRepository = mock(Repository.class);

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

Service service = new Service(mockRepository);

String result = service.processData();

assertEquals("Processed Mock Data", result);

}

}

Exercise 2: Mocking External Services (RESTful APIs)

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

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

public class ApiServiceTest {

@Test

public void testServiceWithMockRestClient() {

RestClient mockRestClient = mock(RestClient.class);

when(mockRestClient.getResponse()).thenReturn("Mock Response");

ApiService apiService = new ApiService(mockRestClient);

String result = apiService.fetchData();

assertEquals("Fetched Mock Response", result);

}

}

Exercise 3: Mocking File I/O

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

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

public class FileServiceTest {

@Test

public void testServiceWithMockFileIO() {

FileReader mockFileReader = mock(FileReader.class);

FileWriter mockFileWriter = mock(FileWriter.class);

when(mockFileReader.read()).thenReturn("Mock File Content");

FileService fileService = new FileService(mockFileReader, mockFileWriter);

String result = fileService.processFile();

assertEquals("Processed Mock File Content", result);

}

}

Exercise 4: Mocking Network Interactions

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

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

public class NetworkServiceTest {

@Test

public void testServiceWithMockNetworkClient() {

NetworkClient mockNetworkClient = mock(NetworkClient.class);

when(mockNetworkClient.connect()).thenReturn("Mock Connection");

NetworkService networkService = new NetworkService(mockNetworkClient);

String result = networkService.connectToServer();

assertEquals("Connected to Mock Connection", result);

}

}

Exercise 5: Mocking Multiple Return Values

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

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

public class MultiReturnServiceTest {

@Test

public void testServiceWithMultipleReturnValues() {

Repository mockRepository = mock(Repository.class);

when(mockRepository.getData())

.thenReturn("First Mock Data")

.thenReturn("Second Mock Data");

Service service = new Service(mockRepository);

String firstResult = service.processData();

String secondResult = service.processData();

assertEquals("Processed First Mock Data", firstResult);

assertEquals("Processed Second Mock Data", secondResult);

}

}

**OUTPUT:**

**[INFO] Scanning for projects...**

**[INFO]**

**[INFO] -------------------< com.example:mockito-exercises >--------------------**

**[INFO] Building mockito-exercises 1.0-SNAPSHOT**

**[INFO] --------------------------------[ jar ]---------------------------------**

**[INFO]**

**[INFO] --- maven-surefire-plugin:3.2.5:test (default-test) @ mockito-exercises ---**

**[INFO]**

**[INFO] -------------------------------------------------------**

**[INFO] T E S T S**

**[INFO] -------------------------------------------------------**

**[INFO] Running ServiceTest**

**[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.012 s - in ServiceTest**

**[INFO] Running ApiServiceTest**

**[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.015 s - in ApiServiceTest**

**[INFO] Running FileServiceTest**

**[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.014 s - in FileServiceTest**

**[INFO] Running NetworkServiceTest**

**[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.013 s - in NetworkServiceTest**

**[INFO] Running MultiReturnServiceTest**

**[INFO] Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.016 s - in MultiReturnServiceTest**

**[INFO]**

**[INFO] Results:**

**[INFO]**

**[INFO] Tests run: 5, Failures: 0, Errors: 0, Skipped: 0**

**[INFO]**

**[INFO] ------------------------------------------------------------------------**

**[INFO] BUILD SUCCESS**

**[INFO] ------------------------------------------------------------------------**

**[INFO] Total time: 1.234 s**

**[INFO] Finished at: 2025-06-27T00:30:00+05:30**

**[INFO] ------------------------------------------------------------------------**