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Part 5: Mockito & PowerMock for mocking static methods

Posted on September 17, 2015 by Arulkumaran Kumaraswamipillai

This extends Part 4: Mockito & PowerMock for partially mocking private methods to mock "**static**" methods.

How to use both Spring JUnit and PowerMock runners?

By using the "@PowerMockRunnerDelegate" from the "powermock-module-junit4" jar.

```
@RunWith(PowerMockRunner.class)
@PowerMockRunnerDelegate(SpringJUnit4ClassRunner.
```

So, need to use compatible "Mockito" and "PowerMock".

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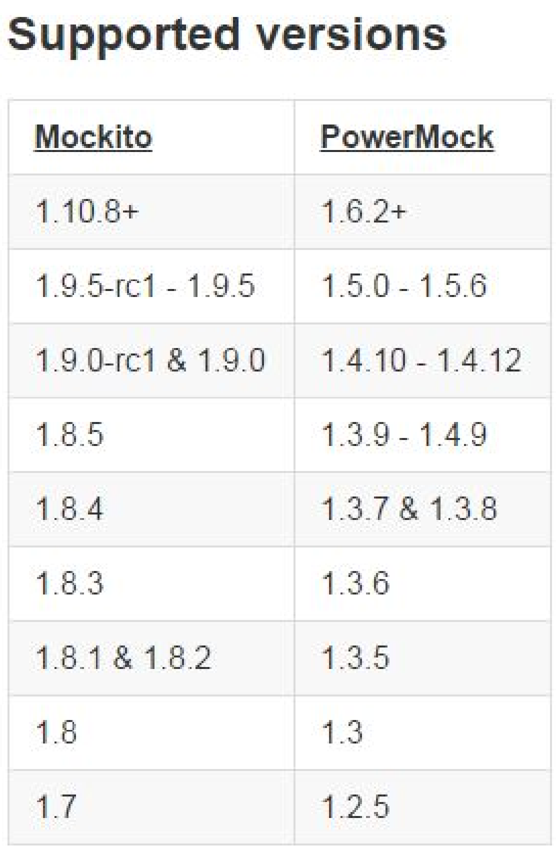

Supported versions

Mockito	PowerMock
1.10.8+	1.6.2+
1.9.5-rc1 - 1.9.5	1.5.0 - 1.5.6
1.9.0-rc1 & 1.9.0	1.4.10 - 1.4.12
1.8.5	1.3.9 - 1.4.9
1.8.4	1.3.7 & 1.3.8
1.8.3	1.3.6
1.8.1 & 1.8.2	1.3.5
1.8	1.3
1.7	1.2.5

PowerMock & Mockito version compatibility

Step 1: Add “PowerMock” libraries to the pom.xml

```
....
        <properties>
           <project.build.sourceEncoding>UTF-8</
           <mockito-all.version>1.10.7</mockito-
           <spring.version>3.2.13.RELEASE</sprin
           <powermock.version>1.6.1</powermock.v
        </properties>

    <dependencies>
        <dependency>
            <groupId>junit</groupId>
            <artifactId>junit</artifactId>
            <version>4.11</version>
            <scope>test</scope>
        </dependency>

        <!-- Mockito Library -->
        <dependency>
            <groupId>org.mockito</groupId>
            <artifactId>mockito-all</artifactId>
            <version>${mockito-all.version}</ver
            <scope>test</scope>
        </dependency>

        <!-- Power Mock Libraries to mock privat
```

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```
        <dependency>
            <groupId>org.powermock</groupId>
            <artifactId>powermock-module-junit4<
            <version>${powermock.version}</versi
            <scope>test</scope>
        </dependency>
        <dependency>
            <groupId>org.powermock</groupId>
            <artifactId>powermock-api-mockito</a
            <version>${powermock.version}</versi
            <scope>test</scope>
        </dependency>

        //...................
    <dependencies>

```

Step 2: Service layer interfaces and implementations + utility class that has a static method, and which needs to be mocked with “PowerMock”.

Service Layer

```
package com.mytutorial;

public interface SimpleService {
    abstract String processUser(int id);
}

```

```
package com.mytutorial;

import javax.inject.Named;

@Named
public class SimpleServiceImpl implements Simple

    public String processUser(int id) {
        return "Hello " +  SimpleUtil.getUserByI
    }

}
```

Utility Class

This static method will be mocked by the “PowerMock”.

```
package com.mytutorial;

public class SimpleUtil {

    public static String getUserById(int id) {
        if (id == 1) {
            return "John";
```

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```
        } else if (id == 2) {
            return "Peter";
        } else {
            throw new IllegalArgumentException()
        }
    }

}

```

Step 3: Now the JUnit class that mocks “SimpleServiceImpl” where the method “**SimpleUtil.getUserById(int id)**” with the help of PowerMock.

```
package com.mytutorial;

import javax.inject.Inject;

import org.junit.Assert;
import org.junit.Before;
import org.junit.Test;
import org.junit.runner.RunWith;
import org.mockito.Mockito;
import org.mockito.MockitoAnnotations;
import org.powermock.api.mockito.PowerMockito;
import org.powermock.core.classloader.annotation
import org.powermock.modules.junit4.PowerMockRun
import org.powermock.modules.junit4.PowerMockRun
import org.springframework.test.context.ContextC
import org.springframework.test.context.junit4.S

@RunWith(PowerMockRunner.class)
@PowerMockRunnerDelegate(SpringJUnit4ClassRunner
@ContextConfiguration(classes = { AppConfig.clas
@PrepareForTest(SimpleUtil.class)
public class SimpleTest {

    @Inject
    SimpleService service;

    @Before
    public void init() {
        MockitoAnnotations.initMocks(this);
    }

    @Test
    public void testProcessUser() throws Excepti

        PowerMockito.mockStatic(SimpleUtil.class

        //invoke mocked SimpleUtil.getUserById(.
        PowerMockito.when(SimpleUtil.getUserById

        String processUser = service.processUser
        Assert.assertEquals("Hello Sam", process
    }
}
```

Note:

1) @RunWith(PowerMockRunner.class)

2) @PowerMockRunnerDelegate(SpringJUnit4ClassRunner.class)

3) @PrepareForTest(SimpleServiceImpl.class)

4) PowerMockito.mockStatic(SimpleUtil.class);

5) PowerMockito.when(SimpleUtil.getUserById(Mockito.anyInt())).thenReturn("Sam");

final methods

It will work if you you add the "final" modfier to the method "SimpleUtil.getUserById(int id)". So, PowerMock is required to mock private, static, and final methods.

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