

STQA Mini Project No. 1

1.1 Title

Mini-Project 1: Create a small application by selecting relevant system environment/platform and programming languages. Narrate concise Test Plan consisting features to be tested and bug taxonomy. Prepare Test Cases inclusive of Test Procedures for identified Test Scenarios. Perform selective Black-box and White-box testing covering Unit and Integration test by using suitable Testing tools. Prepare Test Reports based on Test Pass/Fail Criteria and judge the acceptance of application developed.

1.2 Problem Definition:

Perform Desktop Application testing using Automation Tool like JUnit generate Test Report by Using tool like Apache Maven.

1.3 Prerequisite:

Knowledge of Core Java, Basic Concepts of Unit Testing, Test Cases Writing using Junit etc tool

1.4 Software Requirements:

JDK 1.8, Eclipse java photon-R version, TestNG

1.5 Hardware Requirement:

PIV, 2GB RAM, 500 GB HDD, Lenovo A13-4089Model.

1.6 Learning Objectives:

We are going to learn how to Prepare Test Cases inclusive of Test Procedures for identified Test Scenarios. Perform selective Black-box and White-box testing covering Unit and Integration test by using suitable Testing tools. also Prepare Test Reports based on Test Pass/Fail Criteria

1.7 Outcomes:

You are able to understand Unit and Integration testing with Tool with Test Report.

1.8 Theory Concepts:

1.8.1 What is Unit Testing?

Unit Testing of software applications is done during the development (coding) of an application.

The objective of Unit Testing is to isolate a section of code and verify its correctness. In procedural programming a unit may be an individual function or procedure

The goal of Unit Testing is to isolate each part of the program and show that the individual parts are correct. Unit Testing is usually performed by the developer.

1.8.2 Unit Testing Tools

There are several automated tools available to assist with unit testing. We will provide a few examples below:

1. [Jtest](#): Parasoft Jtest is an IDE plugin that leverages open-source frameworks (Junit, Mockito, PowerMock, and Spring) with guided and easy one-click actions for creating, scaling, and maintaining unit tests. By automating these time-consuming aspects of unit testing, it frees the

developer to focus on business logic and create more meaningful test suites.

2. [JUnit](#): JUnit is a free to use testing tool used for Java programming language. It provides assertions to identify test method. This tool test data first and then inserted in the piece of code.
3. [NUnit](#): NUnit is widely used unit-testing framework use for all .net languages. It is open source tool which allows writing scripts manually. It supports data-driven tests which can run in parallel.
4. [JMockit](#): JMockit is open source Unit testing tool. It is code coverage tool with line and path metrics. It allows mocking API with recording and verification syntax. This tool offers Line coverage, Path Coverage, and Data Coverage.
5. [EMMA](#): EMMA is an open-source toolkit for analyzing and reporting code written in Java language. Emma support coverage types like method, line, basic block. It is Java-based so it is without external library dependencies and can access to the source code.
6. [PHPUnit](#): PHPUnit is a unit testing tool for PHP programmer. It takes small portions of code which is called units and test each of them separately. The tool also allows developers to use pre-define assertion methods to assert that system behave in a certain manner.

Those are just a few of the available unit testing tools. There are lots more, especially for C languages and Java, but you are sure to find a unit testing tool for your programming needs regardless of the language you use.

1.8.3 Extreme Programming & Unit Testing

Unit testing in Extreme Programming involves the extensive use of testing frameworks. A unit test framework is used in order to create automated unit tests. Unit testing frameworks are not unique to extreme programming, but they are essential to it. Below we look at some of what extreme programming brings to the world of unit testing:

- Tests are written before the code
- Rely heavily on testing frameworks
- All classes in the applications are tested
- Quick and easy integration is made possible

1.8.4 Bug taxonomy

Bug taxonomies help in providing fast and effective feedback so that they can easily identify possible reasons for failure of the software. Using bug taxonomy, a large number of potential bugs can be grouped into few categories.

Whenever a new bug is reported, using bug taxonomy, a tester can easily analyse and put that bug into any of these categories.

At the end of testing, Testers can understand the type of categories of bugs that frequently occurred and thereby in successive rounds of testing he can focus on writing more test cases that would help to detect such bugs. In addition, test leaders can guide their testers to focus on such frequently occurring bugs.

The summary of the Bug Taxonomy is given below,

- Requirements, Features, and Functionality Bugs
- Structural Bugs
- Data Bugs
- Coding Bugs
- Interface, Integration, and System Bugs
- Test and Test Design Bugs
- Testing and Design Style

1.8.5 What is Integration Testing?

In integration Testing, individual software modules are integrated logically and tested as a group. A typical software project consists of multiple software modules, coded by different programmers. integration Testing focuses on checking data communication amongst these modules. Hence it is also termed as 'I & T' (Integration and Testing), 'String Testing' and sometimes 'Thread Testing

Integration Test Case:

Integration [Test Case](#) differs from other test cases in the sense it **focuses mainly on the interfaces & flow of data/information between the modules**. Here priority is to be given for the **integrating links** rather than the unit functions which are already tested.

Sample Integration Test Cases for the following scenario: Application has 3 modules say 'Login Page', 'Mail box' and 'Delete mails' and each of them are integrated logically.

