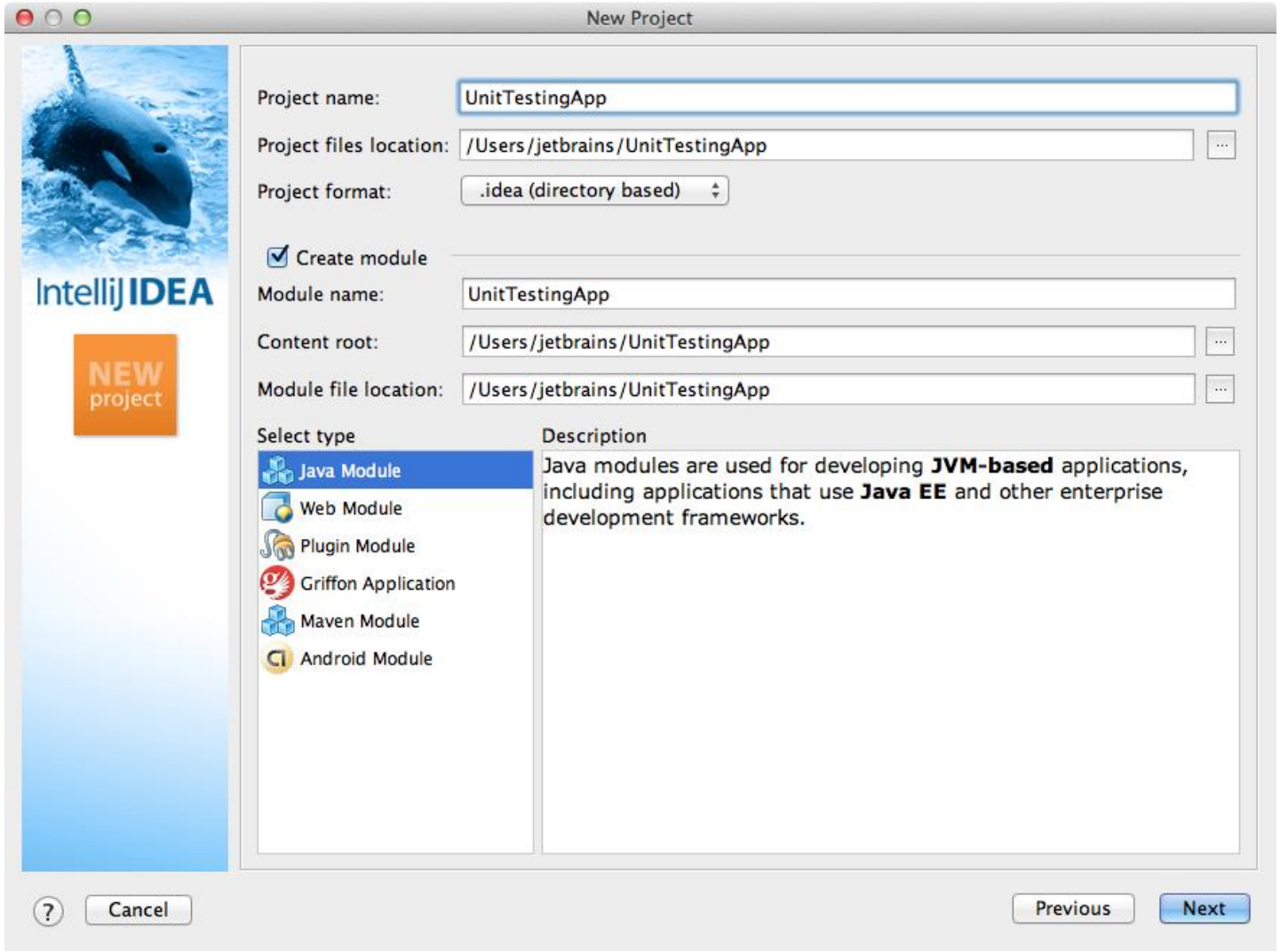
提高代码质量 I

使用Intellij Idea进行单元测试

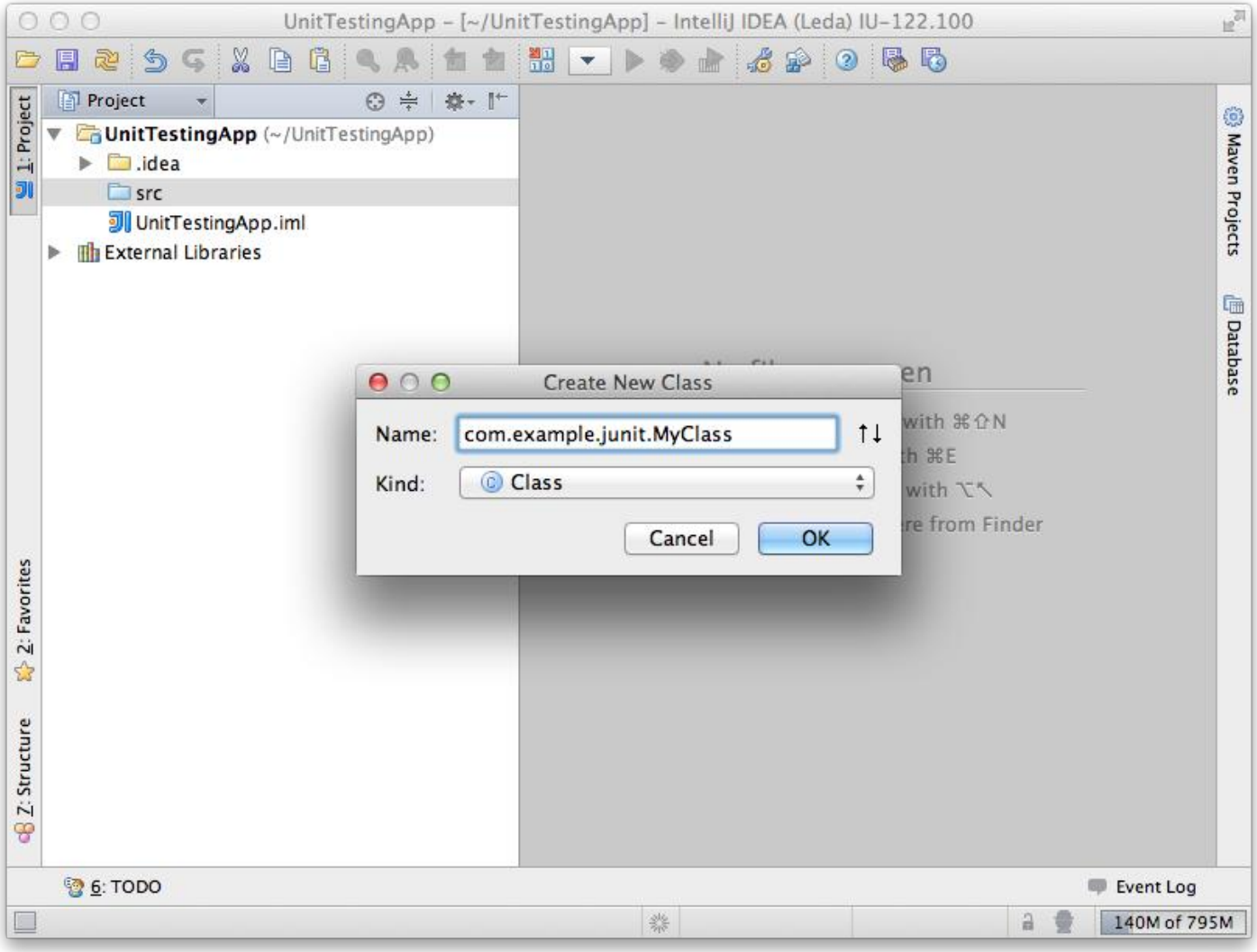
使用Intellij Idea进行单元测试

- 本文将介绍如何使用Intellij Idea进行单元测试和代码覆盖率分析

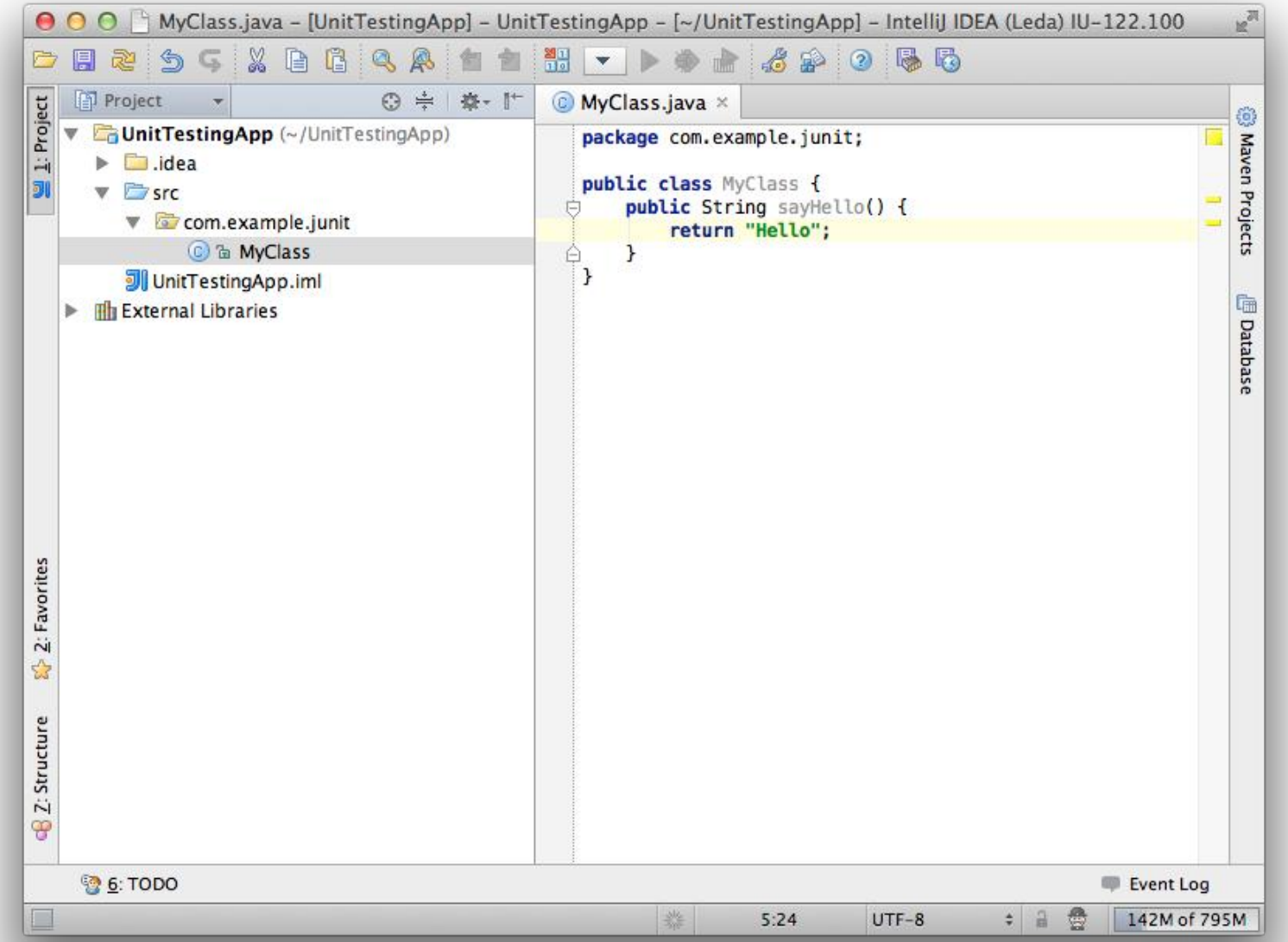
创建一个新的Java项目



创建被测类

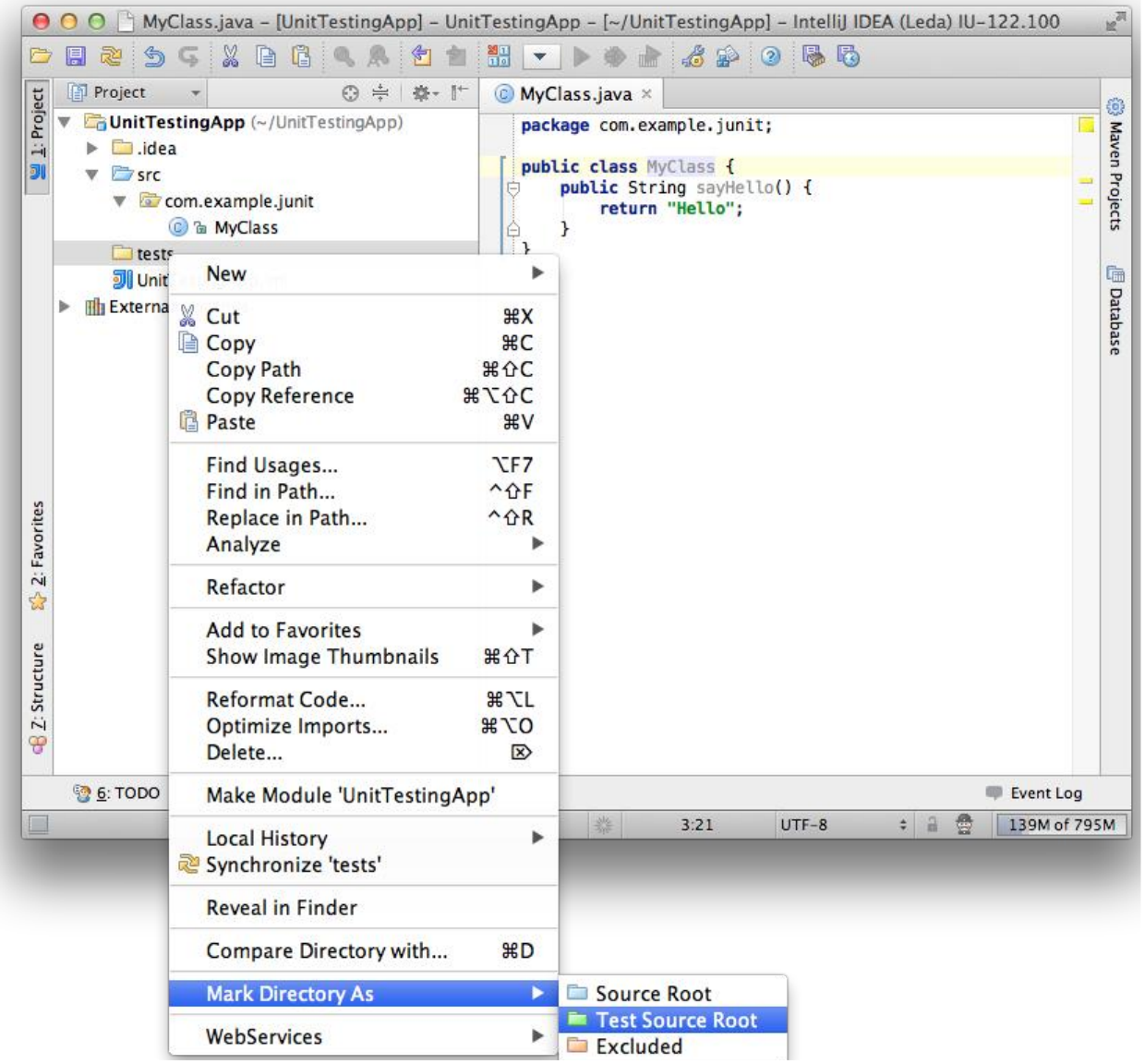

UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
Project
UnitTestingApp (~/UnitTestingApp)
.idea
src
UnitTestingApp.iml
External Libraries
1: Project
2: Favorites
7: Structure
Maven Projects
Database
Create New Class
Name:
com.example.junit.MyClass
Kind:
Class
Cancel
OK
6: TODO
Event Log
140M of 795M

