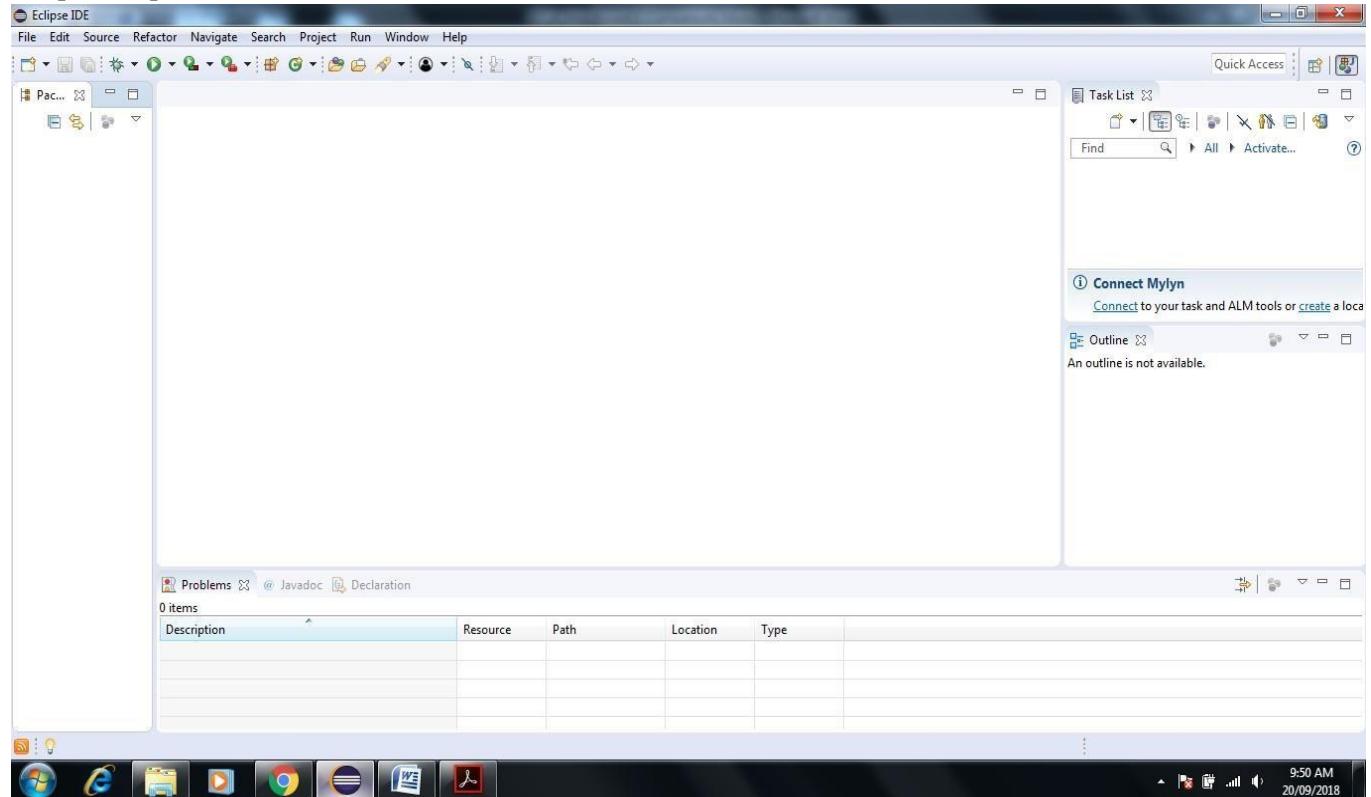


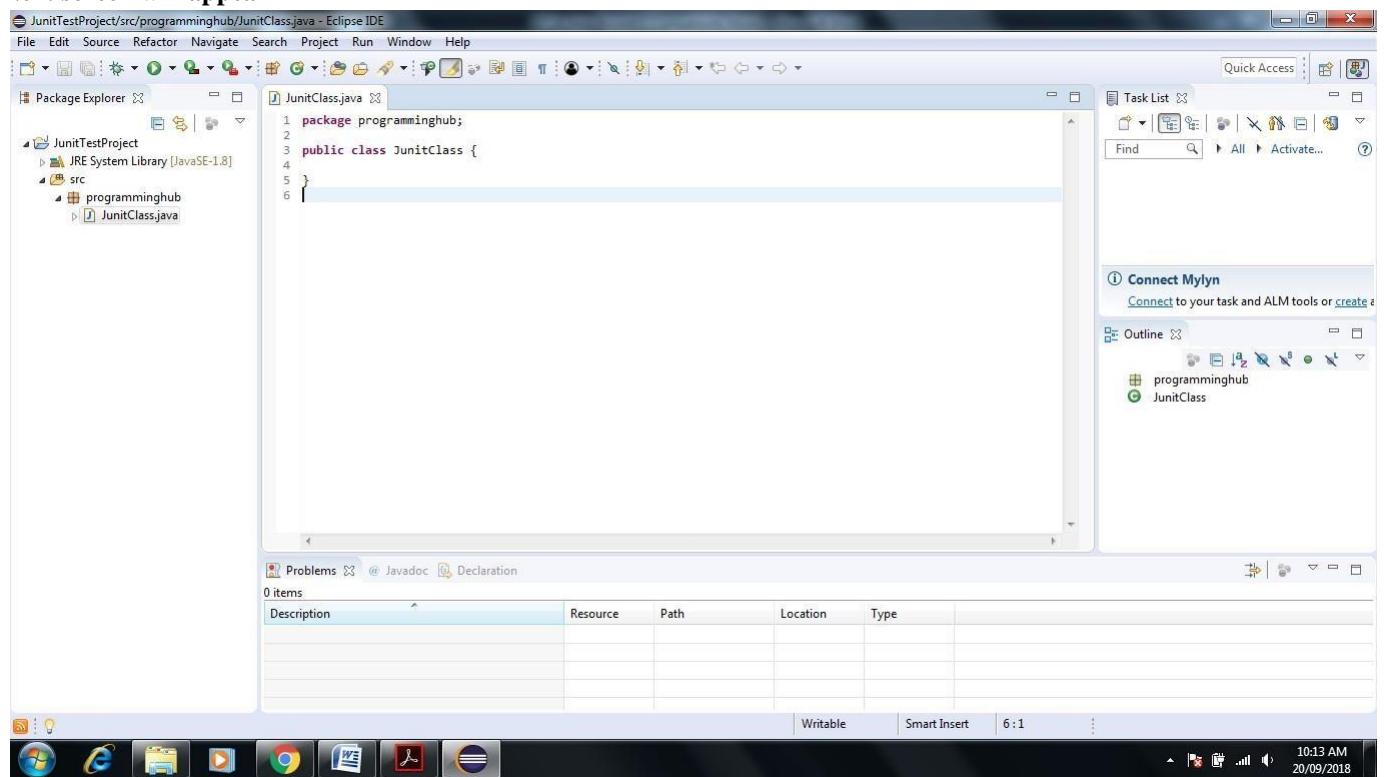
How to Create Simple Junit Test in Eclipse IDE

1. Download JDK 1.8 and Eclipse latest version here we are using eclipse-java-photon-R-win32.

2. Open Eclipse IDE



Next screen will appear



Write a small program with only two functions Add and Multiplication

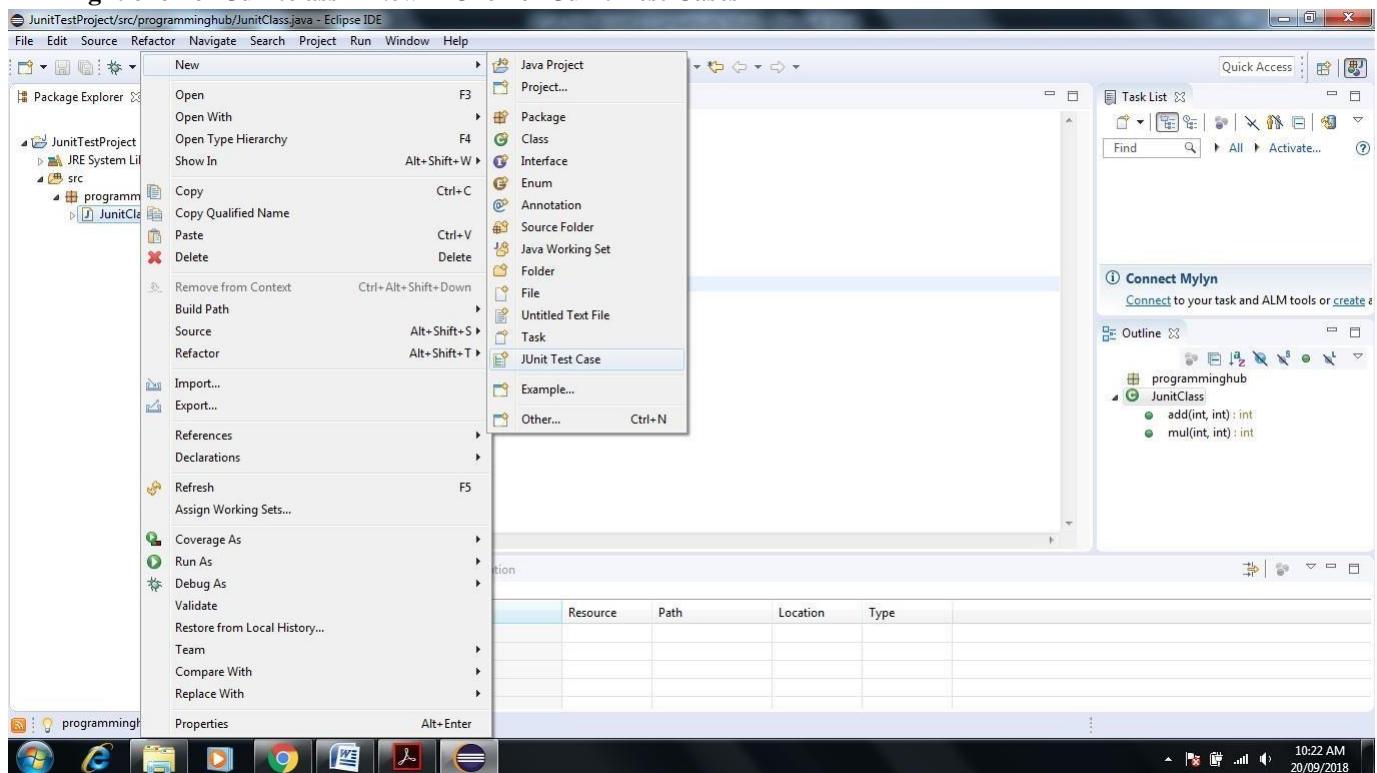
Screenshot of Eclipse IDE showing the Java code for `JUnitClass`:

```
1 package programminghub;
2
3 public class JUnitClass {
4     public int add(int a,int b) {
5         return a+b;
6     }
7     public int mul(int a,int b) {
8         return a*b;
9     }
10}
```

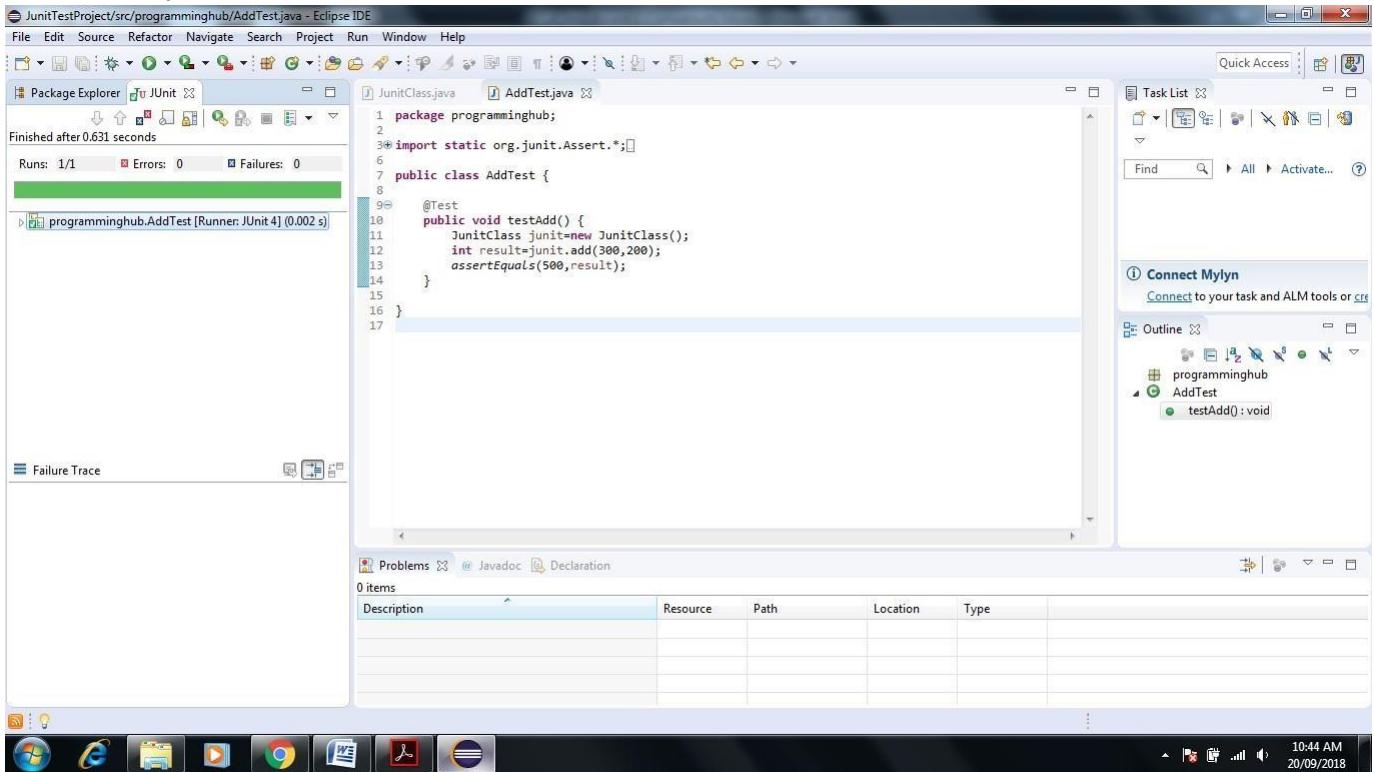
The interface shows the Package Explorer, Outline, Problems, and Task List views. The JUnitClass.java file is open in the editor.