Here do not concentrate much on the Login Page testing as it's already been done in [Unit Testing](#). But check how it's linked to the Mail Box Page.

Similarly Mail Box: Check its integration to the Delete Mails Module.

Test Case ID	Test Case Objective	Test Case Description	Expected Result
1	Check the interface link between the Login and Mailbox module	Enter login credentials and click on the Login button	To be directed to the Mail Box
2	Check the interface link between the Mailbox and Delete Mails Module	From Mail box select the an email and click delete button	Selected email should appear in the Deleted/Trash folder

1.8.6 Desktop Application Testing by Using Junit Tool

What is Junit?

JUnit is a framework for implementing testing in Java.

It provides a simple way to explicitly test specific areas of a Java program, it is extensible and can be employed to test a hierarchy of program code either singularly or as multiple units.

Why use a testing framework? Using a testing framework is beneficial because it forces you to explicitly declare the expected results of specific program execution routes. When debugging it is possible to write a

test which expresses the result you are trying to achieve and then debug until the test comes out positive. By having a set of tests that test all the core components of the project it is possible to modify specific areas of the project and immediately see the effect the modifications have on the other areas by the results of the test, hence, side-effects can be quickly realized.

JUnit promotes the idea of first testing then coding, in that it is possible to setup test data for a unit which defines what the expected output is and then code until the tests pass. It is believed by some that this practice of "test a little, code a little, test a little, code a little..." increases programmer productivity and stability of program code whilst reducing programmer stress and the time spent debugging.

JUnit is a simple open source Java testing framework used to write and run repeatable automated tests. It is an instance of the xUnit architecture for unit testing framework. Eclipse supports creating test cases and running test suites, so it is easy to use for your Java applications.

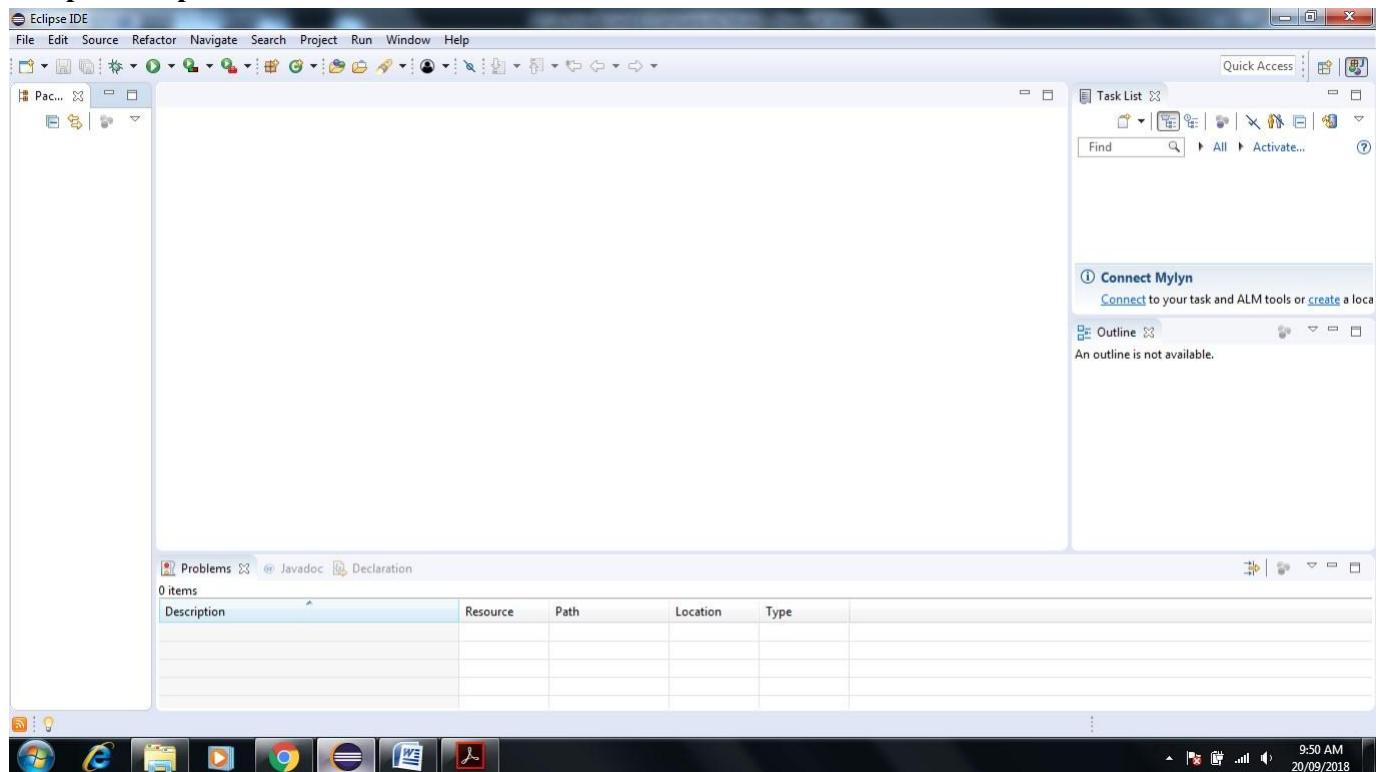
JUnit features include:

- Assertions for testing expected results
- Test fixtures for sharing common test data
- Test suites for easily organizing and running tests
- Graphical and textual test runners