创建被测函数


MyClass.java – [UnitTestingApp] – UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
Project
UnitTestingApp (~/UnitTestingApp)
.idea
src
com.example.junit
MyClass
UnitTestingApp.iml
External Libraries
MyClass.java
package com.example.junit;
public class MyClass {
public String sayHello() {
return "Hello";
}
}
1: Project
2: Favorites
7: Structure
Maven Projects
Database
6: TODO
Event Log
5:24
UTF-8
142M of 795M

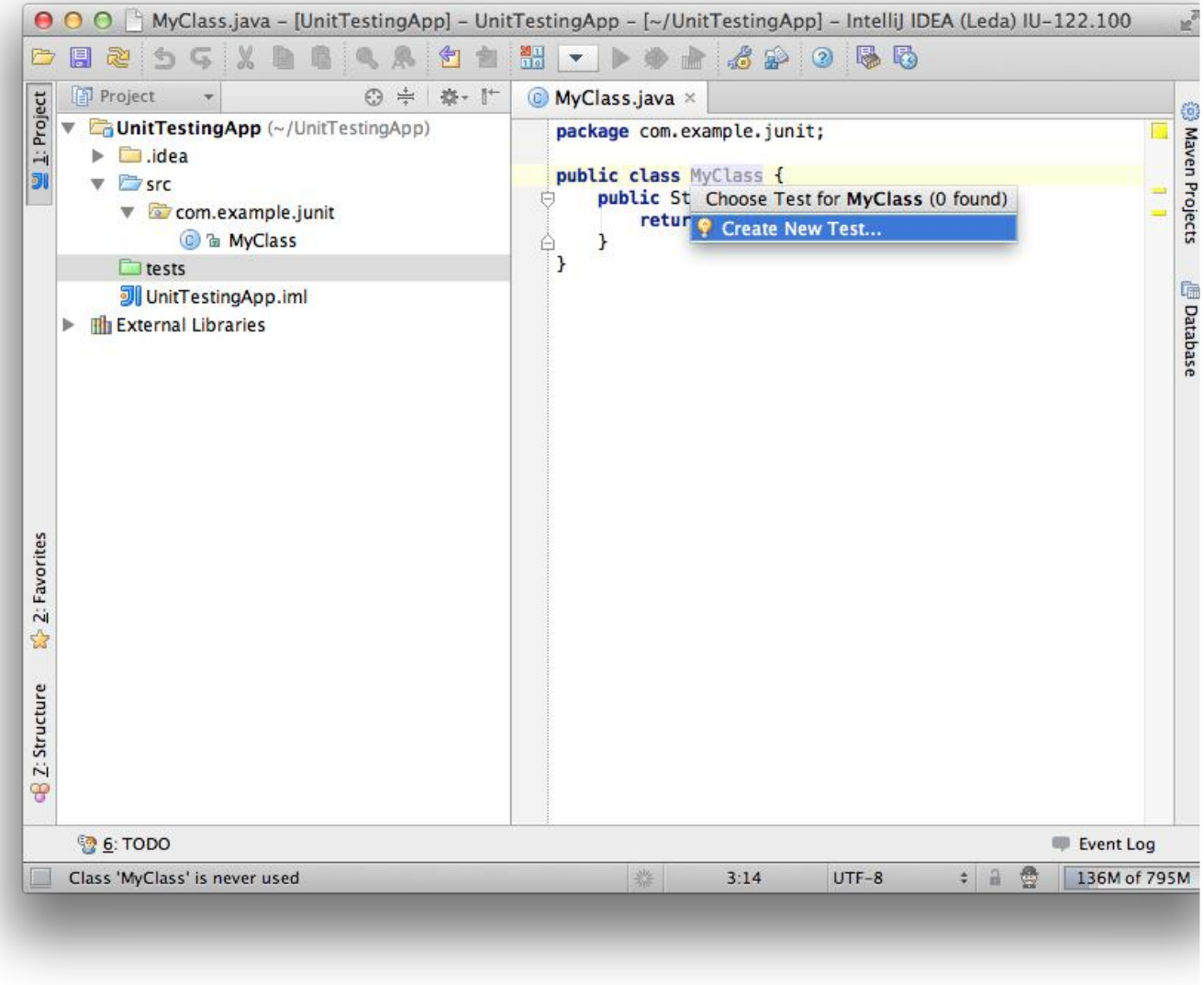
创建测试目录

- 创建一个tests目录
- 设置tests为Test Root



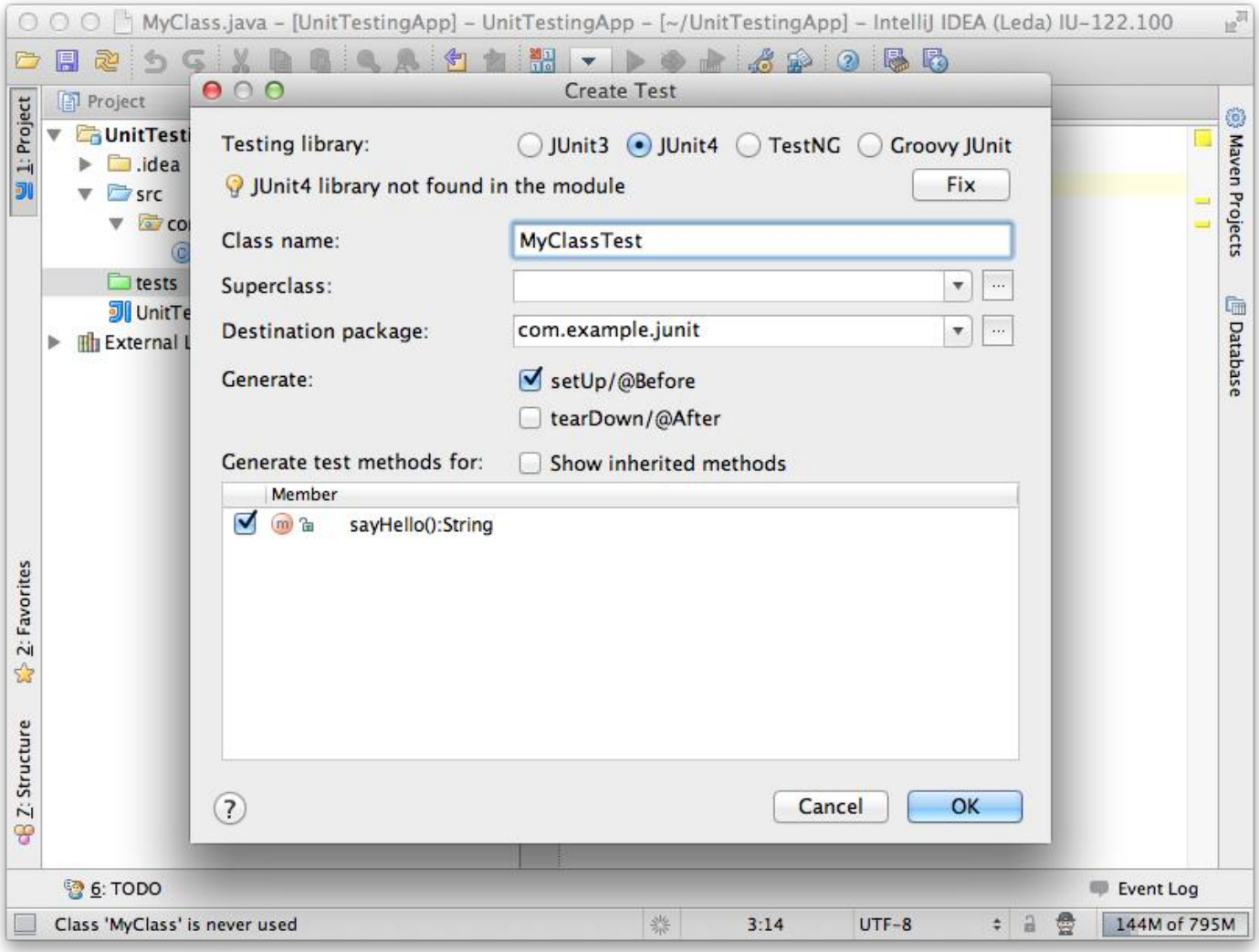
创建测试类

- 快捷键Ctrl-Shft-T