Write Test Cases for Java Program

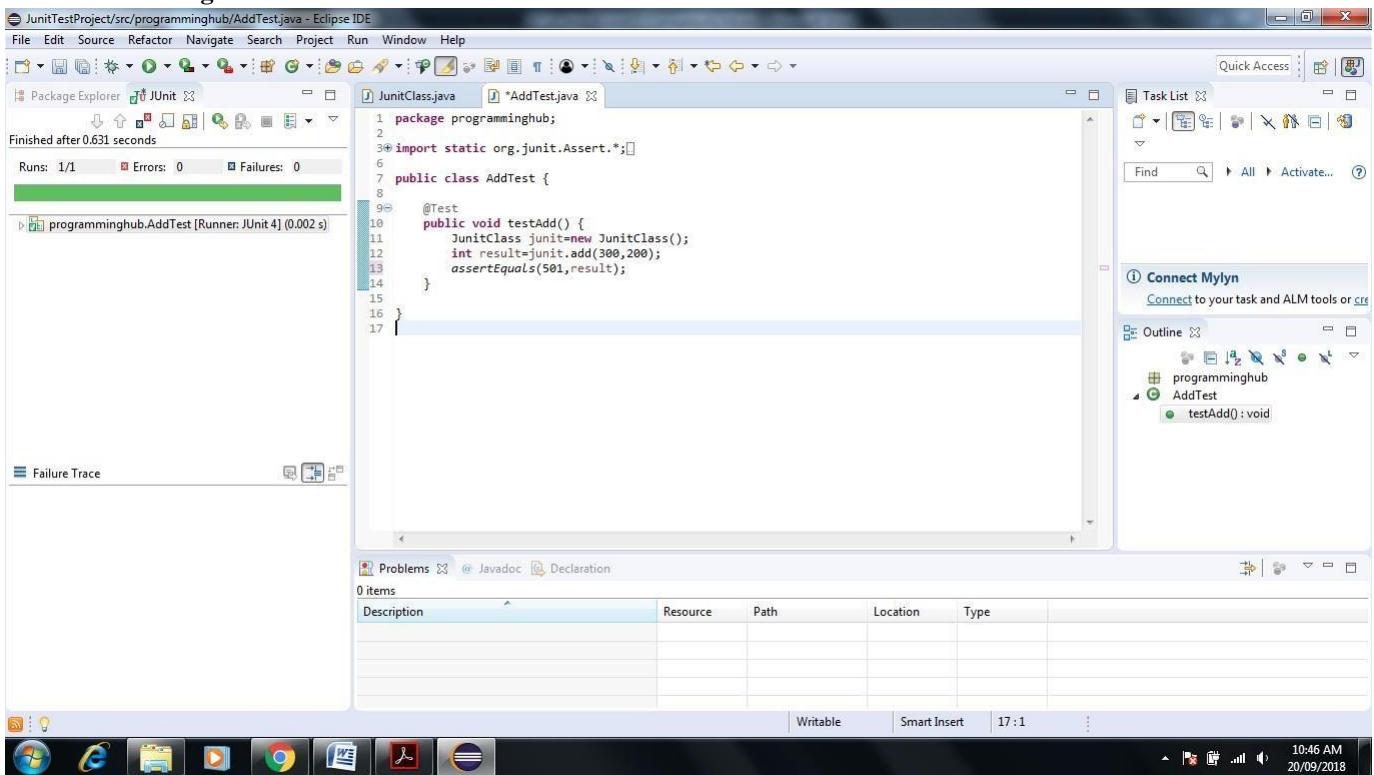
Right click on Junitclass-> New-> Click on Junit Test Cases



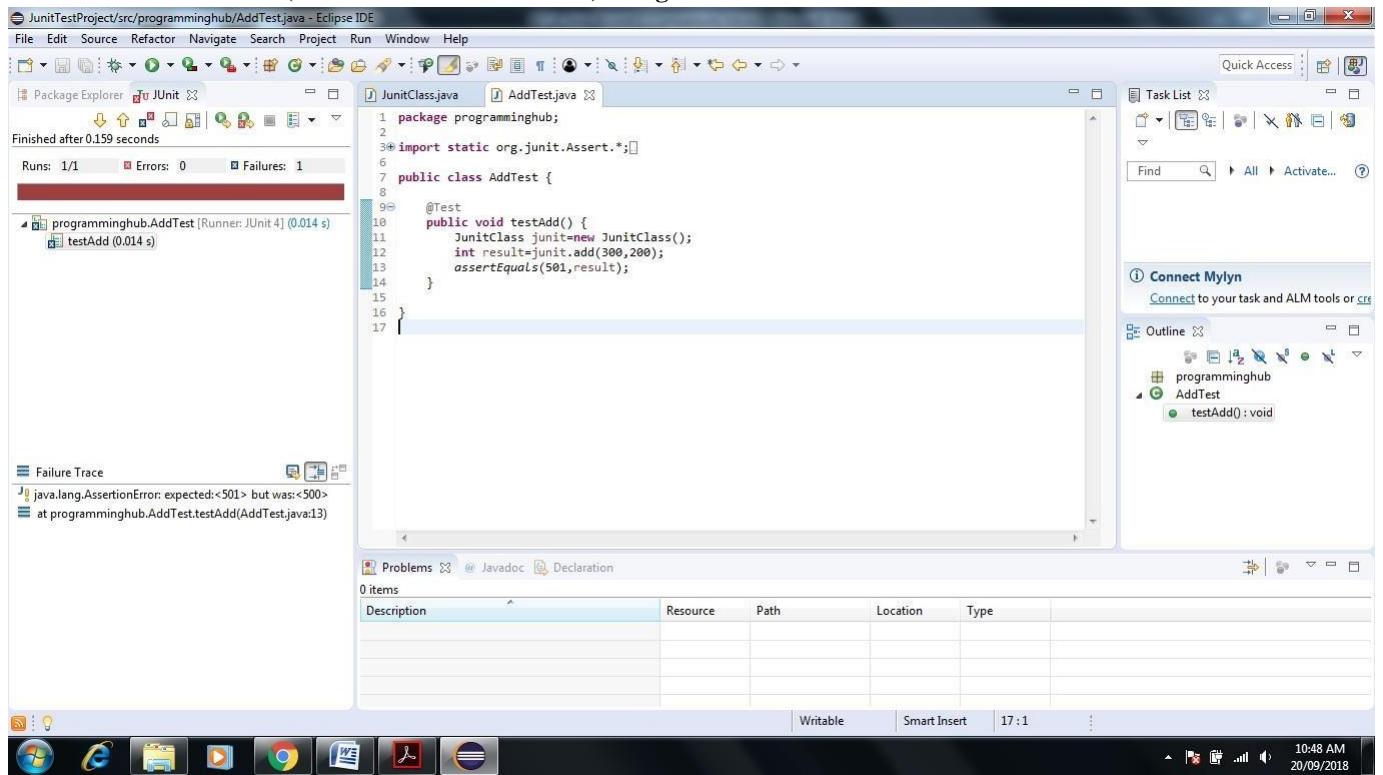
Result of test case is as follows. It shows 0 error and 0 failure and green color test bar which means that test case has run successfully(Green Color Bar Indicate)



Let us purposely give wrong input in assertEquals method or unexpected result here we write 501 instead of 500 indicate wrong addition result

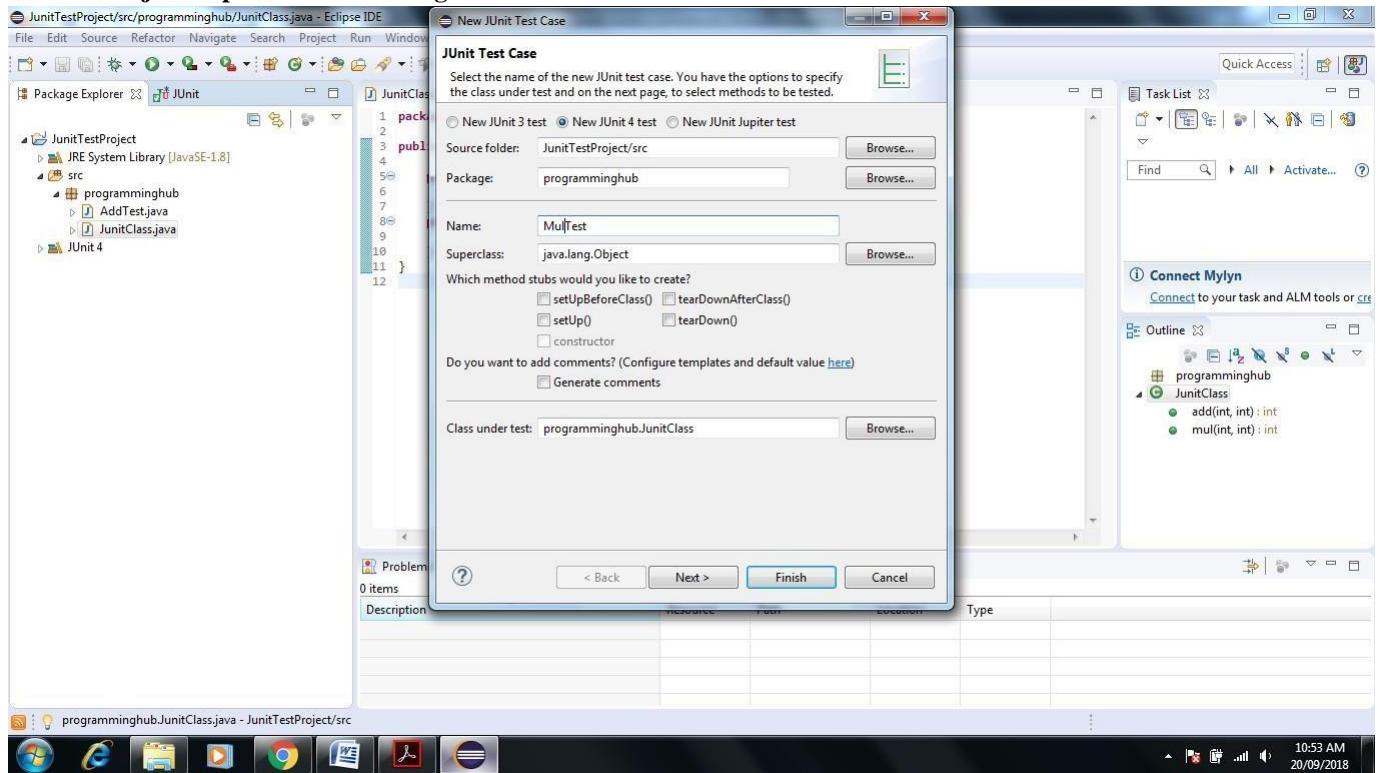


Now test case should fail.(Brown Color Bar Indicate) So again run AddTest as follows