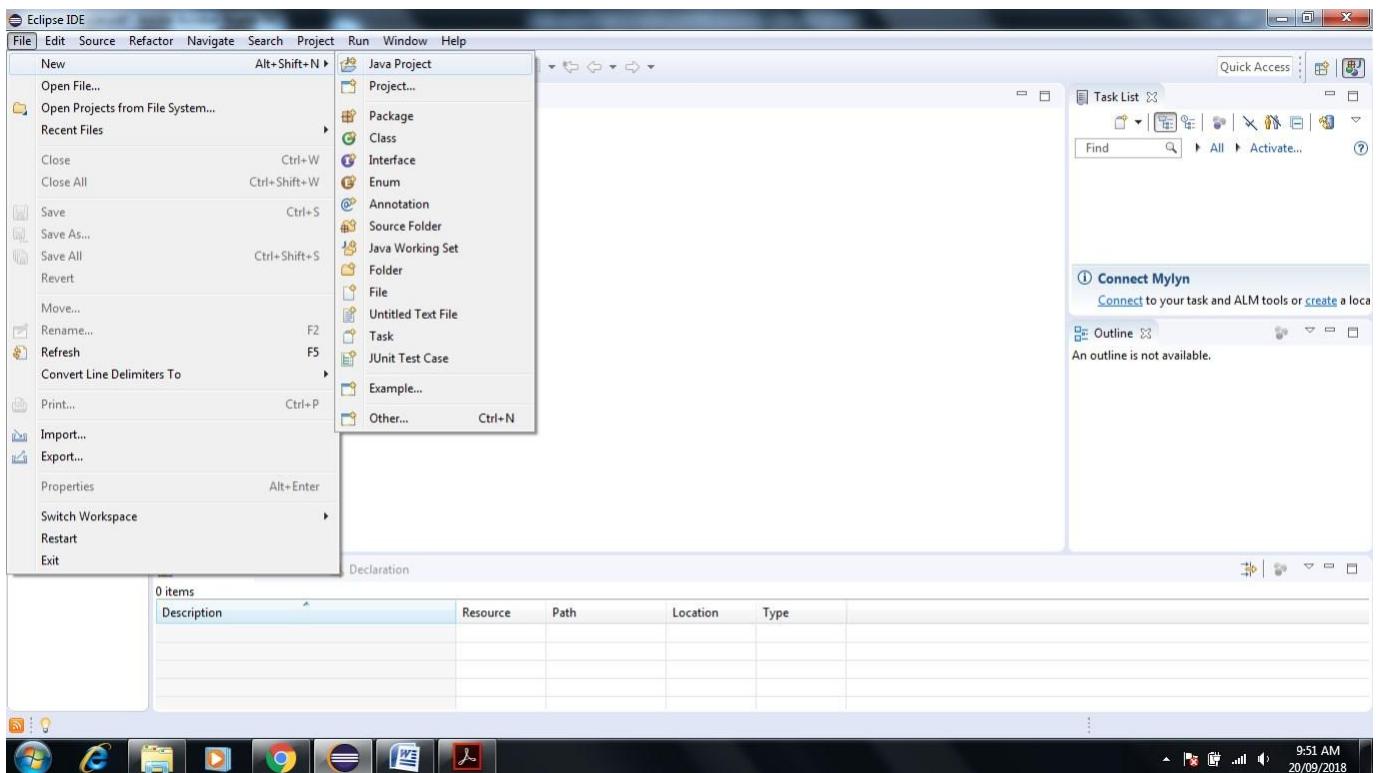
1.8.7 How to Create Simple Junit Test in Eclipse IDE