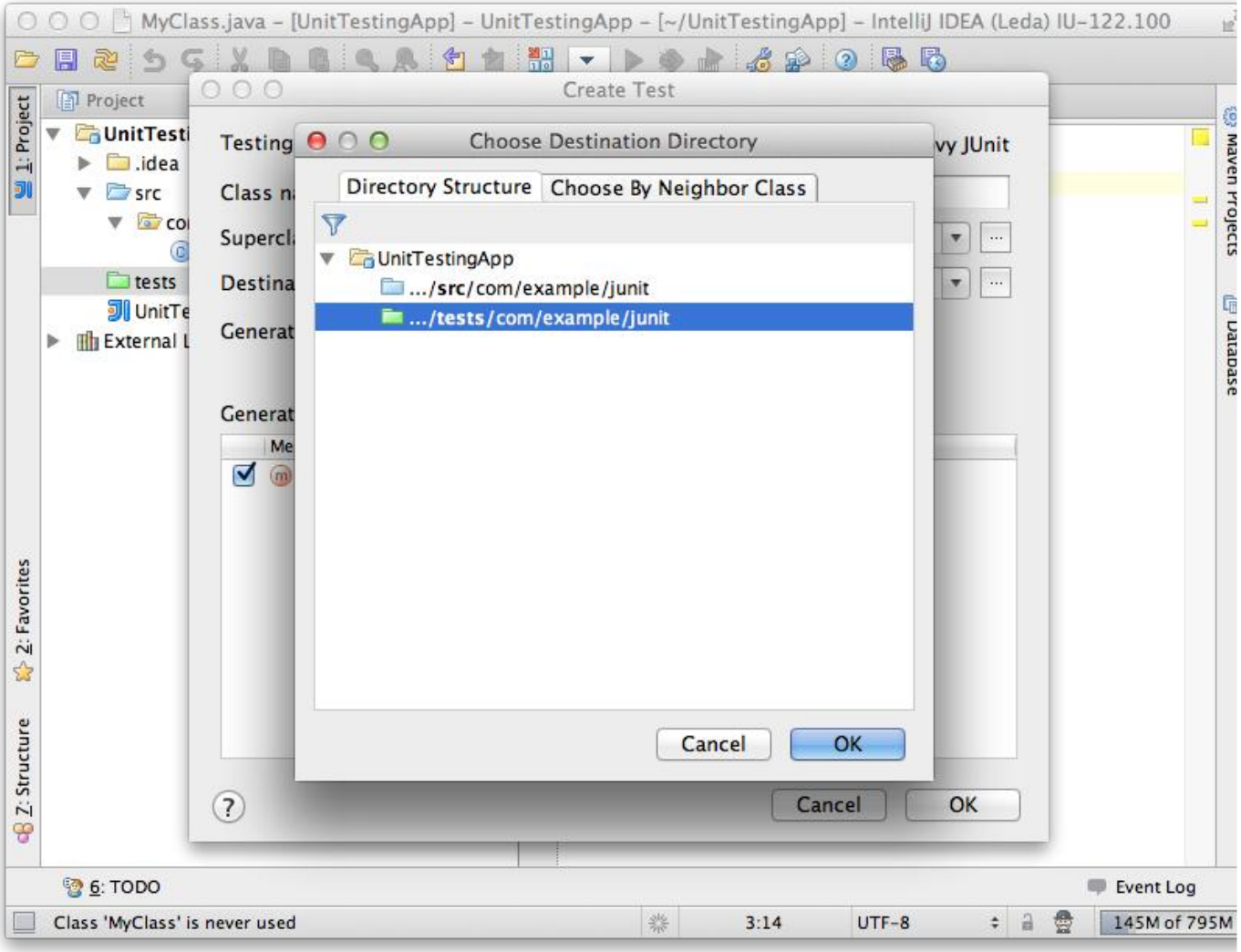
创建测试类

- 选择JUnit4
- 点击"Fix"按钮



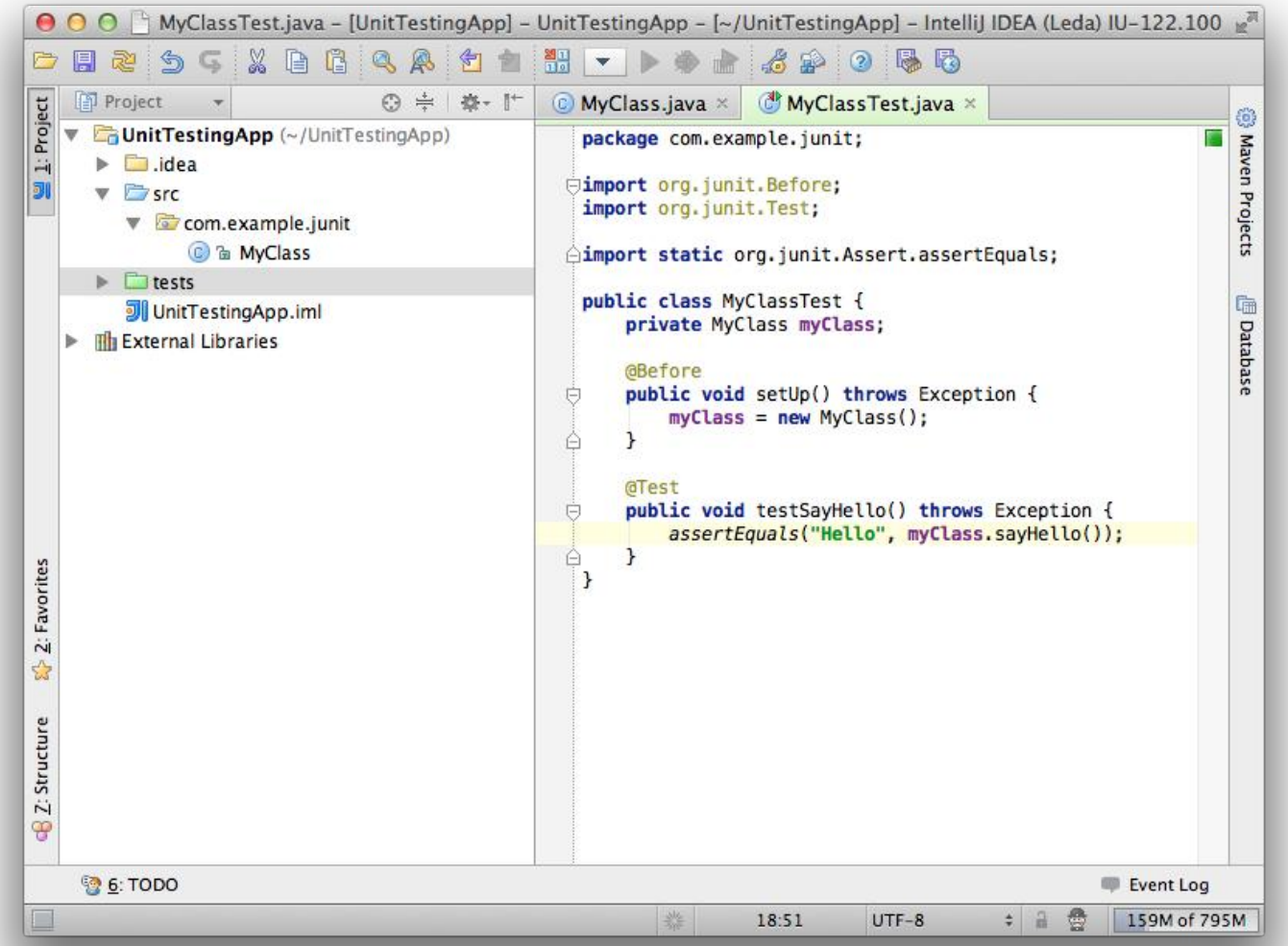
创建测试类

- 选择测试类目录

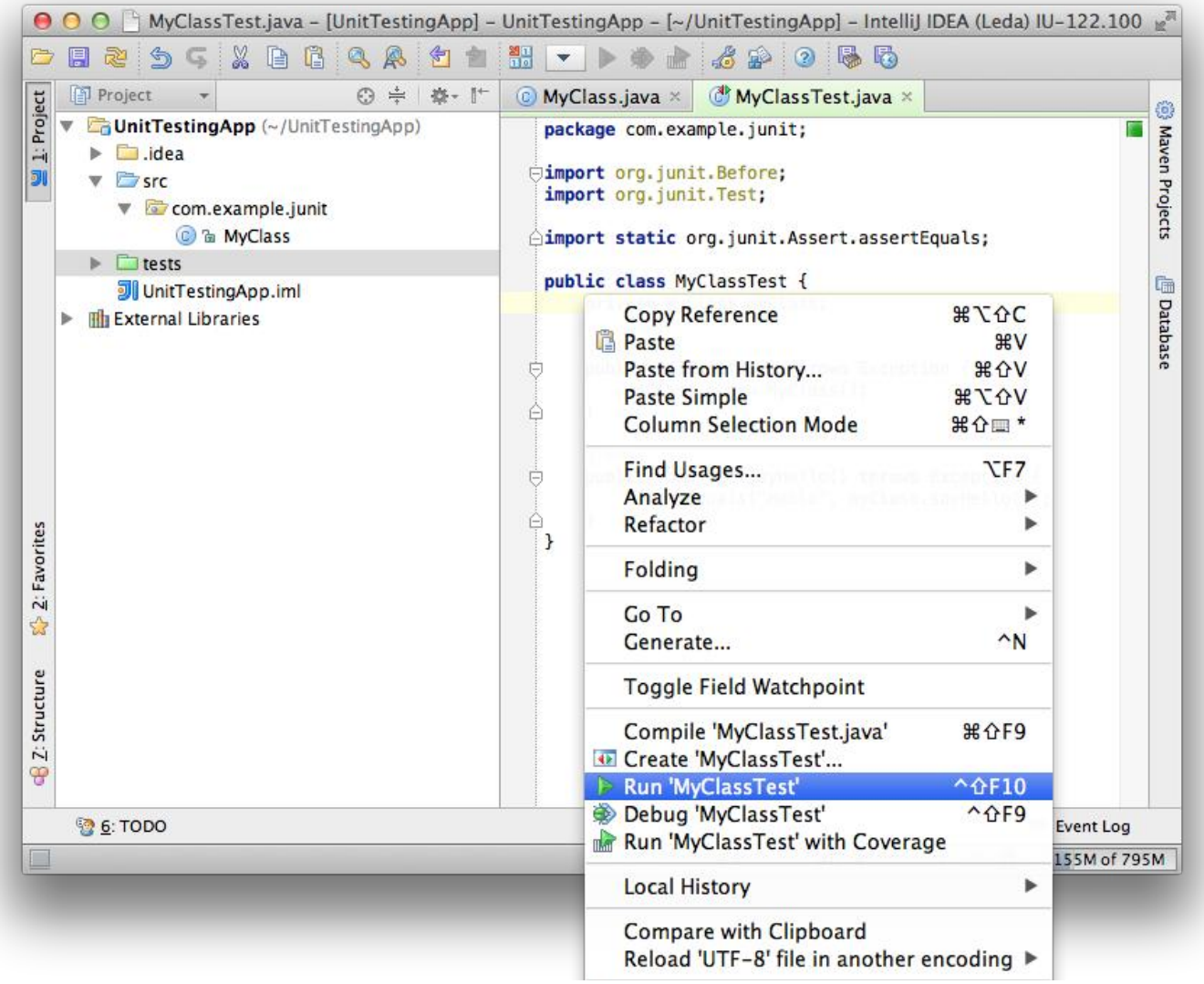


创建测试类

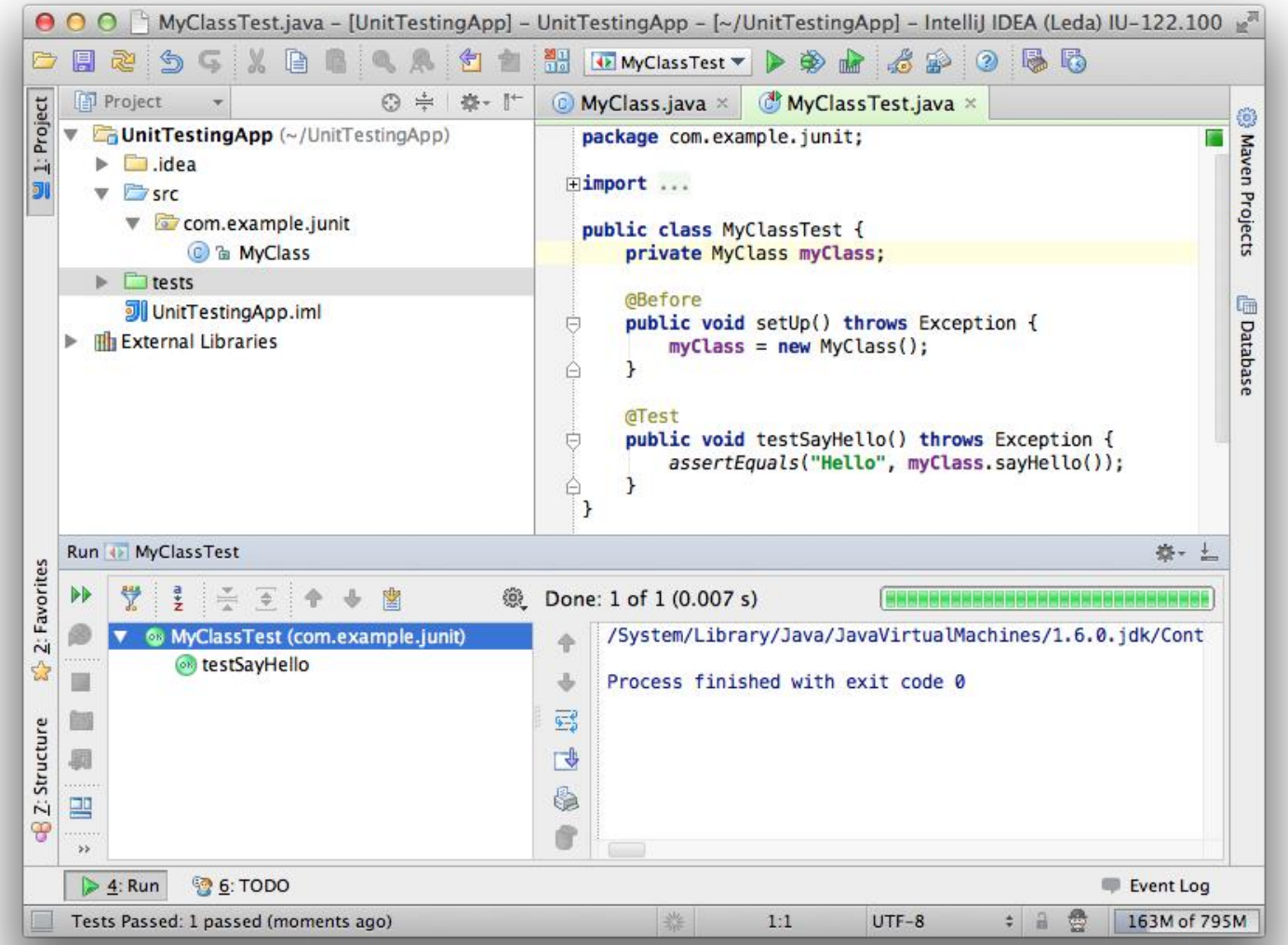
- 添加测试方法



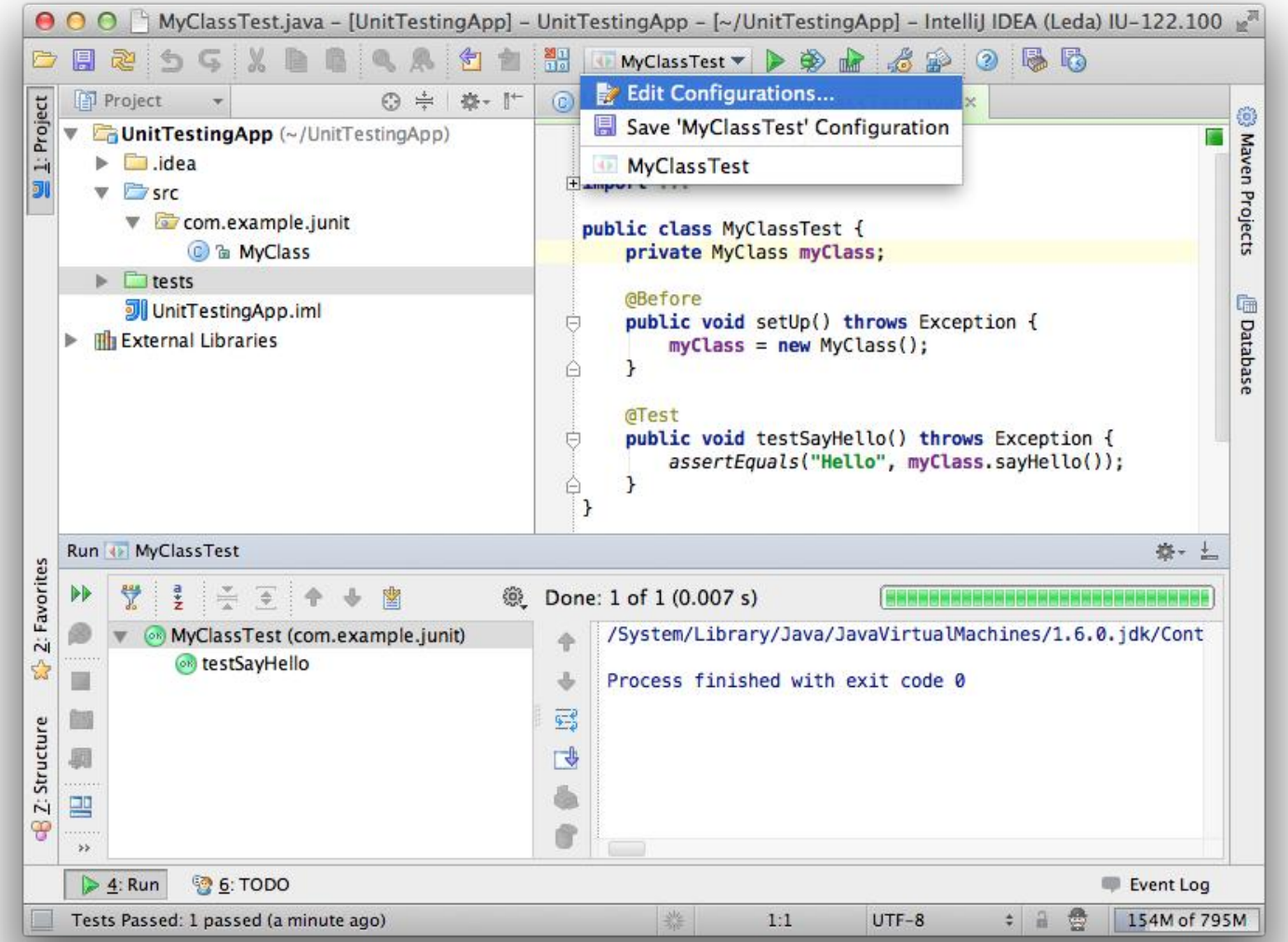
运行测试用例


MyClassTest.java – [UnitTestingApp] – UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
Project
UnitTestingApp (~/UnitTestingApp)
.idea
src
com.example.junit
MyClass
tests
UnitTestingApp.iml
External Libraries
MyClass.java
MyClassTest.java
package com.example.junit;
import org.junit.Before;
import org.junit.Test;
import static org.junit.Assert.assertEquals;
public class MyClassTest {
}
Copy Reference ⌘⌥⇧C
Paste ⌘V
Paste from History... ⌘⇧V
Paste Simple ⌘⌥⇧V
Column Selection Mode ⌘⇧⌨ *
Find Usages... ⌥F7
Analyze
Refactor
Folding
Go To
Generate... ^N
Toggle Field Watchpoint
Compile 'MyClassTest.java' ⌘⇧F9
Create 'MyClassTest'...
Run 'MyClassTest' ^⇧F10
Debug 'MyClassTest' ^⇧F9
Run 'MyClassTest' with Coverage
Local History
Compare with Clipboard
Reload 'UTF-8' file in another encoding
1: Project
2: Favorites
7: Structure
Maven Projects
Database
6: TODO
Event Log
155M of 795M