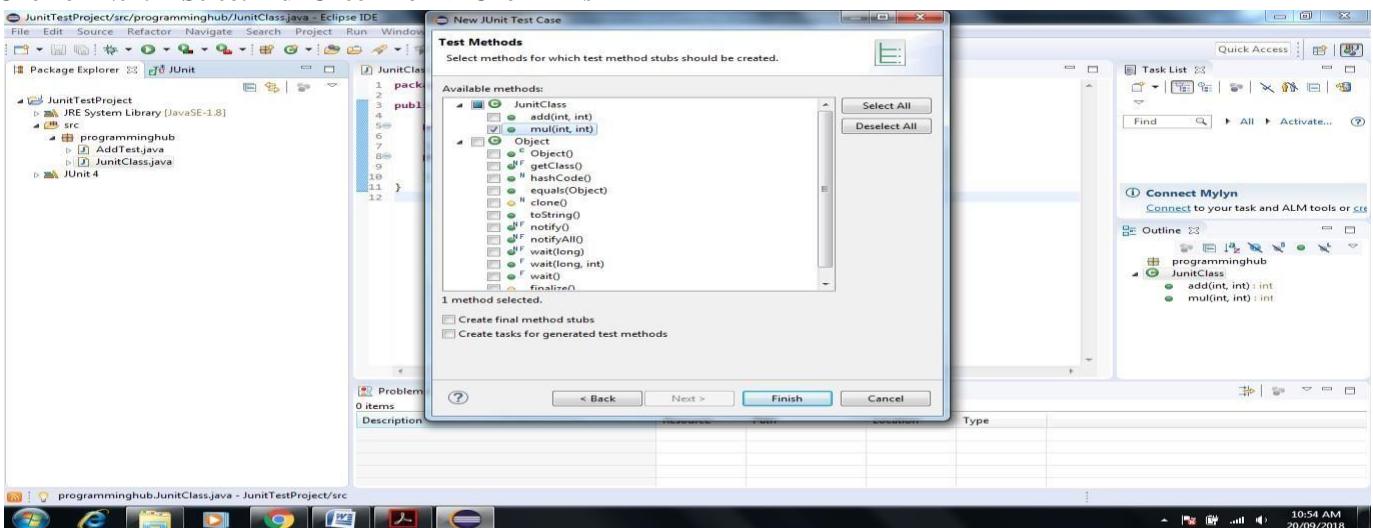


Similarly you can Create Test case for Multiplication Function

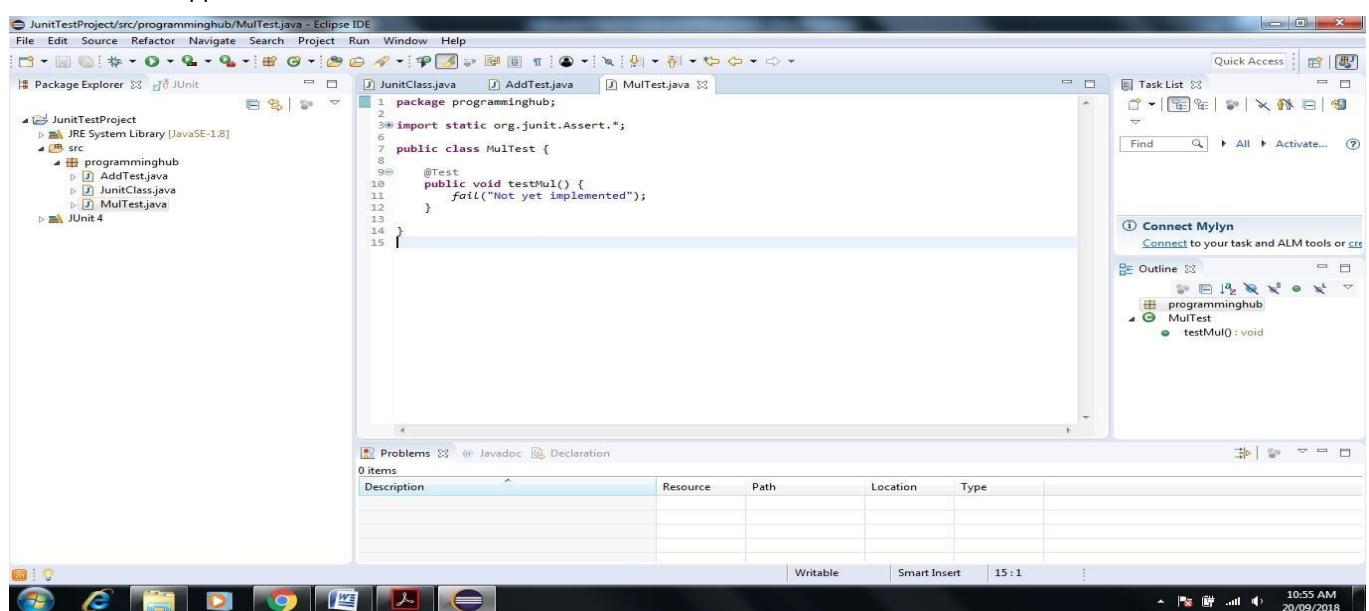
Click on Project Explorer Screen-> Right Click on JunitClass->New->JUnit Test Case-> Give name MulTest.



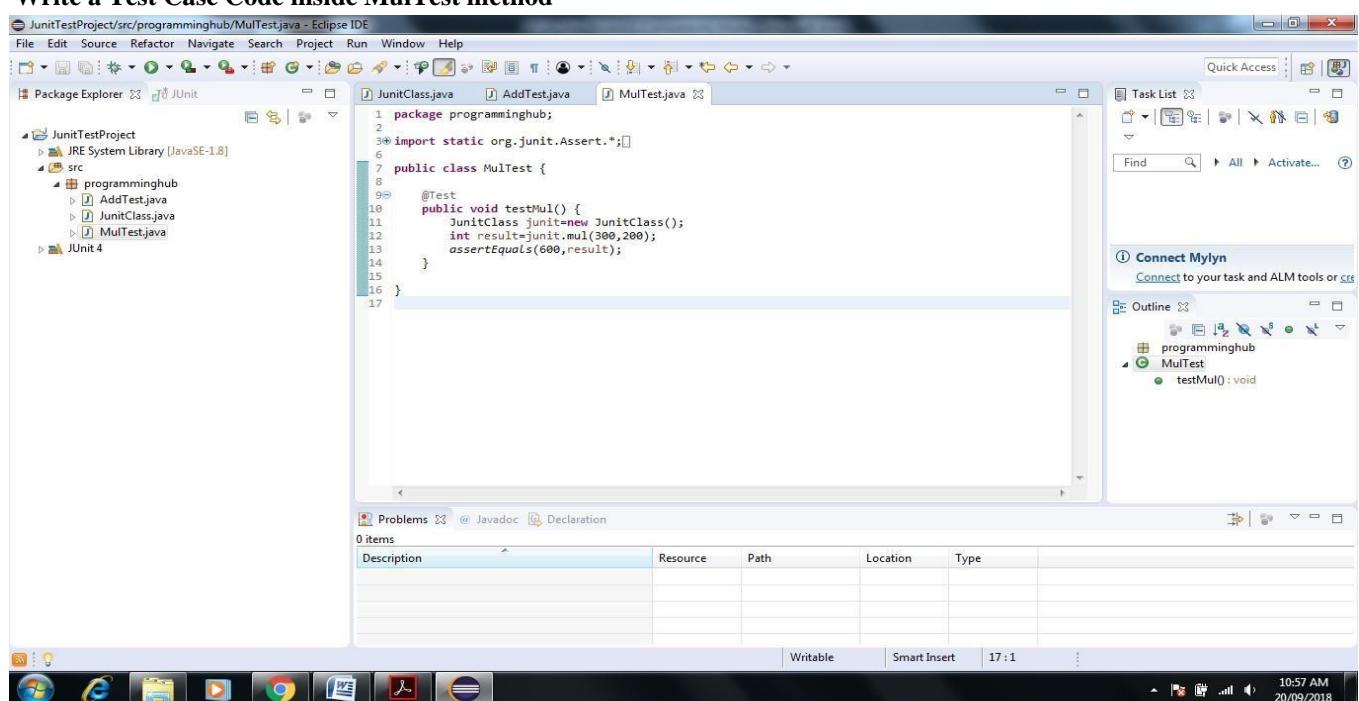
Click on Next ->Select Mul Check Box -> Click Finish