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

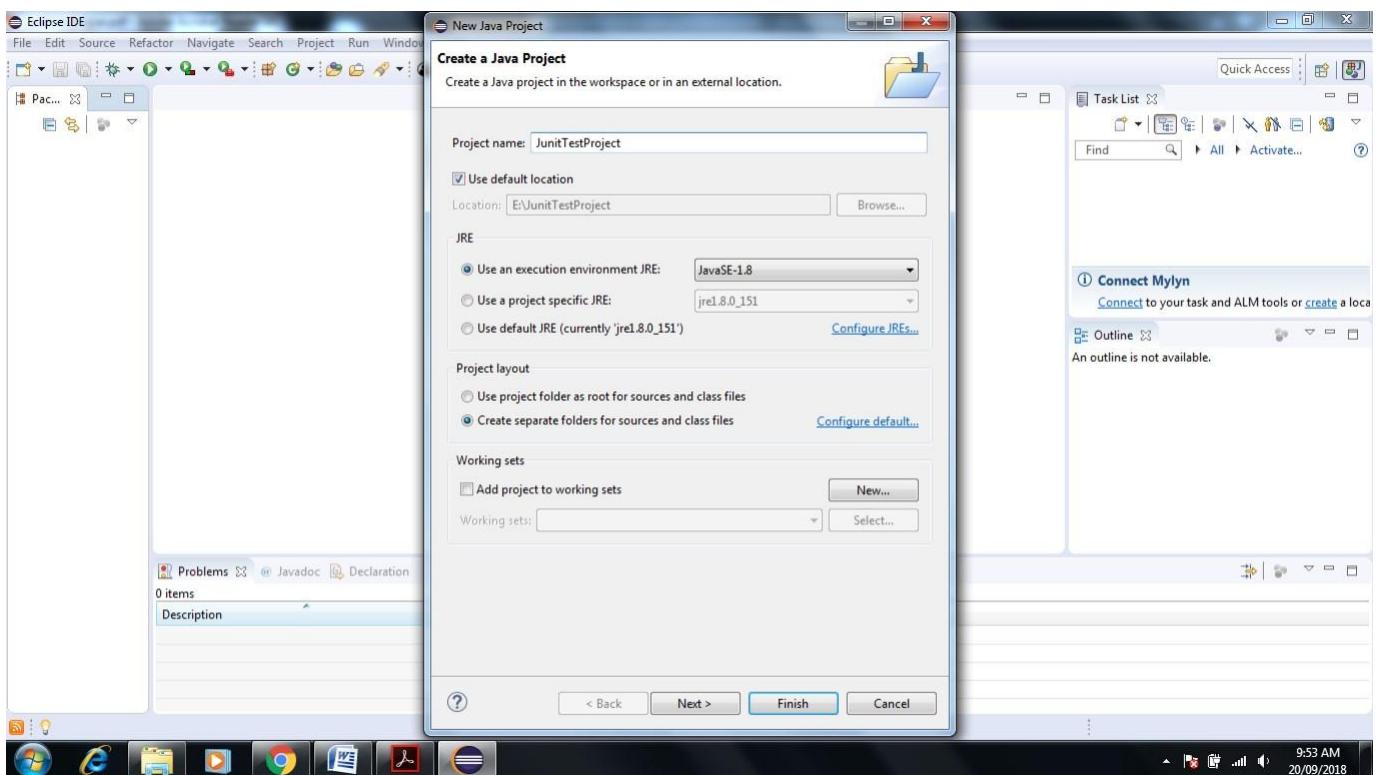
2. Open Eclipse IDE



3. Go to File and Select New -> Create New Java Project

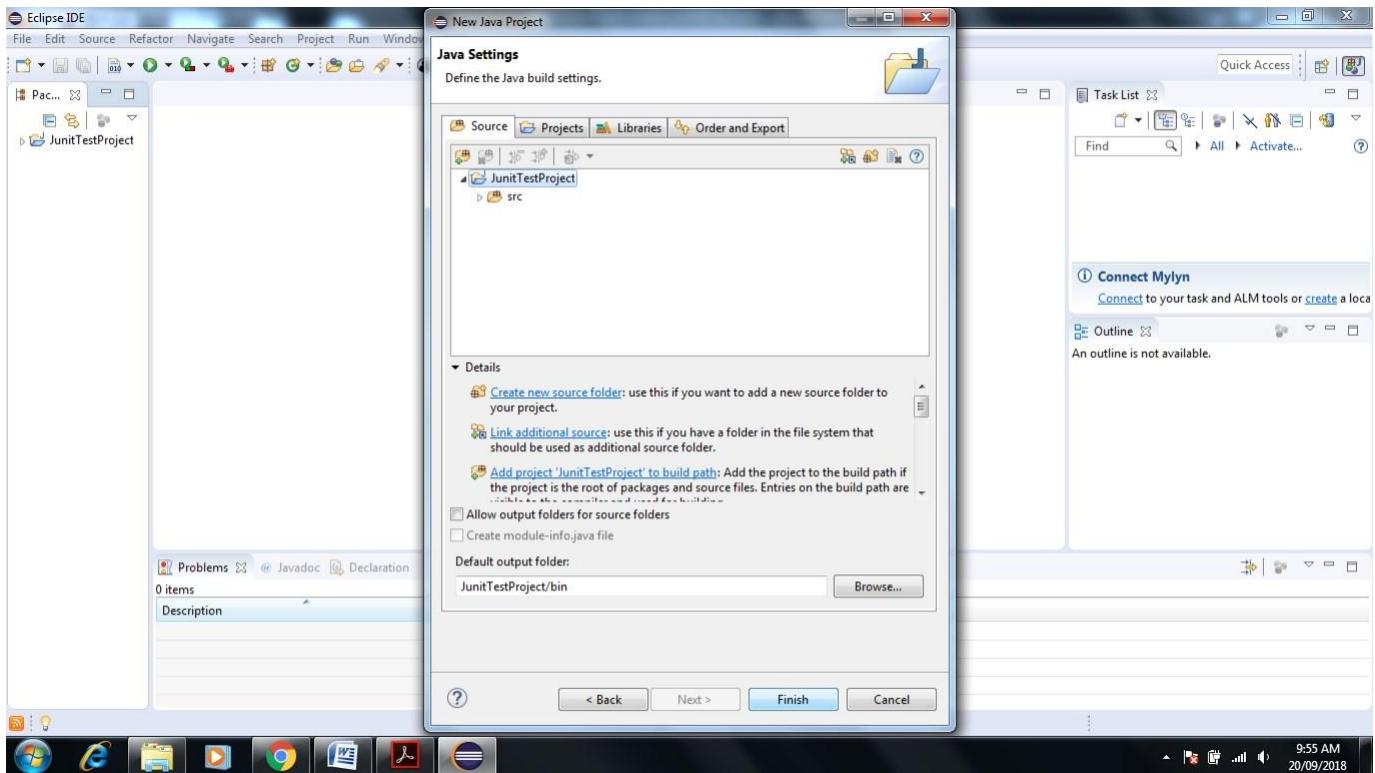


