

JUnit - Writing a Test

Here we will see one complete example of JUnit testing using POJO class, Business logic class, and a test class, which will be run by the test runner.

Create **EmployeeDetails.java** in C:\>JUNIT_WORKSPACE, which is a POJO class.

```
public class EmployeeDetails {

    private String name;
    private double monthlySalary;
    private int age;

    /**
     * @return the name
     */

    public String getName() {
        return name;
    }

    /**
     * @param name the name to set
     */

    public void setName(String name) {
        this.name = name;
    }

    /**
     * @return the monthlySalary
     */

    public double getMonthlySalary() {
        return monthlySalary;
    }

    /**
     * @param monthlySalary the monthlySalary to set
     */
}
```

```
public void setMonthlySalary(double monthlySalary) {  
    this.monthlySalary = monthlySalary;  
}  
  
/**  
 * @return the age  
 */  
public int getAge() {  
    return age;  
}  
  
/**  
 * @param age the age to set  
 */  
public void setAge(int age) {  
    this.age = age;  
}  
}
```

EmployeeDetails class is used to –

get/set the value of employee's name.

get/set the value of employee's monthly salary.

get/set the value of employee's age.

Create a file called **EmpBusinessLogic.java** in C:\>JUNIT_WORKSPACE, which contains the business logic.

```
public class EmpBusinessLogic {  
    // Calculate the yearly salary of employee  
    public double calculateYearlySalary(EmployeeDetails employeeDetails) {  
        double yearlySalary = 0;  
        yearlySalary = employeeDetails.getMonthlySalary() * 12;  
        return yearlySalary;  
    }  
  
    // Calculate the appraisal amount of employee  
    public double calculateAppraisal(EmployeeDetails employeeDetails) {  
        double appraisal = 0;  
  
        if(employeeDetails.getMonthlySalary() < 10000){  
            appraisal = 500;  
        }  
    }  
}
```

```
    }else{  
        appraisal = 1000;  
    }  
  
    return appraisal;  
}  
}
```

EmpBusinessLogic class is used for calculating –

the yearly salary of an employee.

the appraisal amount of an employee.

Create a file called **TestEmployeeDetails.java** in C:\>JUNIT_WORKSPACE, which contains the test cases to be tested.

```
import org.junit.Test;  
import static org.junit.Assert.assertEquals;  
  
public class TestEmployeeDetails {  
    EmpBusinessLogic empBusinessLogic = new EmpBusinessLogic();  
    EmployeeDetails employee = new EmployeeDetails();  
  
    //test to check appraisal  
    @Test  
    public void testCalculateAppriasal() {  
        employee.setName("Rajeev");  
        employee.setAge(25);  
        employee.setMonthlySalary(8000);  
  
        double appraisal = empBusinessLogic.calculateAppraisal(employee);  
        assertEquals(500, appraisal, 0.0);  
    }  
  
    // test to check yearly salary  
    @Test  
    public void testCalculateYearlySalary() {  
        employee.setName("Rajeev");  
        employee.setAge(25);  
        employee.setMonthlySalary(8000);  
  
        double salary = empBusinessLogic.calculateYearlySalary(employee);  
        assertEquals(96000, salary, 0.0);  
    }  
}
```

```
}  
}
```

TestEmployeeDetails class is used for testing the methods of **EmpBusinessLogic** class. It

tests the yearly salary of the employee.

tests the appraisal amount of the employee.

Next, create a java class filed named **TestRunner.java** in C:\>JUNIT_WORKSPACE to execute test case(s).

```
import org.junit.runner.JUnitCore;  
import org.junit.runner.Result;  
import org.junit.runner.notification.Failure;  
  
public class TestRunner {  
    public static void main(String[] args) {  
        Result result = JUnitCore.runClasses(TestEmployeeDetails.class);  
  
        for (Failure failure : result.getFailures()) {  
            System.out.println(failure.toString());  
        }  
  
        System.out.println(result.wasSuccessful());  
    }  
}
```

Compile the test case and Test Runner classes using javac.

```
C:\JUNIT_WORKSPACE>javac EmployeeDetails.java  
EmpBusinessLogic.java TestEmployeeDetails.java TestRunner.java
```

Now run the Test Runner, which will run the test case defined in the provided Test Case class.

```
C:\JUNIT_WORKSPACE>java TestRunner
```

Verify the output.

```
true
```