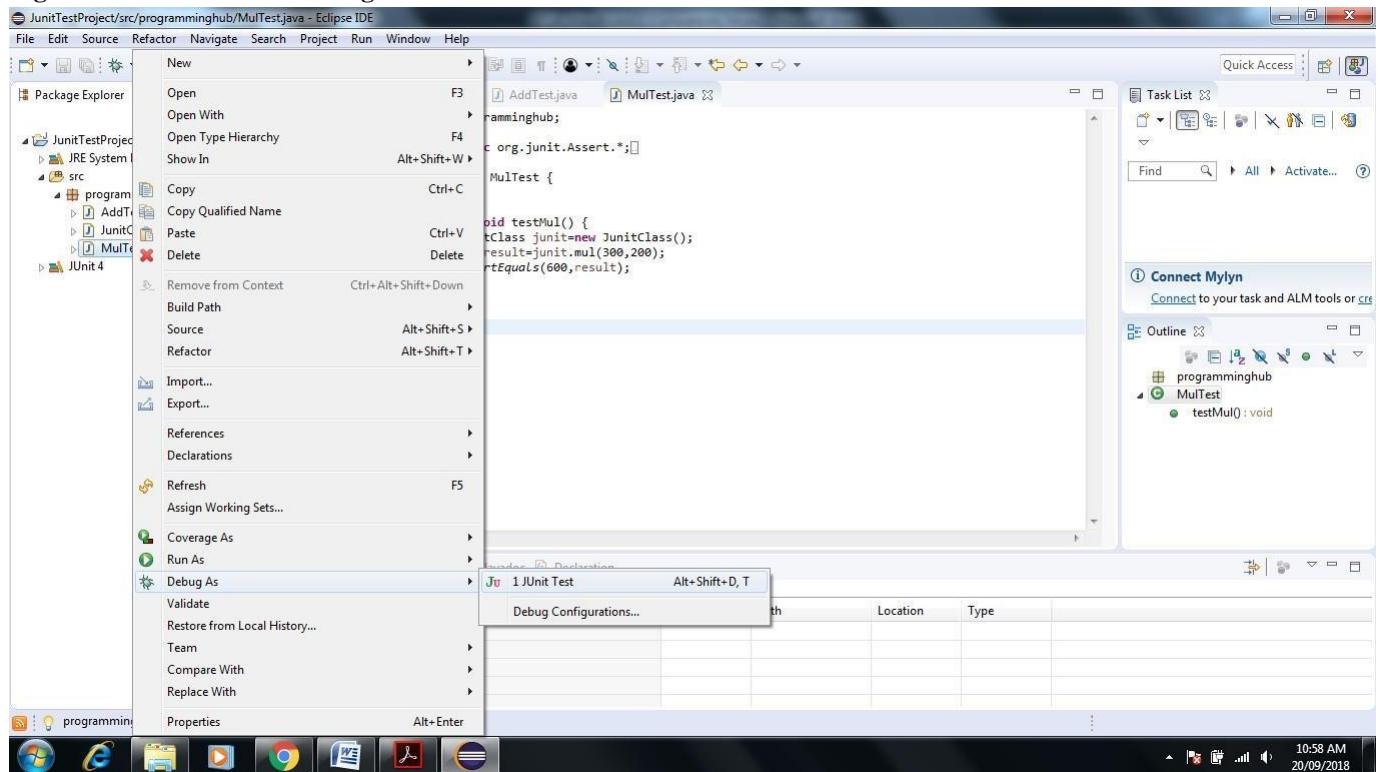
Next Screen will appear



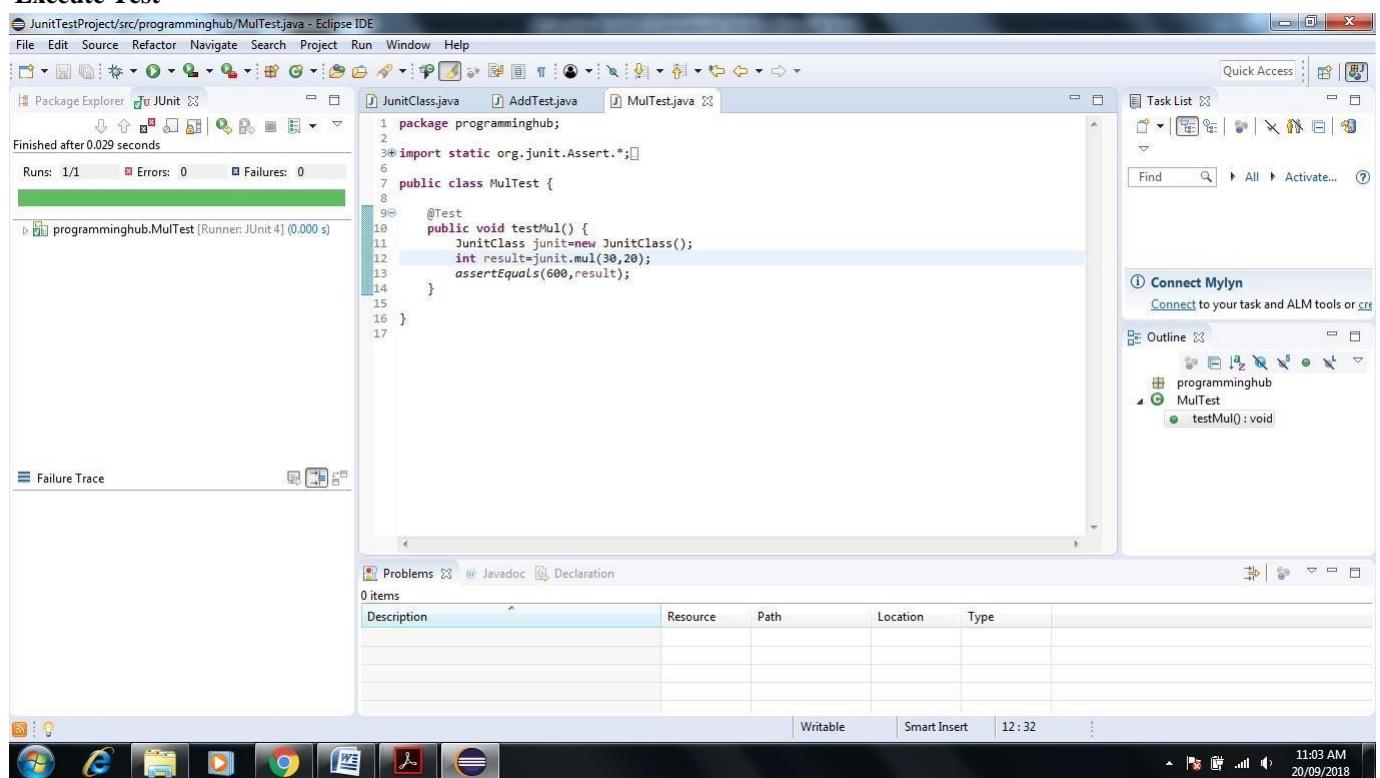
Write a Test Case Code inside MulTest method



Right Click on MulTest->Debug->JUnit Test



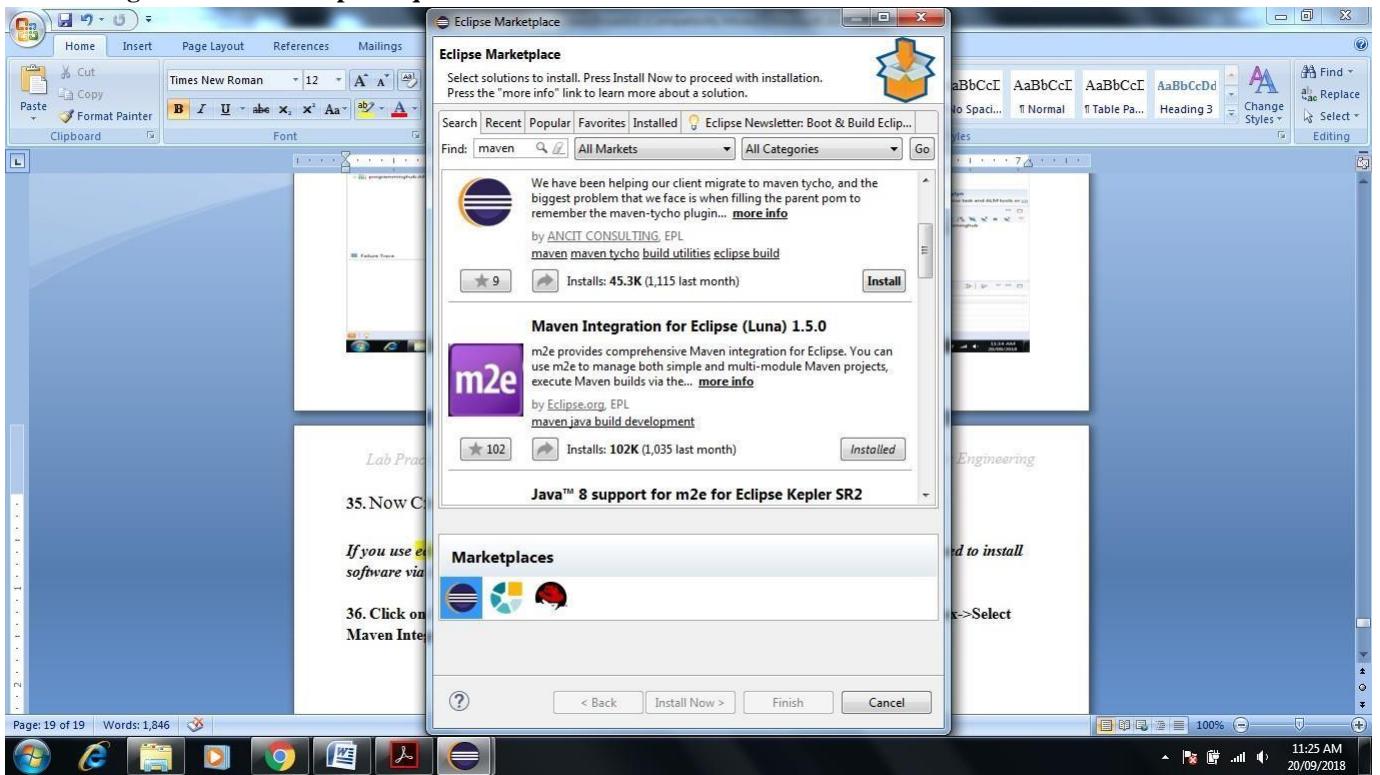
Execute Test



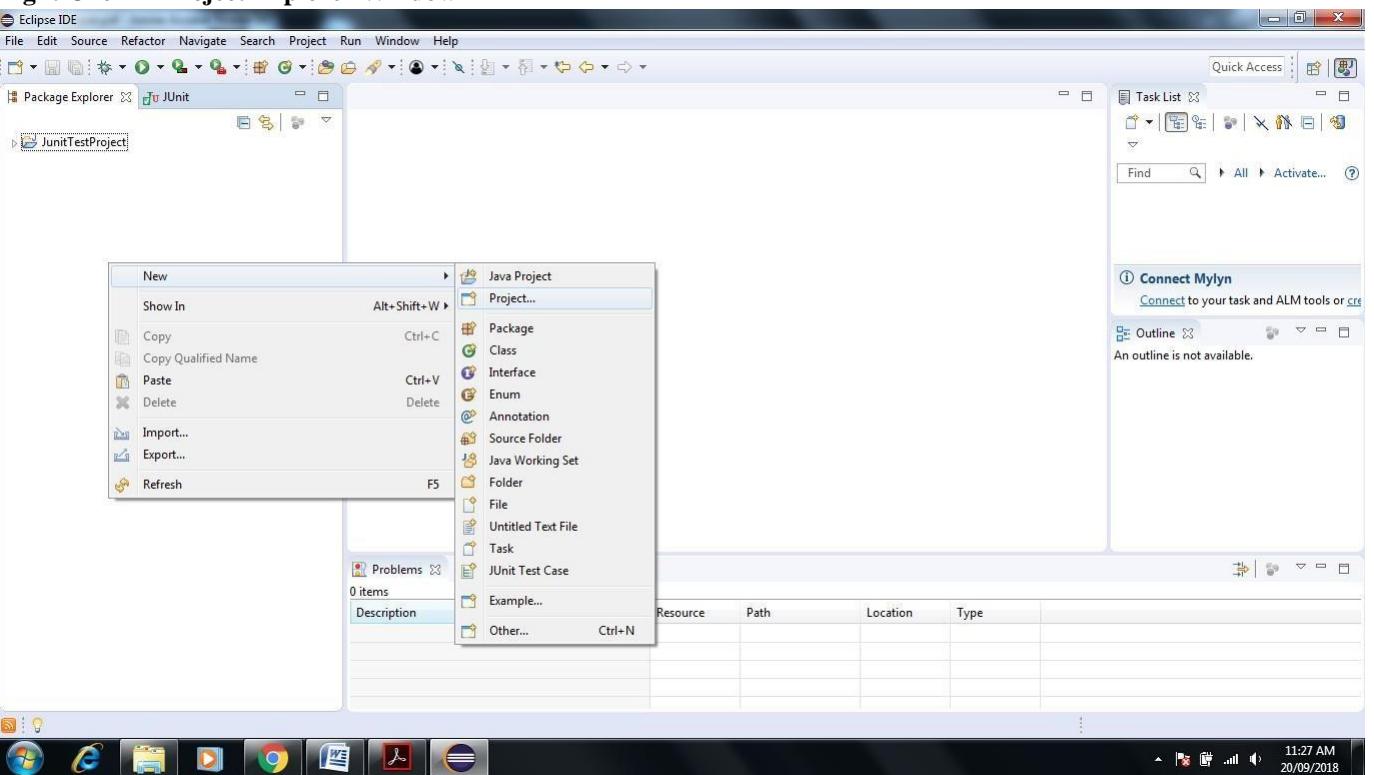
Now Create **Test Report Using Apache Maven**

Click on Help in Eclipse->Eclipse Marketplace->Enter Maven Keyword in Search box->Select

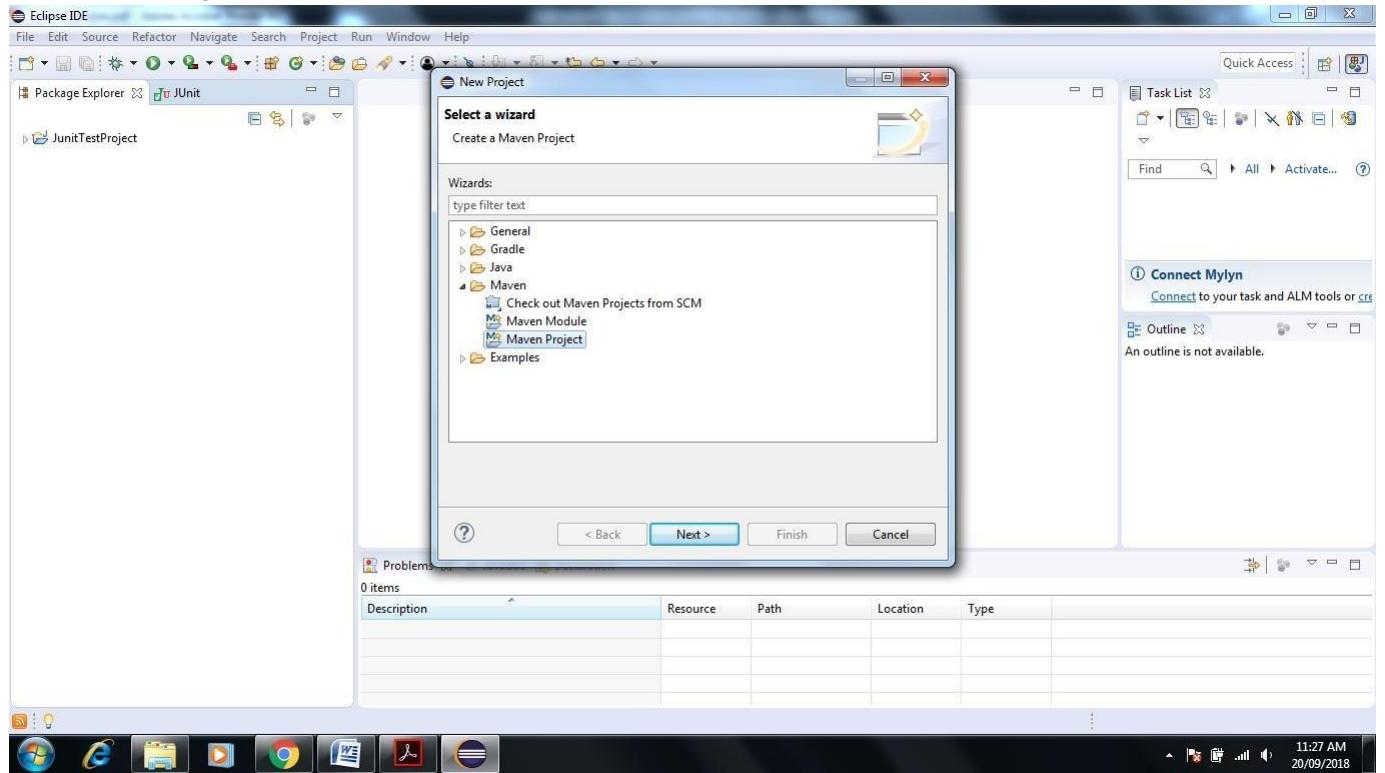
Maven Integration version as per requirement->Click on Install



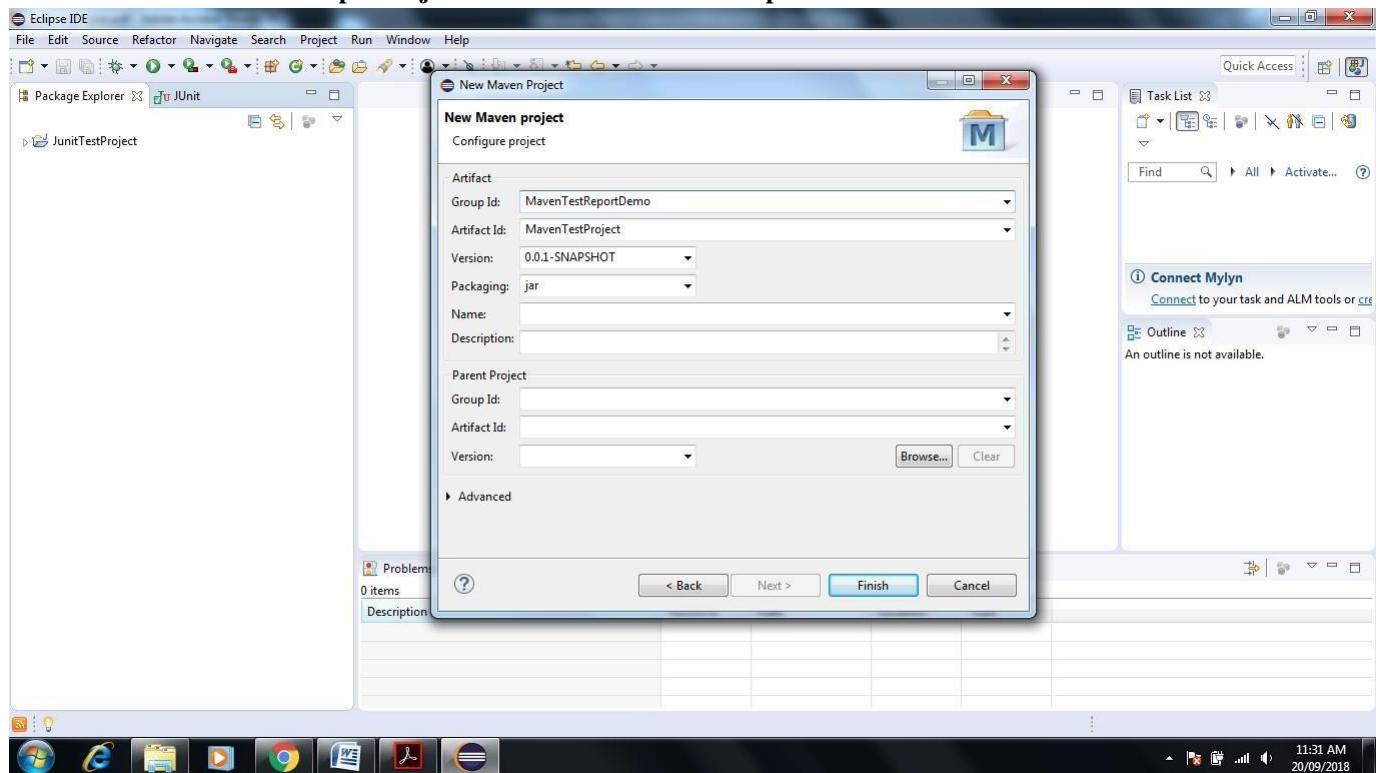
Right Click in Project Explorer Window



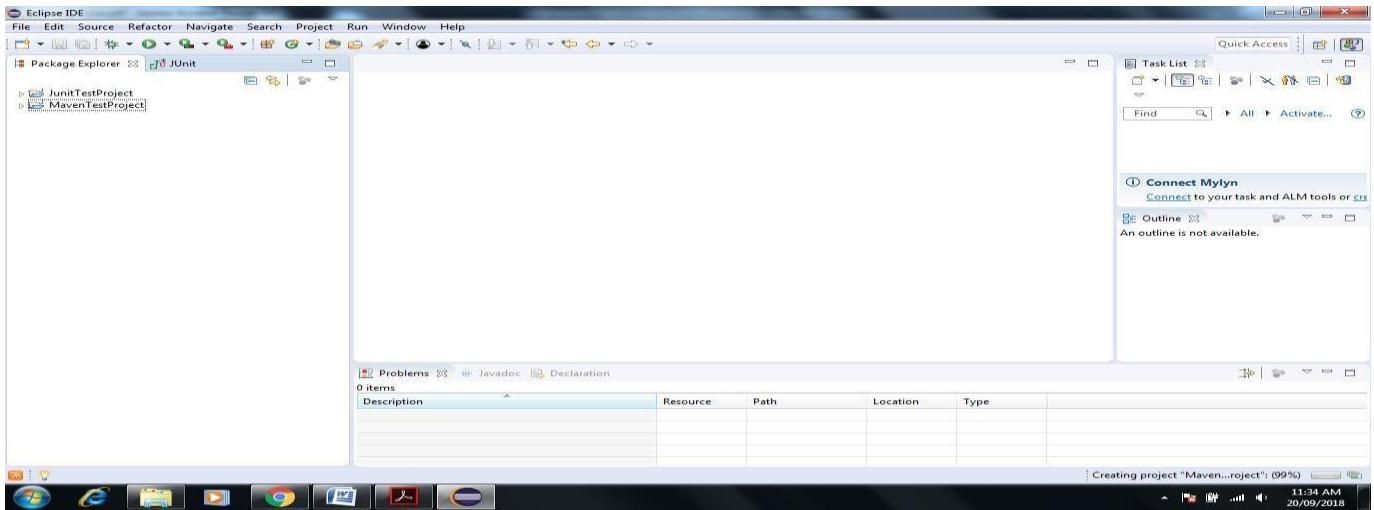
Go to Maven Project-> Click Next



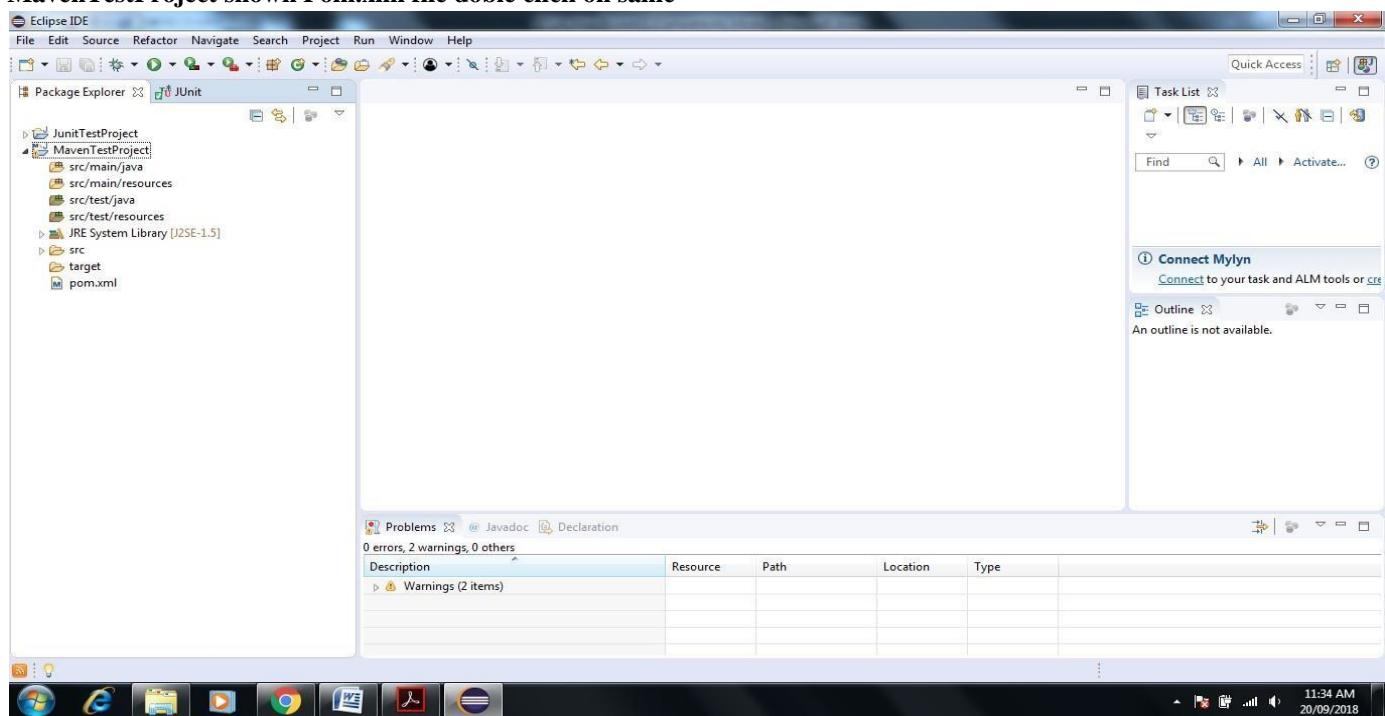
Select Check Box Create Simple Project-> Click Next-> Give Group Id and Artifact name



Click on Finish-> Next Screen Appear

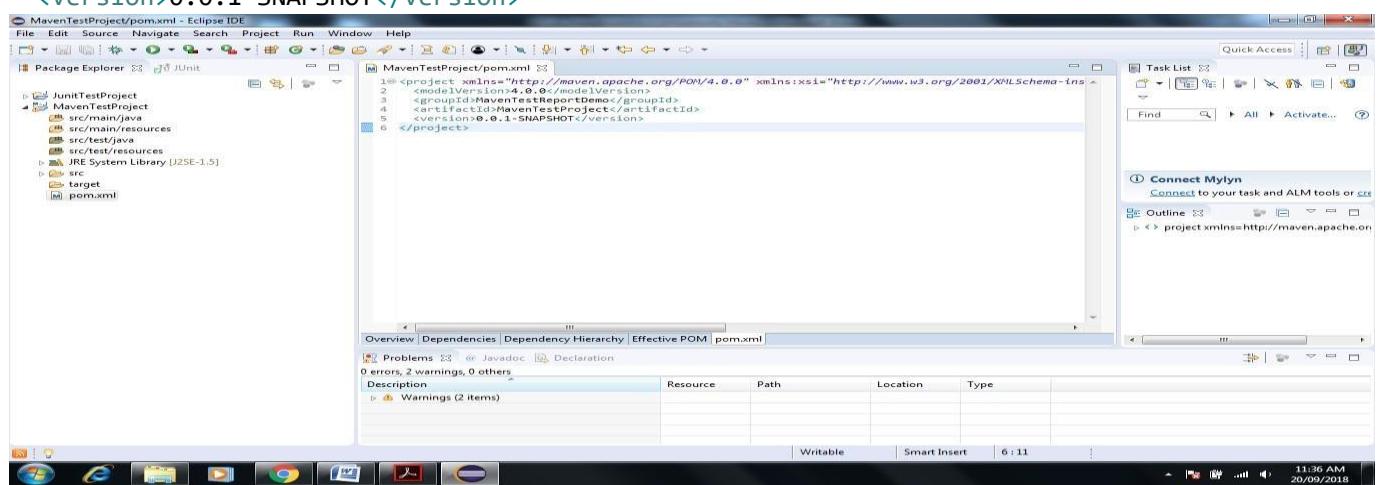


MavenTestProject shown Pom.xml file doble click on same

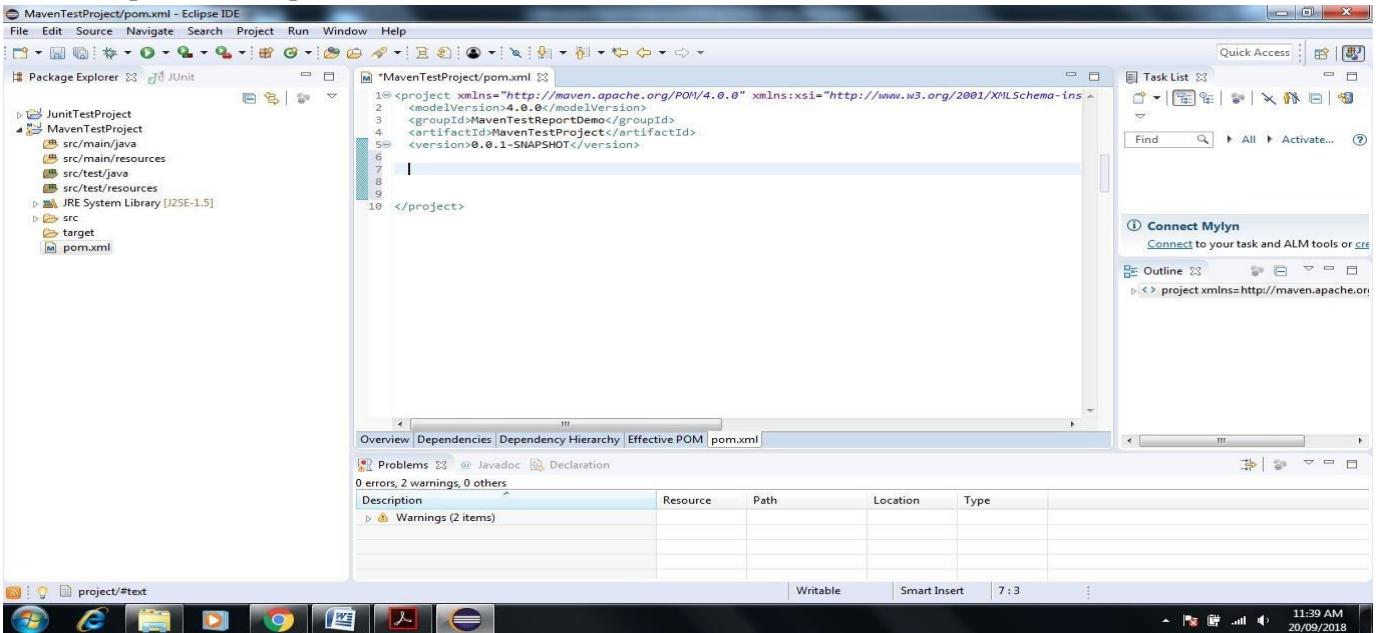


it shown some description like

```
<modelVersion>4.0.0</modelVersion>
<groupId>MavenTestReportDemo</groupId>
<artifactId>MavenTestProject</artifactId>
<version>0.0.1-SNAPSHOT</version>
```