4. Give JunitTestProject name to the project and check use project folder as root for source and class files

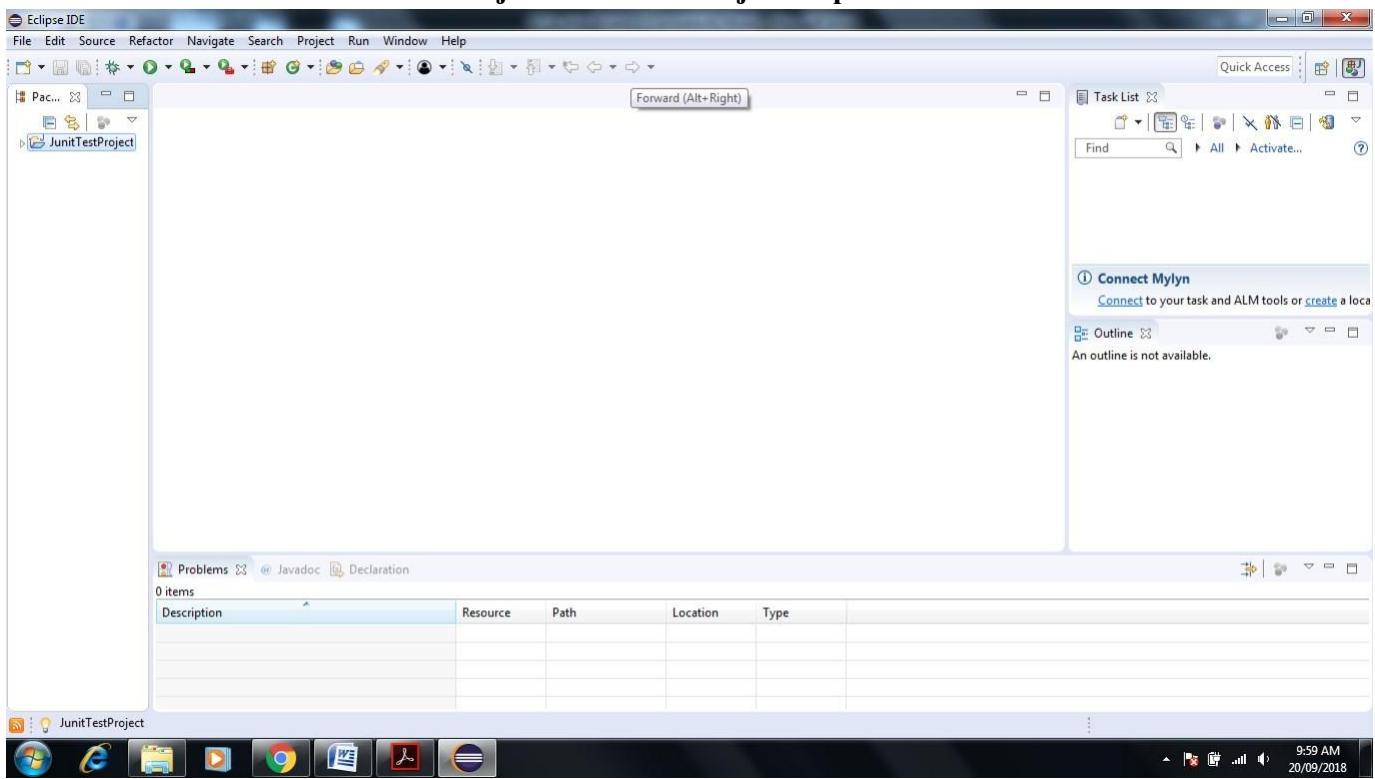


5. Click on Next-> Next Screen will Appear-> Click Finish

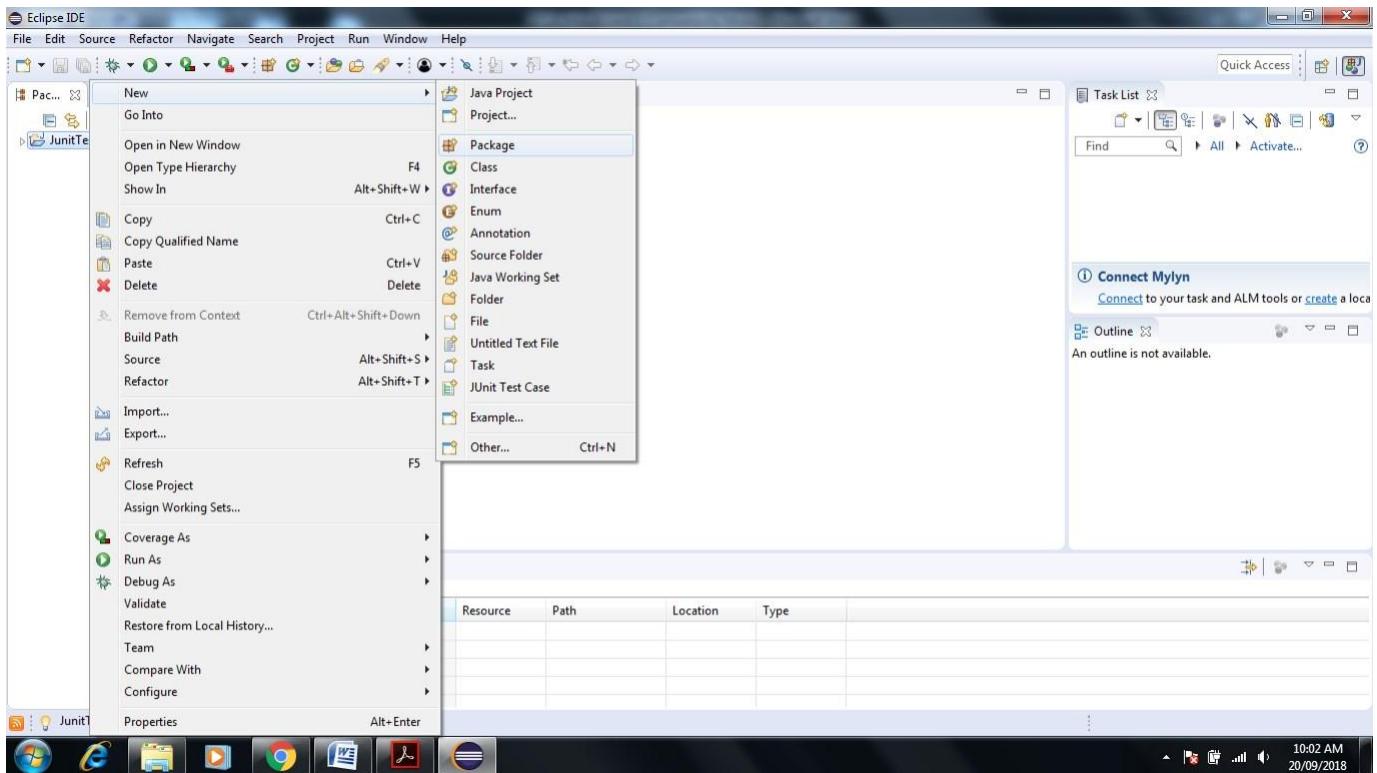
Engineering



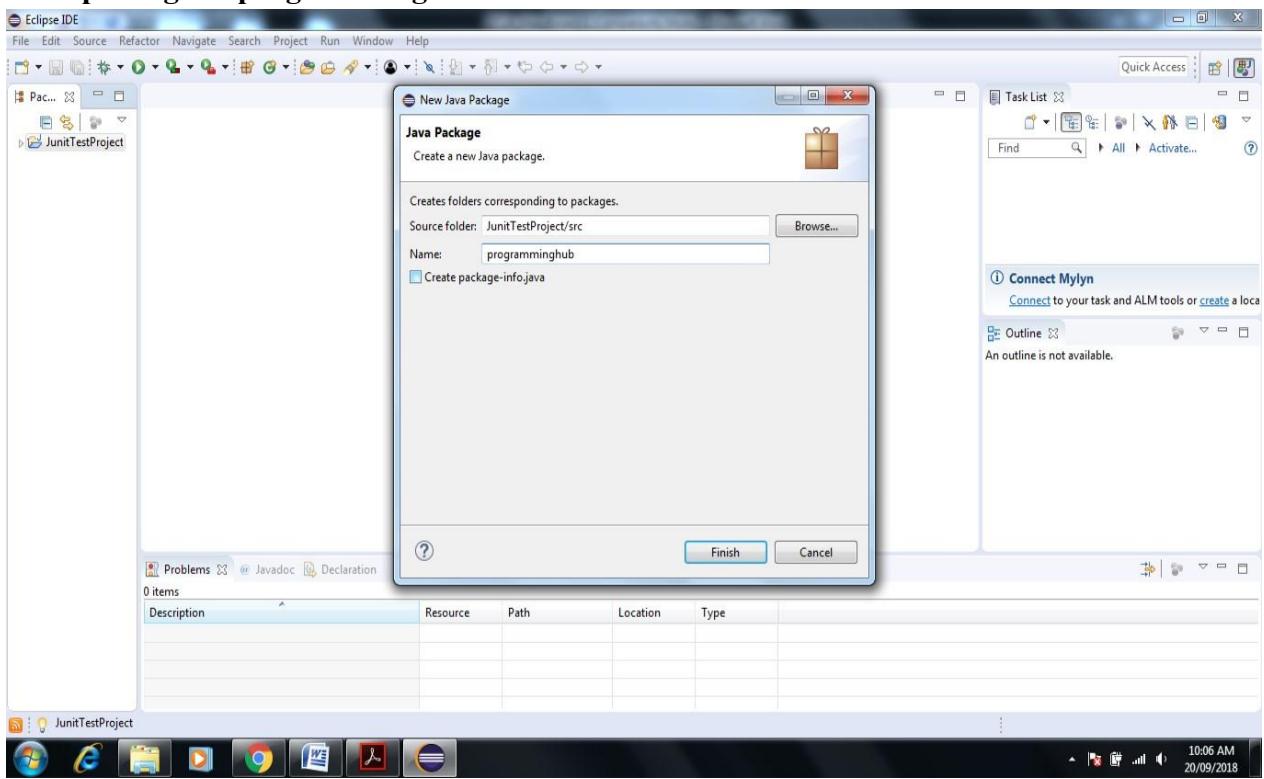
6. Next Screen Shown JunitTestProject Folder in Project Explorer



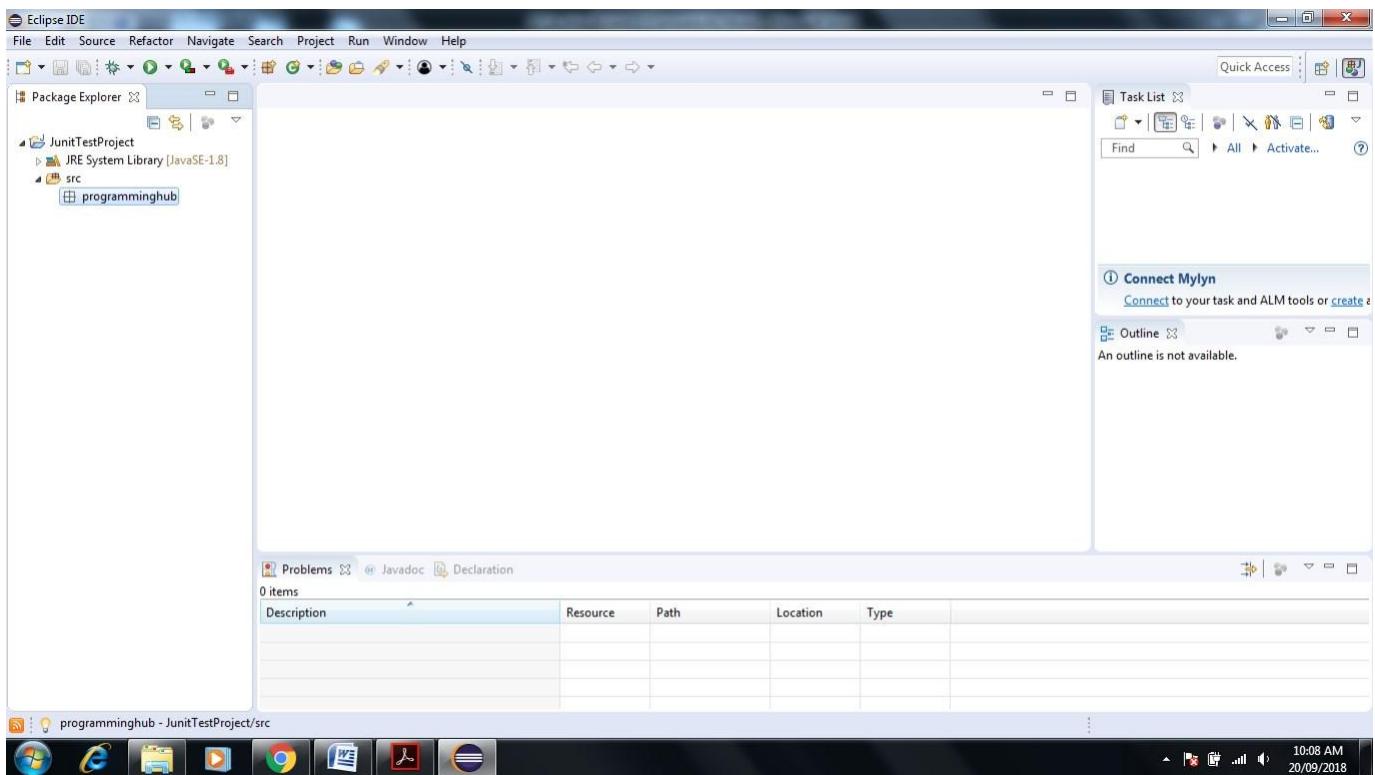
7. Right Click on Folder name JunitTestProject->New->Package



