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JUnit Tutorial

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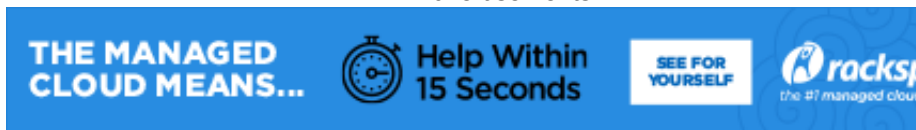
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Now we'll show you a step by step process to get a kick start in JUnit using a basic example

Create a Class

Create a java class to be tested say MessageUtil.java in C:\ > JUNIT_WORKSPACE

```
/*
 * This class prints the given message on console.
 */
public class MessageUtil {

    private String message;

    //Constructor
    // @param message to be printed
    public MessageUtil(String message){
        this.message = message;
    }

    // prints the message
    public String printMessage(){
        System.out.println(message);
        return message;
    }
}
```

Create Test Case Class

Create a java test class say TestJUnit.java.

Add a test method testPrintMessage() to your test class.

Add an Annotation @Test to method testPrintMessage().

Implement the test condition and check the condition using assertEquals API of JUnit

Create a java class file name TestJUnit.java in C:\ > JUNIT_WORKSPACE

```
import org.junit.Test;
import static org.junit.Assert.assertEquals;
public class TestJUnit {

    String message = "Hello World";
    MessageUtil messageUtil = new MessageUtil(message);
```

```

@Test
public void testPrintMessage() {
    assertEquals(message,messageUtil.printMessage());
}
}

```

Create Test Runner Class

Create a TestRunner java class.

Use runClasses method of JUnitCore class of JUnit to run test case of above create

Get the result of test cases run in Result Object

Get failure(s) using getFailures() methods of Result object

Get Success result using wasSuccessful() methods of Result object

Create a java class file name TestRunner.java in **C:\ > JUNIT_WORKSPACE** to execute 1

```

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(TestJunit.class);
        for (Failure failure : result.getFailures()) {
            System.out.println(failure.toString());
        }
        System.out.println(result.wasSuccessful());
    }
}

```

Compile the MessageUtil, Test case and Test Runner classes using javac

```
C:\JUNIT_WORKSPACE>javac MessageUtil.java TestJunit.java TestRunner.java
```

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

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

Verify the output.

```
Hello World
true
```

Now update TestJunit in **C:\ > JUNIT_WORKSPACE** so that test fails. Change the messa

```

import org.junit.Test;
import static org.junit.Assert.assertEquals;
public class TestJunit {

    String message = "Hello World";
    MessageUtil messageUtil = new MessageUtil(message);

    @Test
    public void testPrintMessage() {
        message = "New Word";
        assertEquals(message,messageUtil.printMessage());
    }
}

```

Let's keep rest of the classes as is, and try to run same Test Runner

```
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(TestJunit.class);
        for (Failure failure : result.getFailures()) {
            System.out.println(failure.toString());
        }
        System.out.println(result.wasSuccessful());
    }
}
```

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

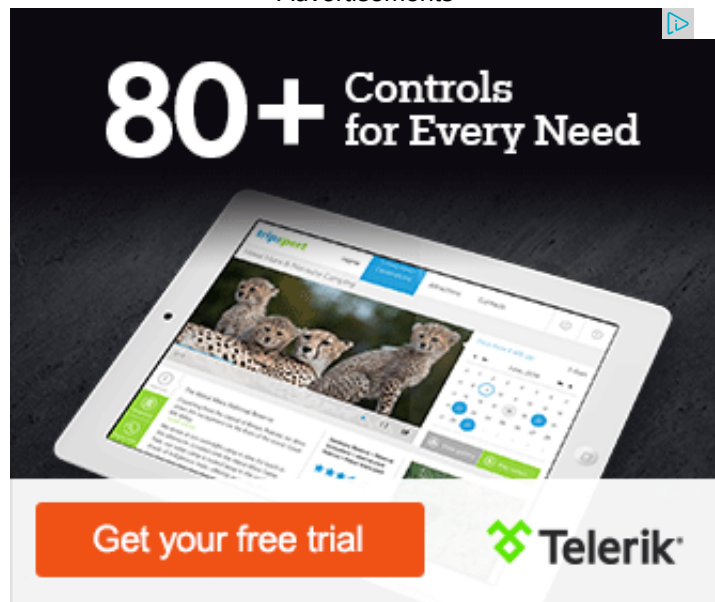
```
C:\JUNIT_WORKSPACE>java TestRunner
```

Verify the output.

```
Hello World
testPrintMessage(TestJunit): expected:<[New Wor]d> but was:<[Hello]
false
```

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