We add dependencies to pom.xml of Junit and Selenium



The screenshot shows the Maven Repository website at <https://mvnrepository.com/artifact/junit>. The page title is "Maven Repository". The search bar contains "junit". The main content area shows the "Group: JUNIT" section with two entries:

- 1. JUnit**: junit > junit. 78,839 usages. EPL. Description: JUnit is a unit testing framework for Java, created by Erich Gamma and Kent Beck. Last Release on Dec 4, 2014.
- 2. JUnit**: junit > junit-dep. 1,437 usages. CPL | CPAL. Description: JUnit is a regression testing framework written by Erich Gamma and Kent Beck. It is used by the developer who implements unit tests in Java. Last Release on Nov 14, 2012.

On the right side, there are advertisements for ÖLFLEX® UNIPLUS and KnownHost SSD VPS services.

Click on JUnit-> Open and click on latest version as shown below (here 4.12x)

Maven Repository: junit < Secure | https://mvnrepository.com/artifact/junit/junit

MVNREPOSITORY

Search for groups, artifacts, categories

Categories | Popular | Contact Us

Indexed Artifacts (12.3M)

Popular Categories

- Aspect Oriented
- Actor Frameworks
- Application Metrics
- Build Tools
- Bytecode Libraries
- Command Line Parsers
- Cache Implementations
- Cloud Computing
- Code Analyzers
- Collections
- Configuration Libraries
- Core Utilities
- Date and Time Utilities
- Dependency Injection
- Embedded SQL Databases

JUnit

JUnit is a unit testing framework for Java, created by Erich Gamma and Kent Beck.

License	EPL 1.0
Categories	Testing Frameworks
Tags	testing, junit
Used By	78,839 artifacts

Note: This artifact was moved to:
org.junit.jupiter » junit-jupiter-api

Central (24)	Redhat GA (3)	Redhat Early-Access (2)	JBoss 3rd-party (1)	Alfresco (1)
Version	Repository	Usages	Date	
4.12	Central	34,788	Dec, 2014	
4.12-beta-3	Central	30	Nov, 2014	
4.12-beta-2	Central	31	Sep, 2014	
4.12-beta-1	Central	31	Jul, 2014	
4.11	Central	22,754	Nov, 2012	
	Central	22	Oct, 2012	

https://mvnrepository.com/artifact/junit/junit/4.12

Copy above dependency to paste in pom.xml in Maven in Eclipse

Maven Repository: junit < Secure | https://mvnrepository.com/artifact/junit/junit/4.12

MVNREPOSITORY

Search for groups, artifacts, categories

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Indexed Artifacts (12.3M)

Popular Categories

- Aspect Oriented
- Actor Frameworks
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- Cache Implementations
- Cloud Computing
- Code Analyzers
- Collections
- Configuration Libraries
- Core Utilities
- Date and Time Utilities
- Dependency Injection
- Embedded SQL Databases

JUnit » 4.12

JUnit is a unit testing framework for Java, created by Erich Gamma and Kent Beck.

License	EPL 1.0
Categories	Testing Frameworks
Organization	JUnit
HomePage	http://junit.org
Date	(Dec 04, 2014)
Files	pom (23 KB) jar (307 KB) View All
Repositories	Central Aspose Redhat GA Sonatype
Used By	78,839 artifacts

Maven | Gradle | SBT | Ivy | Grape | Leiningen | Buildr

```
<!-- https://mvnrepository.com/artifact/junit/junit -->
<dependency>
    <groupId>junit</groupId>
    <artifactId>junit</artifactId>
    <version>4.12</version>
    <scope>test</scope>
</dependency>
```

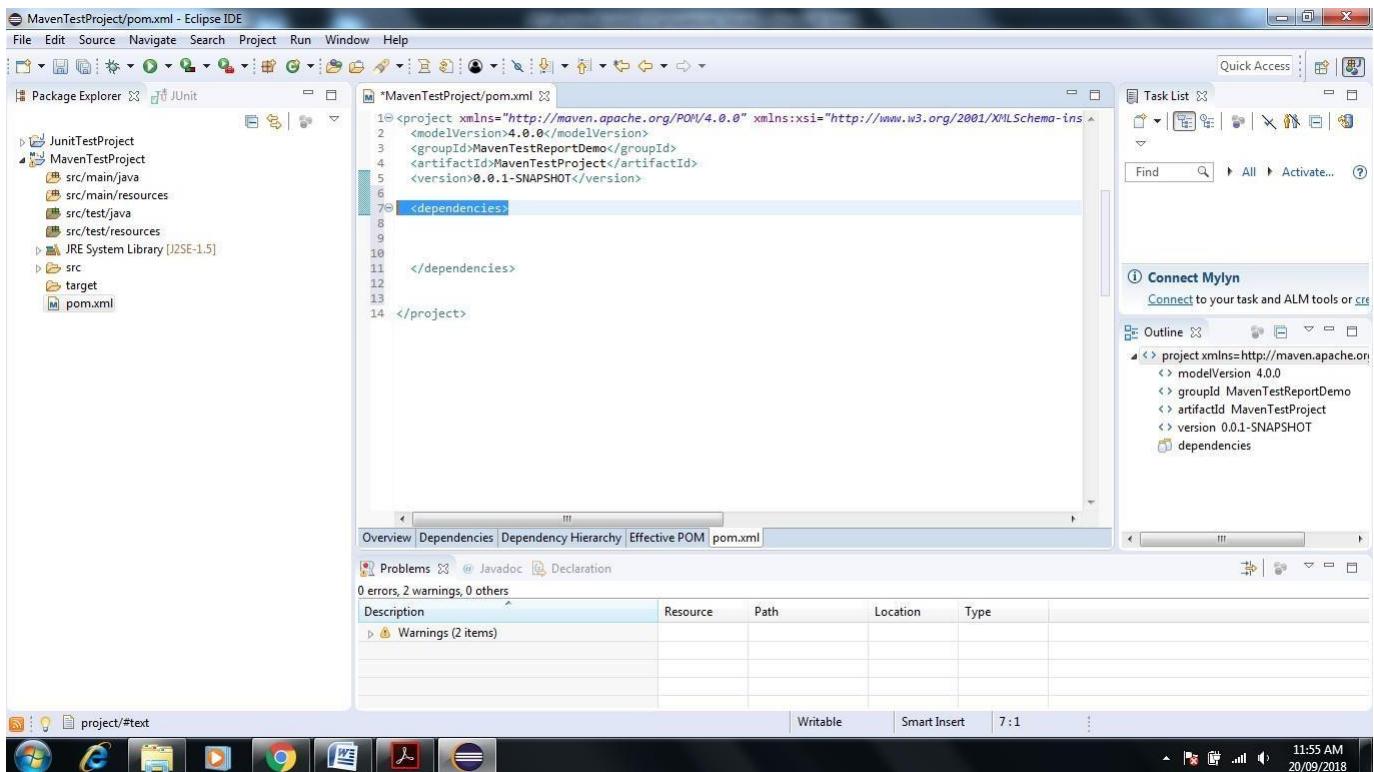
Include comment with link to declaration

Copied to clipboard!

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4 - 6 OCT, 2018 PRAGATI MAIDAN, NEW DELHI

