Mockito Hands-On Exercises:

Exercise 1: Mocking and Stubbing

```
//Externalapi.java

public interface ExternalApi {
  String getdata();
}
```

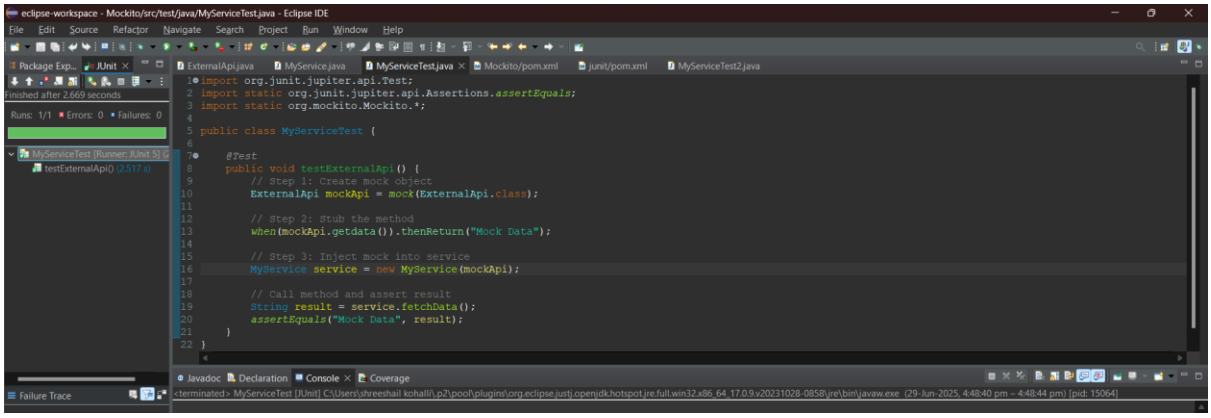
```
Myservice.java

public class MyService {

    private ExternalApi externalApi;

    public MyService(ExternalApi externalApi) {
        this.externalApi = externalApi;
    }

    public String fetchData() {
        return externalApi.getdata();
    }
}
```

```
//Tests:

import org.junit.jupiter.api.Test;
import static org.junit.jupiter.api.Assertions.assertEquals;
import static org.mockito.Mockito.*;

public class MyServiceTest {

    @Test
    public void testExternalApi() {
        // Step 1: Create mock object
        ExternalApi mockApi = mock(ExternalApi.class);

        // Step 2: Stub the method
        when(mockApi.getdata()).thenReturn("Mock Data");

        // Step 3: Inject mock into service
        MyService service = new MyService(mockApi);

        // Call method and assert result
        String result = service.fetchData();
        assertEquals("Mock Data", result);
    }
}
```

```

```

```
//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>mockito</groupId>
  <artifactId>Mockito</artifactId>
  <version>0.0.1-SNAPSHOT</version>

  <dependencies>
    <!-- JUnit 5 API and Engine -->
    <dependency>
        <groupId>org.junit.jupiter</groupId>
        <artifactId>junit-jupiter</artifactId>
        <version>5.10.2</version>
        <scope>test</scope>
    </dependency>

    <!-- Mockito Core -->
    <dependency>
        <groupId>org.mockito</groupId>
        <artifactId>mockito-core</artifactId>
        <version>5.11.0</version>
        <scope>test</scope>
    </dependency>
</dependencies>

<build>
    <plugins>
        <plugin>
            <groupId>org.apache.maven.plugins</groupId>
            <artifactId>maven-surefire-plugin</artifactId>
            <version>3.2.5</version>
            <configuration>
                <includes>
                    <include>**/*Test.java</include>
                </includes>
            </configuration>
        </plugin>
    </plugins>
</build>

</project>
```

Output:



Exercise 2: Verifying Interactions:

```
import org.junit.jupiter.api.Test;
import static org.mockito.Mockito.*;

public class MyServiceTest2 {

    @Test
    public void testVerifyInteraction() {
        // Step 1: Create mock
        ExternalApi mockApi = mock(ExternalApi.class);

        // Step 2: Inject into service
        MyService service = new MyService(mockApi);

        // Step 3: Call method
        service.fetchData();

        // Step 4: Verify interaction
        verify(mockApi).getdata();  // This checks that getData() was
indeed called
    }
}
```

Output: