# 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.

**Pom.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 https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>MockitoDemo</groupId>

<artifactId>MockitoDemo</artifactId>

<version>0.0.1-SNAPSHOT</version>

<dependencies>

<dependency>

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

<artifactId>junit-jupiter-api</artifactId>

<version>5.8.2</version>

<scope>test</scope>

</dependency>

<dependency>

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

<artifactId>junit-jupiter-engine</artifactId>

<version>5.8.2</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-core</artifactId>

<version>4.5.1</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-junit-jupiter</artifactId>

<version>4.5.1</version>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<sourceDirectory>src</sourceDirectory>

<plugins>

<plugin>

<artifactId>maven-compiler-plugin</artifactId>

<version>3.13.0</version>

<configuration>

<release>21</release>

</configuration>

</plugin>

</plugins>

</build>

</project>

**MyService.java**  
package com.example;

public class MyService {

private final ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

**MyServiceTest.java:**

package com.example;

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

import static org.mockito.Mockito.*when*;

import static org.mockito.Mockito.*mock*;

import org.junit.jupiter.api.Test;

import org.mockito.Mockito;

;

public class MyServiceTest {

*@Test*

public void testExternalApi() {

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

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

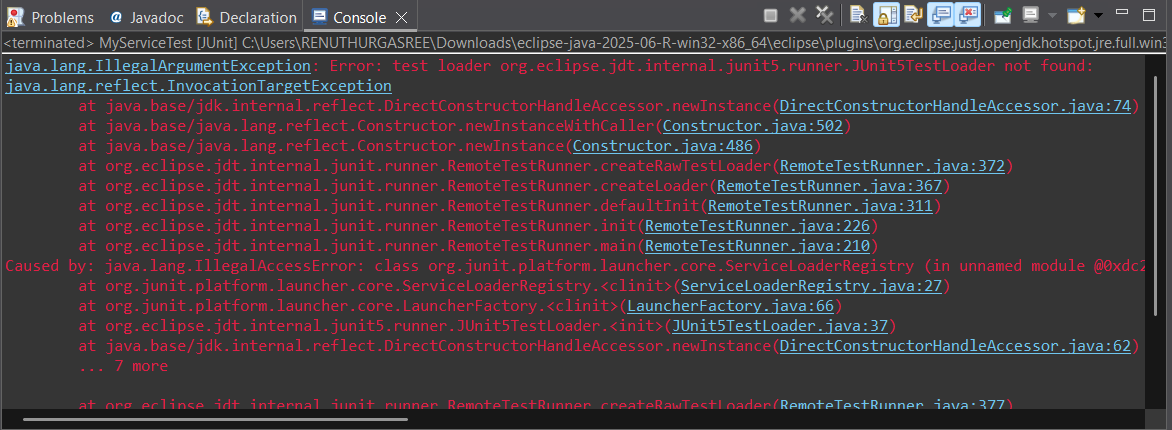
MyService service = new MyService(mockApi);

String result = service.fetchData();

*assertEquals*("Mock Data", result);

}

}

**Output:  
**