JUnit Lab

**Objective:** In this tutorial, you create a User class and the corresponding UserTest class using JUnit 1.4.x.

**Detailed Steps:**

**1. Start the NetBeans 8.1 IDE.**

**2. Create a new Java Class Library Project named UserDT.**

**Alternative: Create a Java Web App project named UserWebApp.**

**3. Create a new Java Class named User.**

* Package: com.model

**4. Add class attributes and get/set methods**

    private int id;  
    private String name;

*Hint:* Insert Code... | Getter & Setter...

**Result:**

package com.model;  
  
public class User {

private int id;  
private String name;

public int getId() {  
    return id;  
}  
public void setId(int id) {  
    this.id = id;  
}  
public String getName() {  
    return name;  
}  
public void setName(String name) {  
    this.name = name;  
}

}

**5. Generate and Execute Unit Test Cases**

* Right click **User.java** and select **Tools | Create  / Update Tests**
  + Select JUnit
* Expand the com.model under **Test Packages**.
  + Open **UserTest.java.**
* Remove the generated fail() statements for all the test methods:
  + // fail("The test case is a prototype.");
* Select **Run**from the menu bar and select **"Test Project (UserDT)  Alt+F6"**.
  + Note: This will run *all* the test cases under the Test Package. This is equivalent to running a test suite.
* Result: Observe that one (i.e., testGetName() ) out of four test cases failed.
  + To correct this error, add code to getName() method of User.java to check for nulls before returning the string value.
  + public String **getName**() {  
        **if (name == null) {**  
    **name = "";**  
    **}**  
            return name;  
        }

**6. Modify the generated test methods.**

**a. Delete the *testSetXXX* methods**

**b. Add the code in *orange* below.**

package com.model;

...  
import org.junit.Test;  
import static org.junit.Assert.\*;

public class **UserTest** {  
         
    public UserTest() {  
    }

...

    @Test  
    public void **testGetId**() {  
        System.out.println("getId");  
        User instance = new User();  
        int expResult = **10**;  
        **instance.setId(expResult);**  
        int result = instance.getId();  
        assertEquals(expResult, result);  
    }

    @Test  
    public void **testGetName**() {  
        System.out.println("getName");  
        User instance = new User();  
        String expResult = "**John**";  
       **instance.setName(expResult);**  
        String result = instance.getName();  
        assertEquals(expResult, result);  
    }

 }

**7. Re-run the Unit Test Cases**

* Select **Run**from the menu bar and select **"Test Project (UserDT)  Alt+F6"**
* Under Test Results panel, click the **Green Check** icon (Show Passed)
* Observe that the two test cases passed.

**Result: All passed**

**Troubleshooting**: If you encounter an initialization error (after running the Test Project) due to hamcrest library, close the project and reopen. When a dialog is prompted, continue and click "Resolve".

IMPORTANT: All test methods **must** have an assertion (e.g., assertEquals() method).