JUnit - Environment Setup

Local Environment Setup

JUnit is a framework for Java, so the very first requirement is to have JDK installed in your machine.

System Requirement

JDK	1.5 or above.
Memory	No minimum requirement.
Disk Space	No minimum requirement.
Operating System	No minimum requirement.

Step 1: Verify Java Installation in Your Machine

First of all, open the console and execute a java command based on the operating system you are working on.

OS	Task	Command
Windows	Open Command Console	c:\> java -version
Linux	Open Command Terminal	$ java -version
Mac	Open Terminal	machine:~ joseph$ java -version

Let's verify the output for all the operating systems −

OS	Output
Windows	java version "1.8.0_101" Java(TM) SE Runtime Environment (build 1.8.0_101)
Linux	java version "1.8.0_101" Java(TM) SE Runtime Environment (build 1.8.0_101)
Mac	java version "1.8.0_101" Java(TM) SE Runtime Environment (build 1.8.0_101)

If you do not have Java installed on your system, then download the Java Software Development Kit (SDK) from the following link https://www.oracle.com. We are assuming Java 1.8.0_101 as the installed version for this tutorial.

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Step 2: Set JAVA Environment

Set the **JAVA_HOME** environment variable to point to the base directory location where Java is installed on your machine. For example.

OS	Output
Windows	Set the environment variable JAVA_HOME to C:\Program Files\Java\jdk1.8.0_101
Linux	export JAVA_HOME = /usr/local/java-current
Mac	export JAVA_HOME = /Library/Java/Home

Append Java compiler location to the System Path.

OS	Output
Windows	Append the string **C:\Program Files\Java\jdk1.8.0_101\bin** at the end of the system variable, **Path**.
Linux	export PATH = $PATH:$JAVA_HOME/bin/
Mac	not required

Verify Java installation using the command **java -version** as explained above.

Step 3: Download JUnit Archive

Download the latest version of JUnit jar file from http://www.junit.org. At the time of writing this tutorial, we have downloaded Junit-4.12.jar and copied it into C:\>JUnit folder.

OS	Archive name
Windows	junit4.12.jar
Linux	junit4.12.jar

| Mac | junit4.12.jar |

Step 4: Set JUnit Environment

Set the **JUNIT_HOME** environment variable to point to the base directory location where JUNIT jar is stored on your machine. Let's assuming we've stored junit4.12.jar in the JUNIT folder.

Sr.No	OS & Description
1	**Windows** Set the environment variable JUNIT_HOME to C:\JUNIT
2	**Linux** export JUNIT_HOME = /usr/local/JUNIT
3	**Mac** export JUNIT_HOME = /Library/JUNIT

Step 5: Set CLASSPATH Variable

Set the **CLASSPATH** environment variable to point to the JUNIT jar location.

Sr.No	OS & Description
1	**Windows** Set the environment variable CLASSPATH to %CLASSPATH%;%JUNIT_HOME%\junit4.12.jar;.;
2	**Linux** export CLASSPATH = $CLASSPATH:$JUNIT_HOME/junit4.12.jar:.
3	**Mac** export CLASSPATH = $CLASSPATH:$JUNIT_HOME/junit4.12.jar:.

Step 6: Test JUnit Setup

Create a java class file name TestJunit in **C:\>JUNIT_WORKSPACE**

```java
import org.junit.Test;
import static org.junit.Assert.assertEquals;

public class TestJunit {
   @Test
```

```java
    public void testAdd() {
        String str = "Junit is working fine";
        assertEquals("Junit is working fine",str);
    }
}
```

Create a java class file name TestRunner in **C:\>JUNIT_WORKSPACE** to execute test case(s).

```java
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());
    }
}
```

Step 7: Verify the Result

Compile the classes using **javac** compiler as follows −

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

Now run the Test Runner to see the result as follows −

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

Verify the output.

```
true
```