Add <dependencies> tag before pasting as shown below

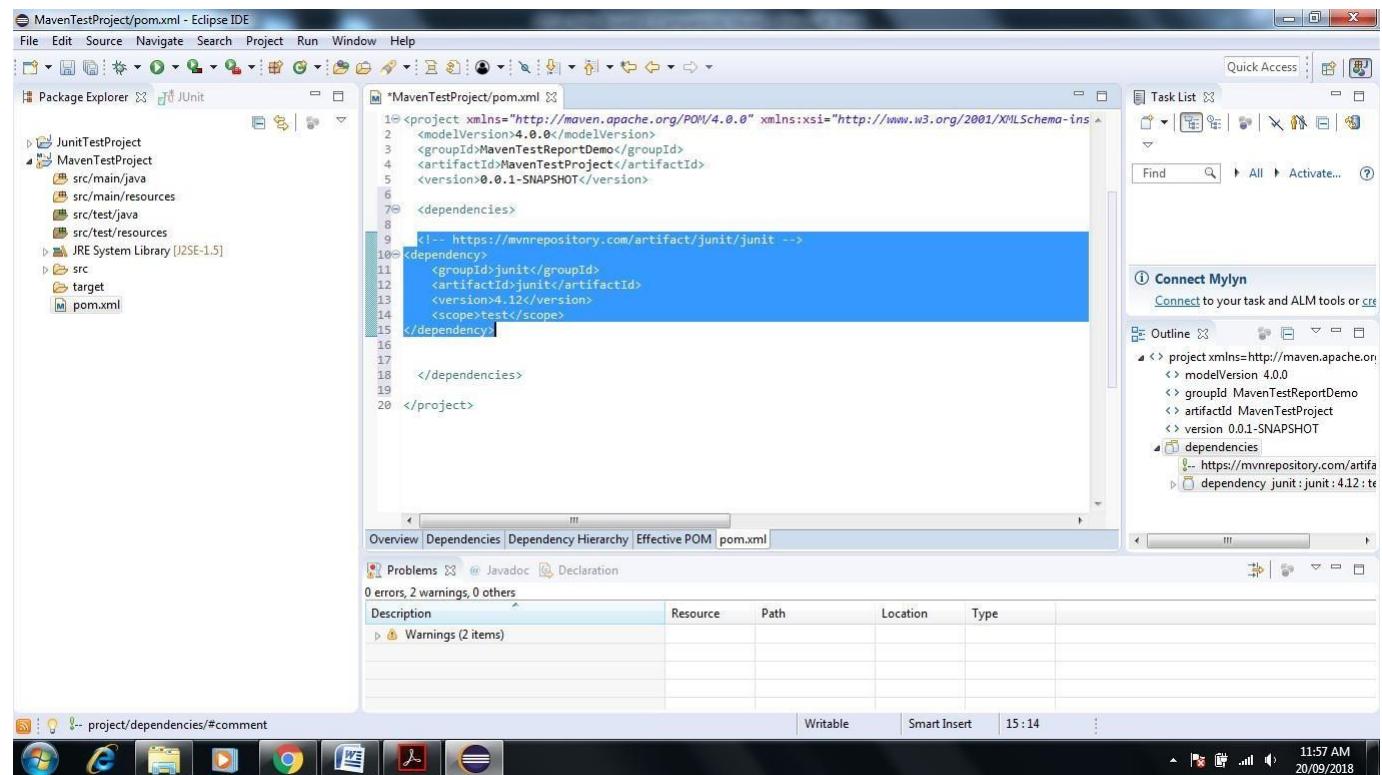


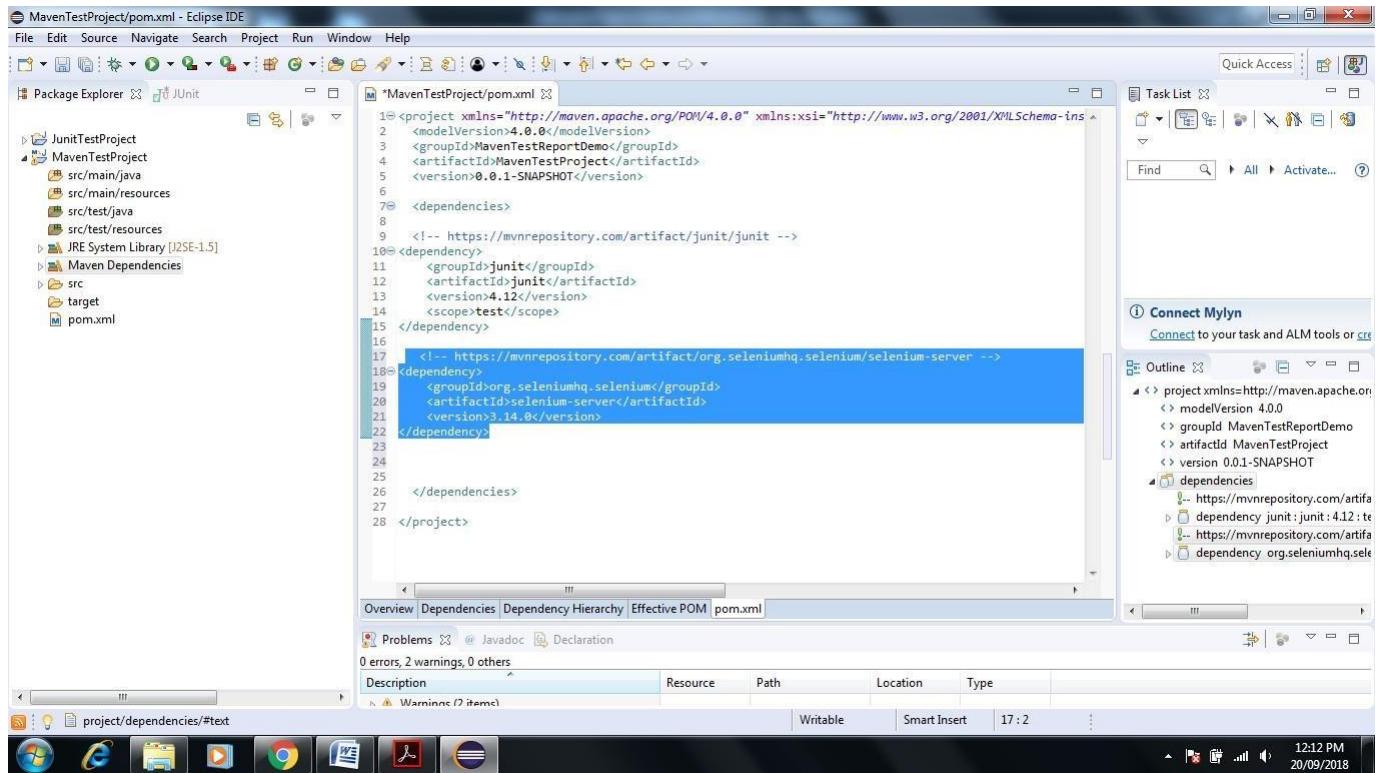
Now Paste the above code in between <dependencies> tag then save pom.xml file <!--

https://mvnrepository.com/artifact/junit/junit -->

```

<dependency>
  <groupId>junit</groupId>
  <artifactId>junit</artifactId>
  <version>4.12</version>
  <scope>test</scope> </dependency>
```

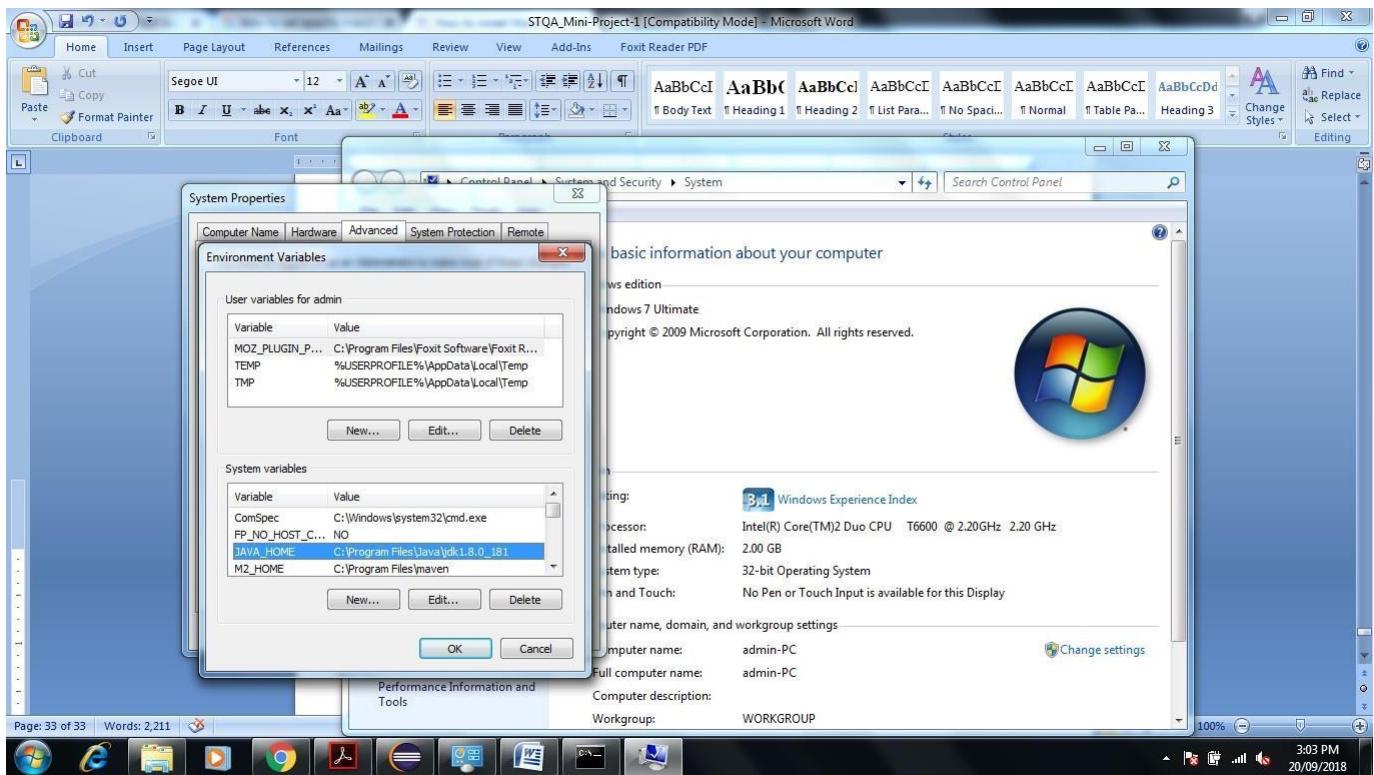




Environment Setup Very Important Steps to Generate Report

1. JDK and JAVA_HOME

Make sure JDK is installed, and "**JAVA_HOME**" variable is added as Windows environment variable. Our JDK installed in Program File ->JAVA->JDK 1.8.0



2. Set Path of Add **M2_HOME** and **MAVEN_HOME**

Create new system variable name **M2_HOME** and **MAVEN_HOME** separately set variable value **C:\Program Files\maven**

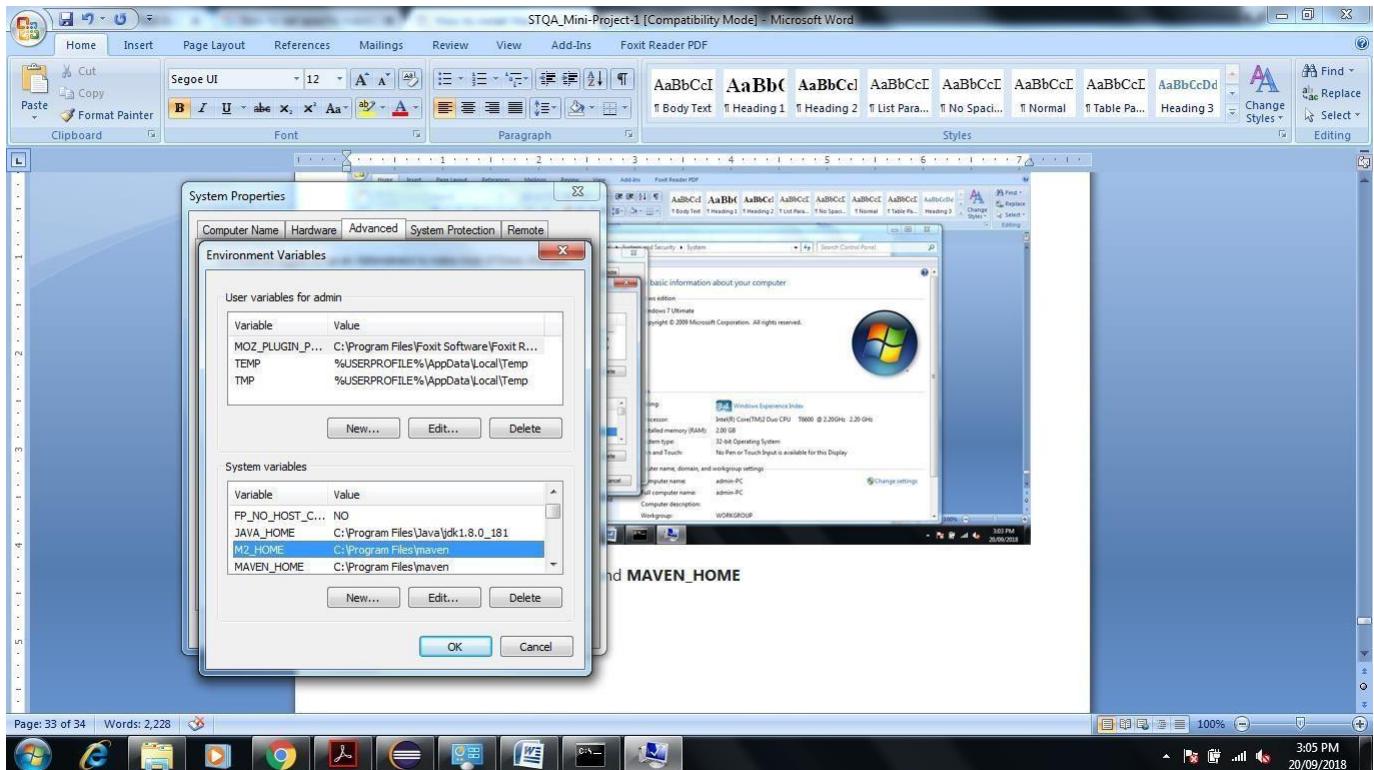


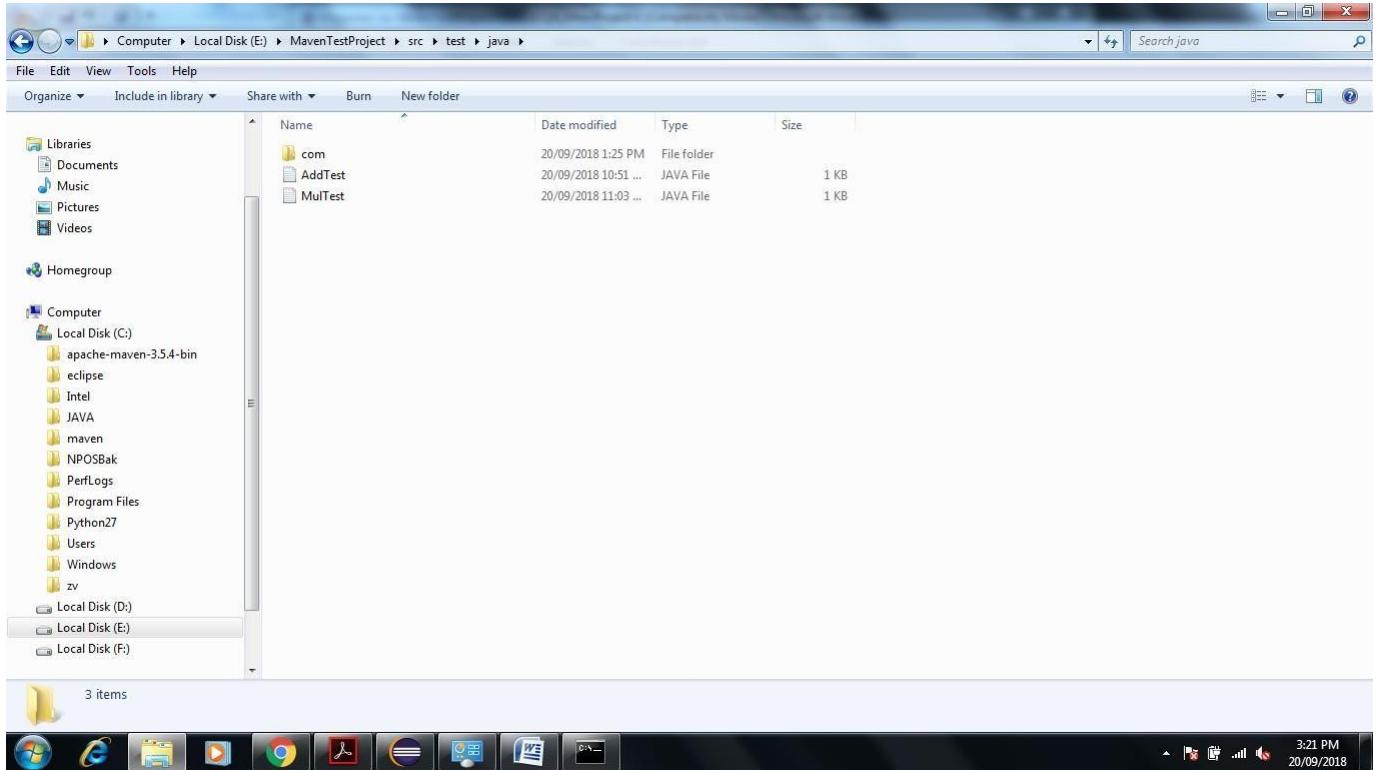
Figure Shows the Path of **M2_HOME** & **MAVEN_HOME** same.