测试结果

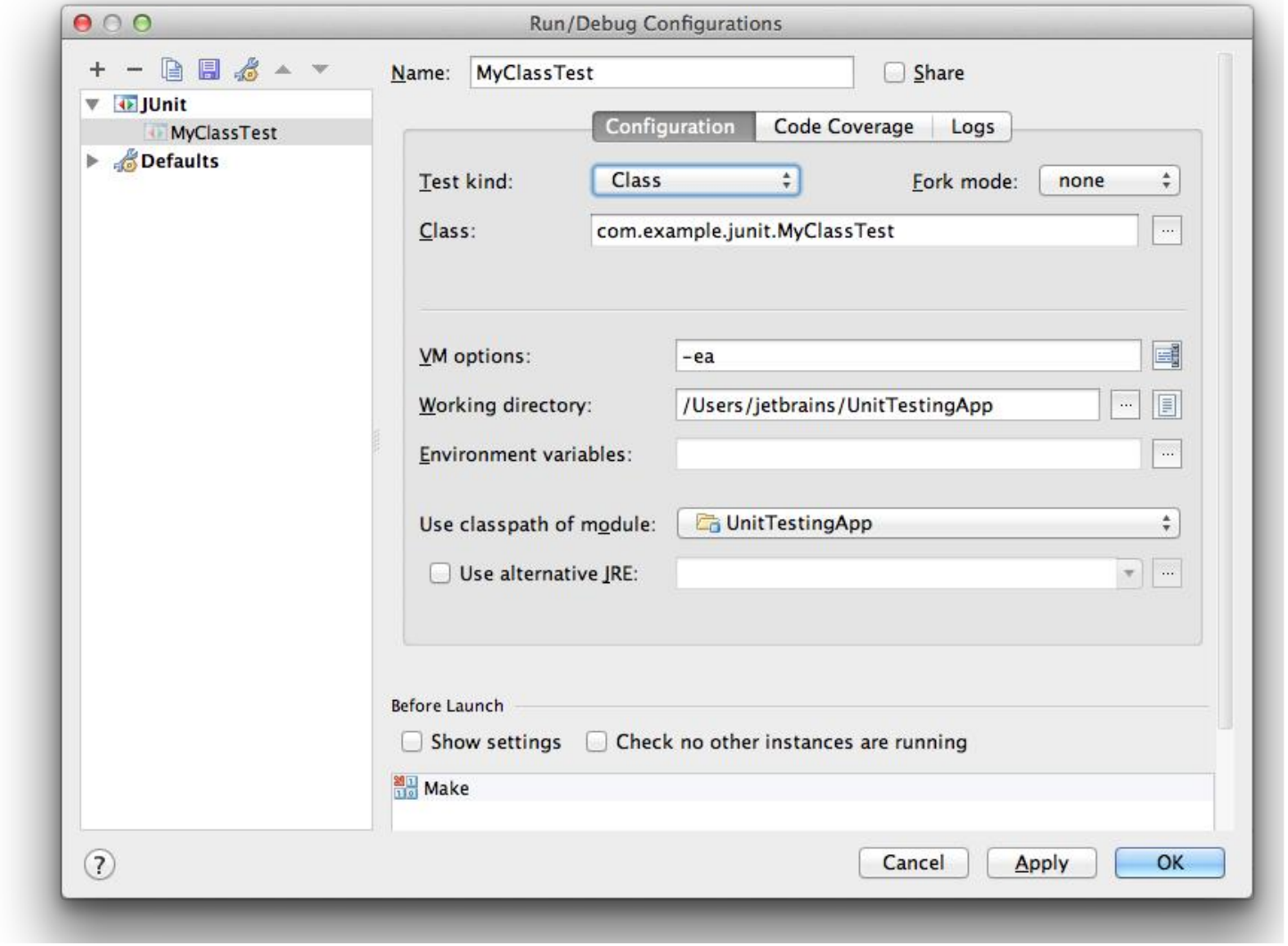

MyClassTest.java – [UnitTestingApp] – UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
MyClassTest
Project
MyClass.java
MyClassTest.java
UnitTestingApp (~/UnitTestingApp)
.idea
src
com.example.junit
MyClass
tests
UnitTestingApp.iml
External Libraries
package com.example.junit;
import ...
public class MyClassTest {
private MyClass myClass;
@Before
public void setUp() throws Exception {
myClass = new MyClass();
}
@Test
public void testSayHello() throws Exception {
assertEquals("Hello", myClass.sayHello());
}
}
Run MyClassTest
Done: 1 of 1 (0.007 s)
MyClassTest (com.example.junit)
testSayHello
/System/Library/Java/JavaVirtualMachines/1.6.0.jdk/Cont
Process finished with exit code 0
1: Project
2: Favorites
7: Structure
Maven Projects
Database
4: Run
6: TODO
Event Log
Tests Passed: 1 passed (moments ago)
1:1
UTF-8
163M of 795M

编辑测试选项


MyClassTest.java – [UnitTestingApp] – UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
MyClassTest
Edit Configurations...
Save 'MyClassTest' Configuration
MyClassTest
Project
UnitTestingApp (~/UnitTestingApp)
.idea
src
com.example.junit
MyClass
tests
UnitTestingApp.iml
External Libraries
public class MyClassTest {
private MyClass myClass;
@Before
public void setUp() throws Exception {
myClass = new MyClass();
}
@Test
public void testSayHello() throws Exception {
assertEquals("Hello", myClass.sayHello());
}
}
Run MyClassTest
Done: 1 of 1 (0.007 s)
MyClassTest (com.example.junit)
testSayHello
/System/Library/Java/JavaVirtualMachines/1.6.0.jdk/Cont
Process finished with exit code 0
1: Project
2: Favorites
7: Structure
Maven Projects
Database
4: Run
6: TODO
Event Log
Tests Passed: 1 passed (a minute ago)
1:1
UTF-8
154M of 795M

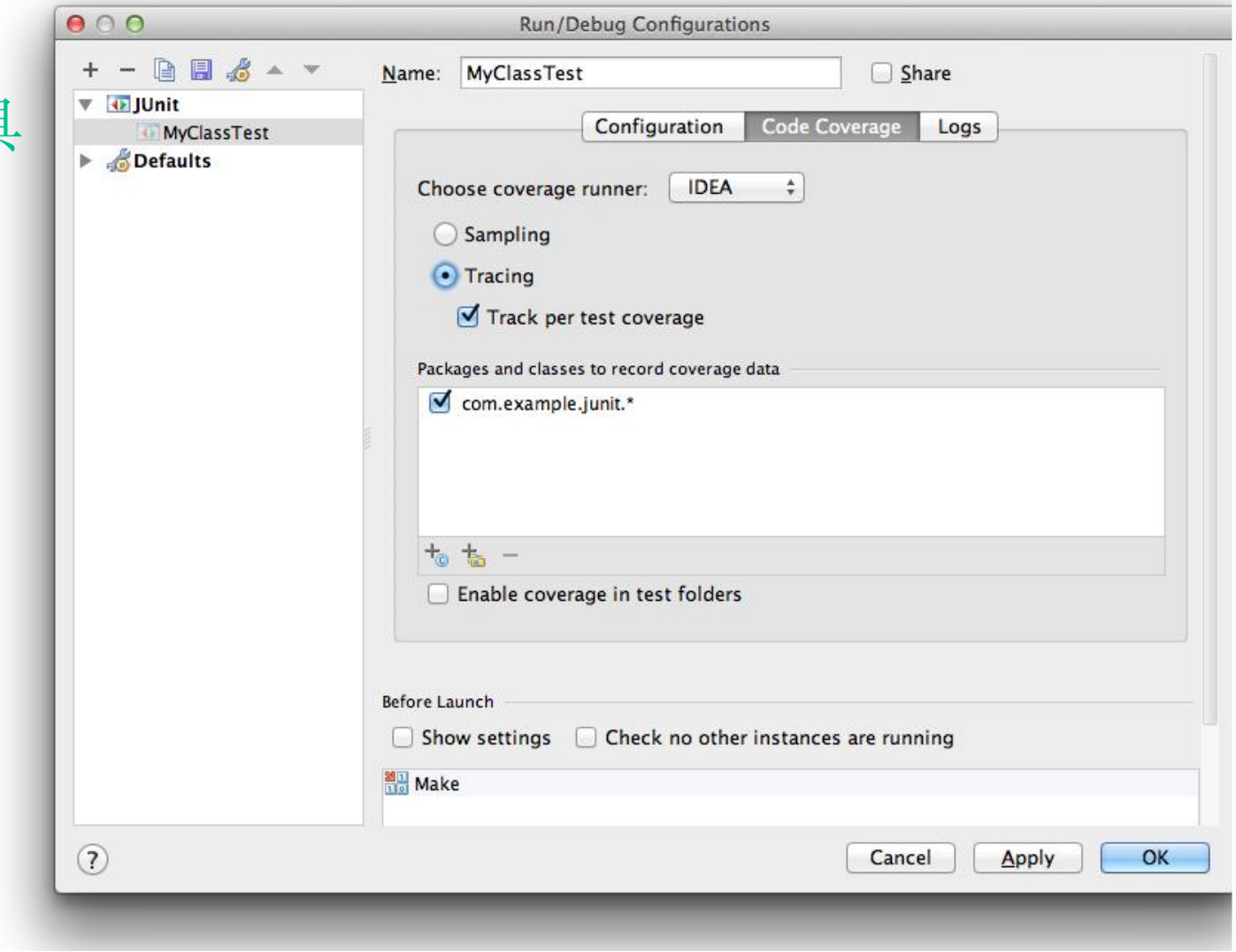
编辑测试选项

- 选择测试范围

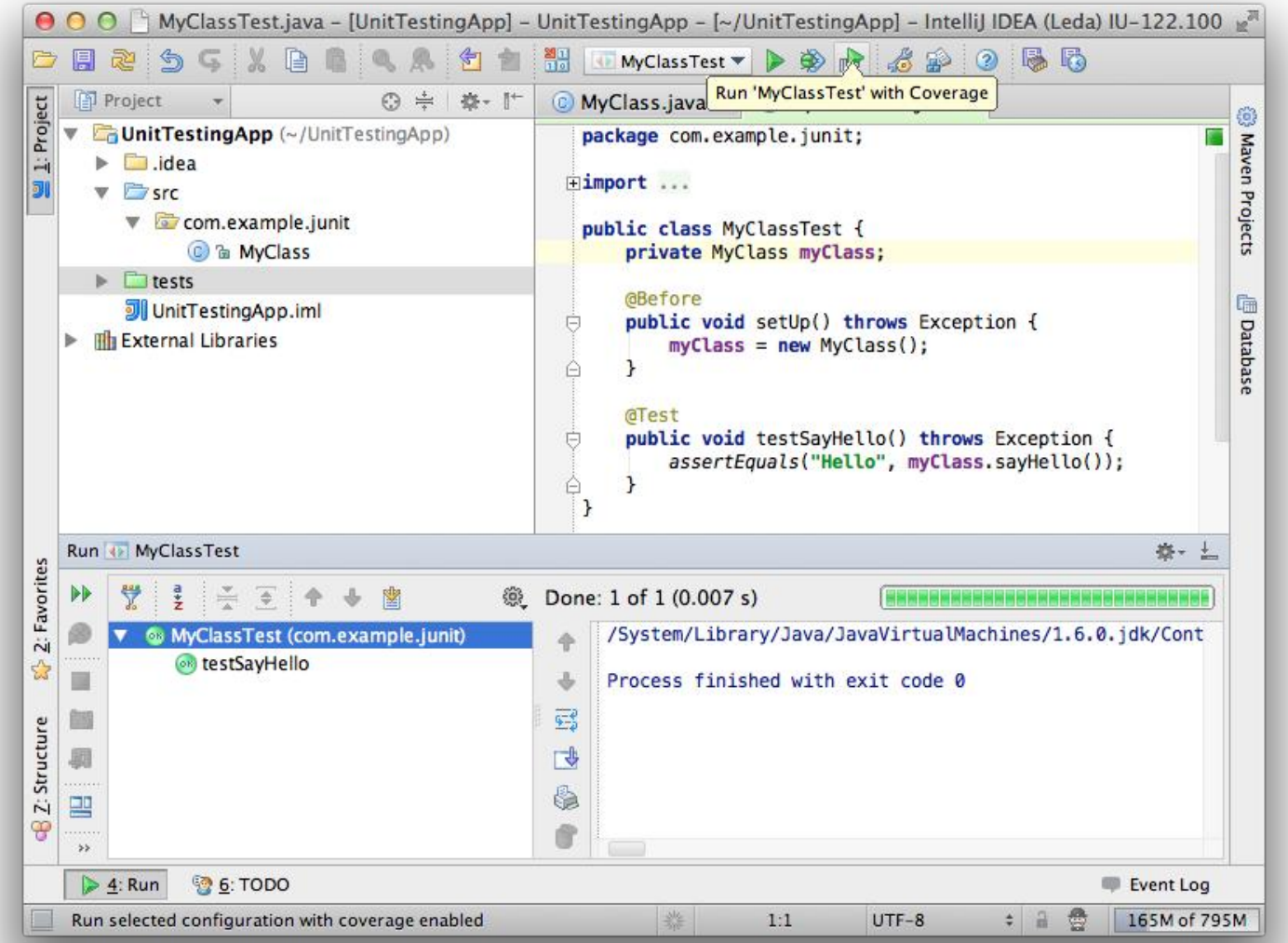


编辑测试选项

- 选择覆盖率工具



运行测试，并产生覆盖率


MyClassTest.java – [UnitTestingApp] – UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
MyClassTest
Run 'MyClassTest' with Coverage
Project
MyClass.java
UnitTestingApp (~/UnitTestingApp)
.idea
src
com.example.junit
MyClass
tests
UnitTestingApp.iml
External Libraries
package com.example.junit;
import ...
public class MyClassTest {
private MyClass myClass;
@Before
public void setUp() throws Exception {
myClass = new MyClass();
}
@Test
public void testSayHello() throws Exception {
assertEquals("Hello", myClass.sayHello());
}
}
Run MyClassTest
Done: 1 of 1 (0.007 s)
MyClassTest (com.example.junit)
testSayHello
/System/Library/Java/JavaVirtualMachines/1.6.0.jdk/Cont
Process finished with exit code 0
1: Project
2: Favorites
7: Structure
Maven Projects
Database
4: Run
6: TODO
Event Log
Run selected configuration with coverage enabled
1:1
UTF-8
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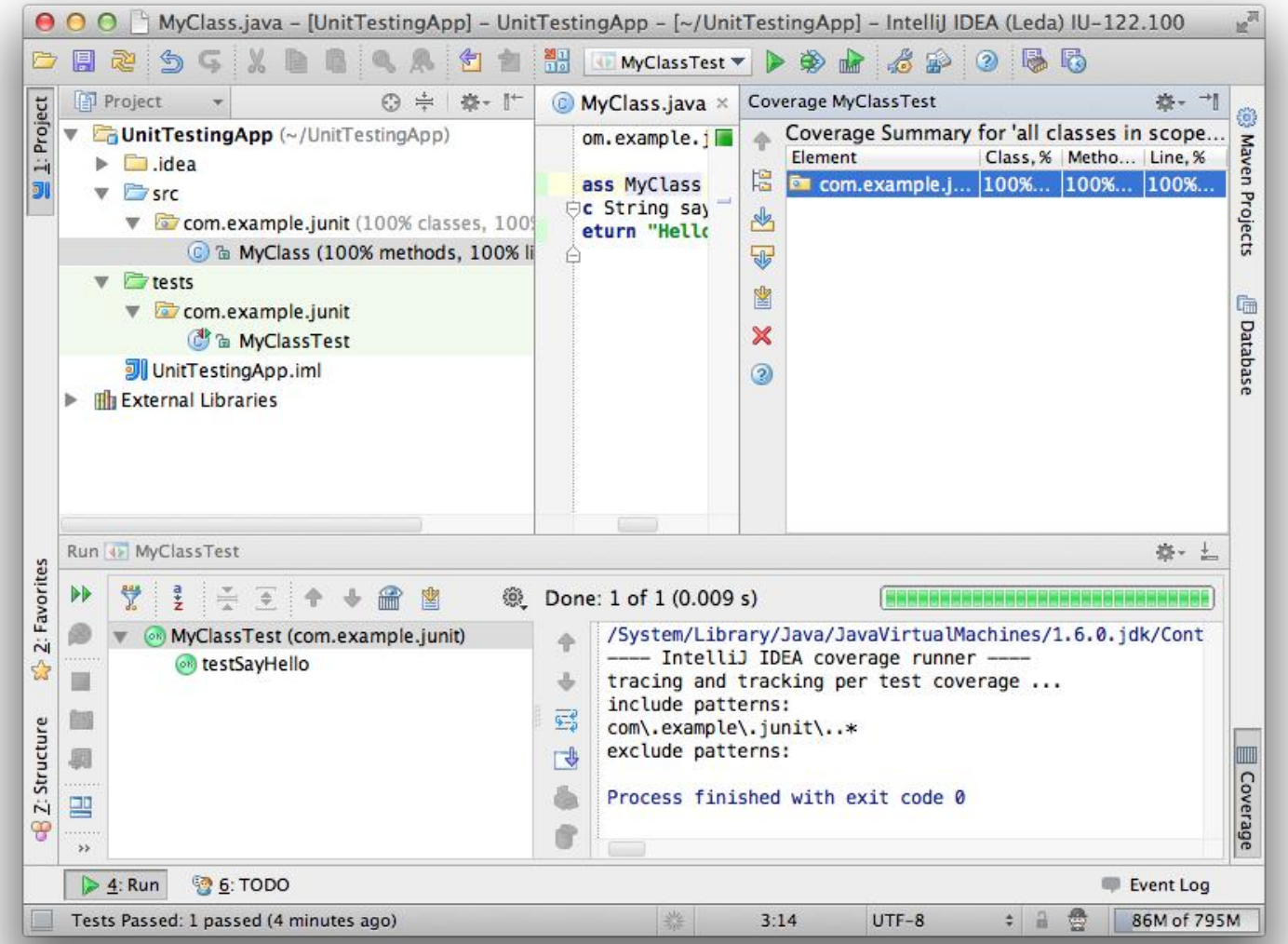