3. Update **PATH Variable** as per following

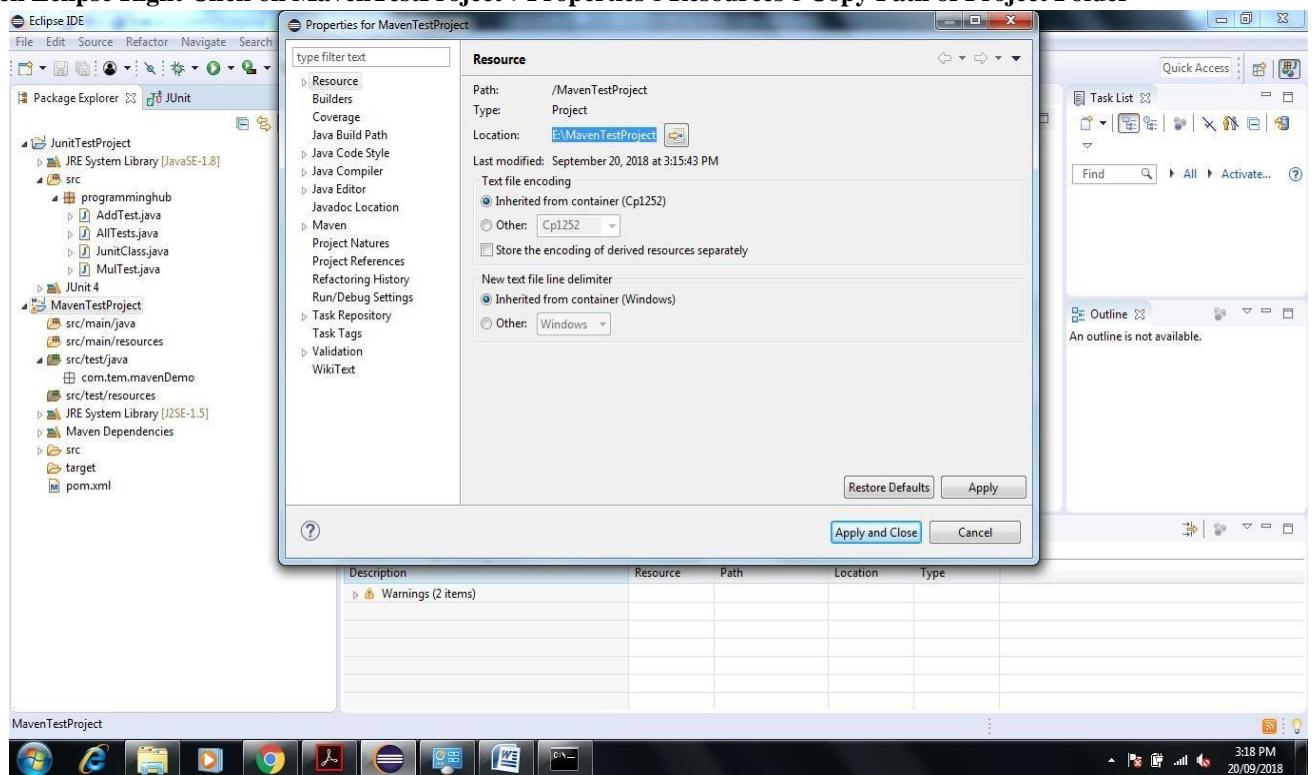
C:\Program Files\maven%MAVEN_HOME%\bin;%M2_HOME%\bin;

4. Verification

Now copy Previous Created JUnit Test case java file Add Test and Mul Test Paste Externally in **E:\MavenTestProject\src\test\java**



Now Open Eclipse Right Click on MavenTestProject->Properties->Resources->Copy Path of Project Folder



Now go to command prompt **7E:\MavenTestProject>mvn clean**

Administrator: C:\Windows\system32\cmd.exe

Microsoft Windows [Version 6.1.7601]

Copyright © 2009 Microsoft Corporation. All rights reserved.

```
C:\Users\admin>e:
E:\> MavenTestProject
'MavenTestProject' is not recognized as an internal or external command,
operable program or batch file.

E:\>cd MavenTestProject

E:\MavenTestProject>mvn clean
[INFO] Scanning for projects...
[INFO] ------------------------------------------------------------------------
[INFO] Building MavenTestProject 0.0.1-SNAPSHOT
[INFO] ------------------------------------------------------------------------
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ MavenTestProject ---
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2.5.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2.5.pom (3.9 kB at 748 B/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/22/maven-plugins-22.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-plugins/22/maven-plugins-22.pom (13 kB at 34 kB/s)
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ MavenTestProject ---
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.pom (4.1 kB at 11 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/sonatype/spice/spice-parent/16/spice-parent-16.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/sonatype/spice/spice-parent/16/spice-parent-16.pom (8.4 kB at 22 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/sonatype/forge/forge-parent/5/forge-parent-5.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/sonatype/forge/forge-parent/5/forge-parent-5.pom (8.4 kB at 23 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.jar
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.jar (226 kB at 196 kB/s)
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ MavenTestProject ---
[INFO] Deleting E:\MavenTestProject\target
[INFO] BUILD SUCCESS
[INFO]
[INFO] Total time: 15.097 s
[INFO] Finished at: 2018-09-20T15:15:43+05:30
[INFO] 
[INFO] 'cmd' is not recognized as an internal or external command,
operable program or batch file.

E:\MavenTestProject>mvn -version
Apache Maven 3.5.4 (c1edded0938998edf8bf061f1ceb3cfdeccf443fe; 2018-06-18T00:03:14+05:30)
Maven home: C:\Program Files\maven\bin\..
Java version: 1.8.0_181, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk-8.0_181\jre
Default locale: en_US, platform encoding: Cp1252
OS name: "windows 7", version: "6.1", arch: "x86", family: "windows"
'cmd' is not recognized as an internal or external command,
operable program or batch file.

E:\MavenTestProject>
```

Fourth Year Computer Engineering

Enter E:\MavenTestProject>mvn -version

Administrator: C:\Windows\system32\cmd.exe

Apache Maven 3.5.4 (c1edded0938998edf8bf061f1ceb3cfdeccf443fe; 2018-06-18T00:03:14+05:30)

Maven home: C:\Program Files\maven\bin\..

Java version: 1.8.0_181, vendor: Oracle Corporation, runtime: C:\Program Files\Java\jdk-8.0_181\jre

Default locale: en_US, platform encoding: Cp1252

OS name: "windows 7", version: "6.1", arch: "x86", family: "windows"

'cmd' is not recognized as an internal or external command,

operable program or batch file.

E:\MavenTestProject>

Fourth Year Computer Engineering

To run test suite or all test cases under project, give command mvn test

Enter E:\MavenTestProject>mvn test

This Command is Used to See the Test Report

You can even run individual test cases. Give command mvn test -Dtesttestcasename

Eg. mvn test -Dtest-AllTest

Administrator: C:\Windows\system32\cmd.exe

```
E:\MavenTestProject>mvn test
[INFO] Scanning for projects...
[INFO] [INFO] --- < MavenTestReportDemo:MavenTestProject >---[INFO] Building MavenTestProject 0.0.1-SNAPSHOT
[INFO] [INFO] [INFO] --- [jar] ---[INFO] [INFO] --- maven-resources-plugin:2.6:resources <default-resources> @ MavenTestProject
[INFO] [WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] [INFO] Copying 0 resource
[INFO] [INFO] --- maven-compiler-plugin:3.1:compile <default-compile> @ MavenTestProject
[INFO] [INFO] Nothing to compile - all classes are up to date
[INFO] [INFO] --- maven-resources-plugin:2.6:testResources <default-testResources> @ MavenTestProject
[INFO] [WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] [INFO] Copying 0 resource
[INFO] [INFO] --- maven-compiler-plugin:3.1:testCompile <default-testCompile> @ MavenTestProject
[INFO] [INFO] Changes detected - recompiling the module!
[INFO] [WARNING] File encoding has not been set, using platform encoding Cp1252, i.e. build is platform dependent!
[INFO] [INFO] --- maven-surefire-plugin:2.12.4:test <default-test> @ MavenTestProject
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-booter/2.12.4/surefire-booter-2.12.4.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-booter/2.12.4/surefire-booter-2.12.4.pom (3.0 kB at 614 B/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-api/2.12.4/surefire-api-2.12.4.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/surefire-api/2.12.4/surefire-api-2.12.4.pom (3.5 kB at 614 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/maven-surefire-common/2.12.4/maven-surefire-common-2.12.4.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/surefire/maven-surefire-common/2.12.4/maven-surefire-common-2.12.4.pom (5.5 kB at 13 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugin-tools/maven-plugin-annotations/3.1/maven-plugin-annotations-3.1.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugin-tools/maven-plugin-annotations/3.1/maven-plugin-annotations-3.1.pom (1.6 kB at 4.4 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugin-tools/maven-plugin-tools/3.1/maven-plugin-tools-3.1.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugin-tools/maven-plugin-tools/3.1/maven-plugin-tools-3.1.pom (16 kB at 38 kB/s)
[INFO] Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/reporting/maven-reporting-api/2.0.9/maven-reporting-api-2.0.9.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/reporting/maven-reporting-api/2.0.9/maven-reporting-api-2.0.9.pom (10 kB at 2 kB/s)
```

Administrator: C:\Windows\system32\cmd.exe

Administrator: C:\Windows\system32\cmd.exe

```
E:\MavenTestProject>mvn test -DAddTest
[INFO] Scanning for projects...
[INFO] [INFO] --- < MavenTestReportDemo:MavenTestProject >---[INFO] Building MavenTestProject 0.0.1-SNAPSHOT
[INFO] [INFO] [INFO] --- [jar] ---[INFO] [INFO] --- maven-resources-plugin:2.6:resources <default-resources> @ MavenTestProject
[INFO] [WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] [INFO] Copying 0 resource
[INFO] [INFO] --- maven-compiler-plugin:3.1:compile <default-compile> @ MavenTestProject
[INFO] [INFO] Nothing to compile - all classes are up to date
[INFO] [INFO] --- maven-resources-plugin:2.6:testResources <default-testResources> @ MavenTestProject
[INFO] [WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] [INFO] Copying 0 resource
[INFO] [INFO] --- maven-compiler-plugin:3.1:testCompile <default-testCompile> @ MavenTestProject
[INFO] [INFO] Nothing to compile - all classes are up to date
[INFO] [INFO] --- maven-surefire-plugin:2.12.4:test <default-test> @ MavenTestProject
[INFO] [INFO] BUILD SUCCESS
[INFO] [INFO] Total time: 3.848 s
[INFO] [INFO] Finished at: 2018-09-20T15:53:21+05:30
[INFO] [INFO] 'cmd' is not recognized as an internal or external command,
[INFO] [INFO] operable program or batch file.
E:\MavenTestProject>mvn test -DTest-AllTest
[INFO] Scanning for projects...
[INFO] [INFO] --- < MavenTestReportDemo:MavenTestProject >---[INFO] Building MavenTestProject 0.0.1-SNAPSHOT
[INFO] [INFO] [INFO] --- [jar] ---[INFO] [INFO] --- maven-resources-plugin:2.6:resources <default-resources> @ MavenTestProject
[INFO] [WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] [INFO] Copying 0 resource
[INFO] [INFO] --- maven-compiler-plugin:3.1:compile <default-compile> @ MavenTestProject
[INFO] [INFO] Nothing to compile - all classes are up to date
[INFO] [INFO] --- maven-resources-plugin:2.6:testResources <default-testResources> @ MavenTestProject
```

Conclusion

In this way using JUnit and Maven Automation tool we are Perform Unit Testing and Prepare Test Report of same.