覆盖率数据显示


MyClass.java – [UnitTestingApp] – UnitTestingApp – [~/UnitTestingApp] – IntelliJ IDEA (Leda) IU-122.100
MyClassTest
Project
UnitTestingApp (~/UnitTestingApp)
.idea
src
com.example.junit (100% classes, 100
MyClass (100% methods, 100% li
tests
com.example.junit
MyClassTest
UnitTestingApp.iml
External Libraries
MyClass.java
om.example.j
ass MyClass
c String say
eturn "Hello
Coverage MyClassTest
Coverage Summary for 'all classes in scope...
Element
Class, %
Metho...
Line, %
com.example.j...
100%...
100%...
100%...
Run MyClassTest
Done: 1 of 1 (0.009 s)
MyClassTest (com.example.junit)
testSayHello
/System/Library/Java/JavaVirtualMachines/1.6.0.jdk/Cont
---- IntelliJ IDEA coverage runner ----
tracing and tracking per test coverage ...
include patterns:
com\.example\.junit\..*
exclude patterns:
Process finished with exit code 0
1: Project
2: Favorites
7: Structure
Maven Projects
Database
Coverage
4: Run
6: TODO
Event Log
Tests Passed: 1 passed (4 minutes ago)
3:14
UTF-8
86M of 795M

谢谢