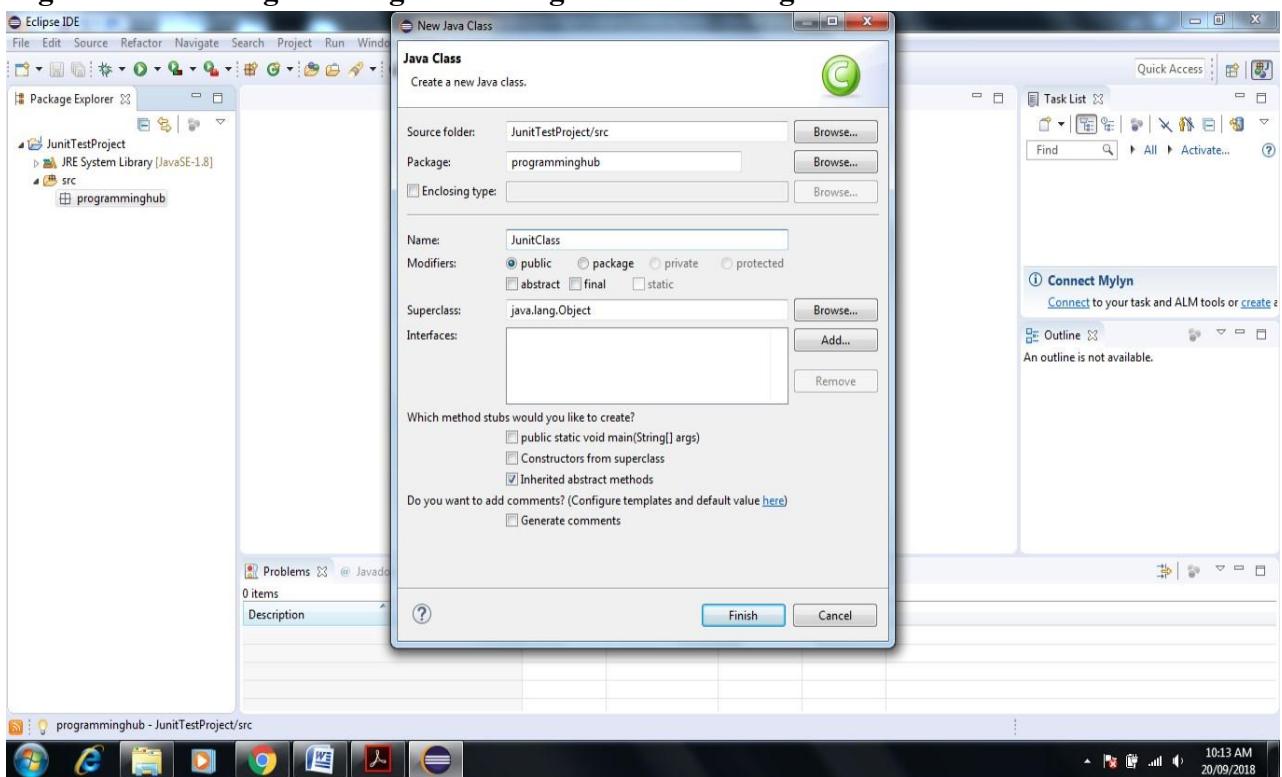
8. Name package as programming hub-> Click on Finish



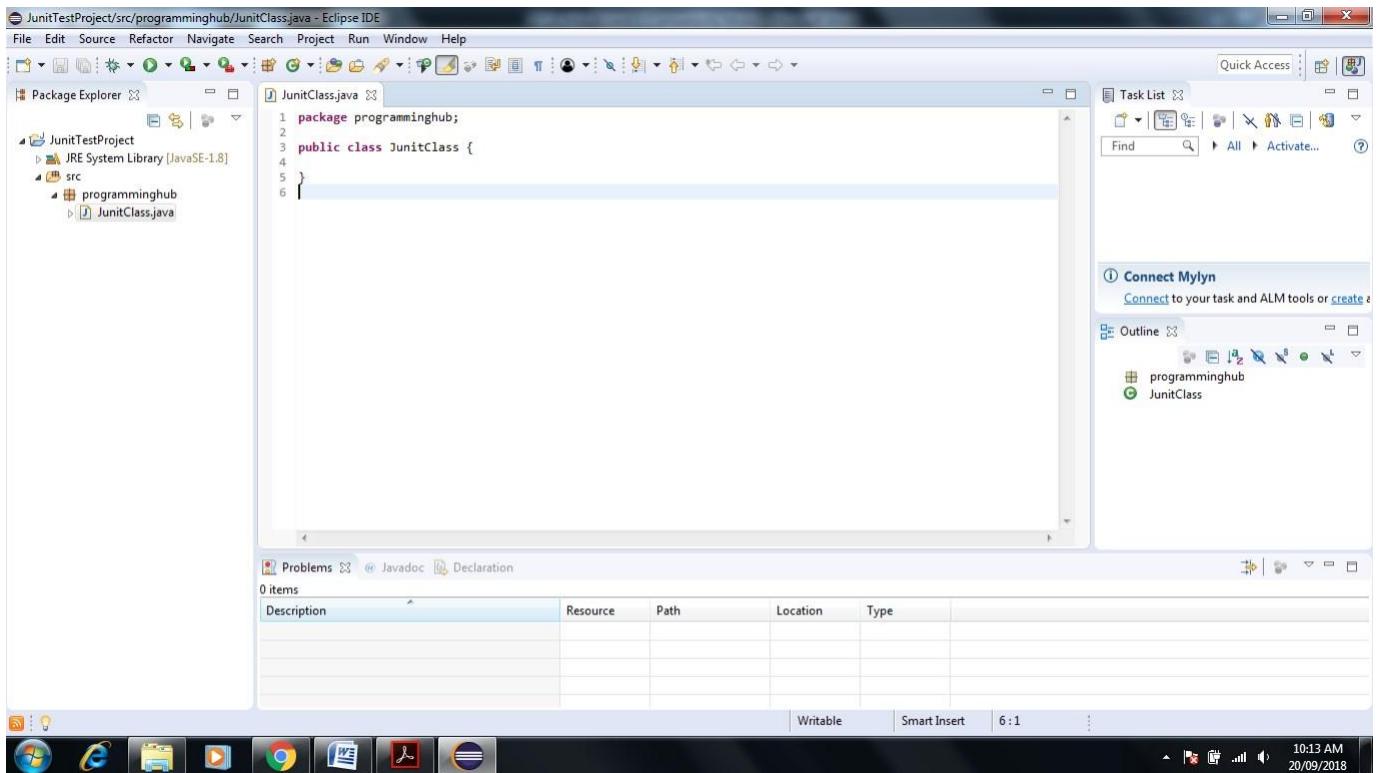
9. See the Programming hub package see in project Explorer Screen of Eclipse



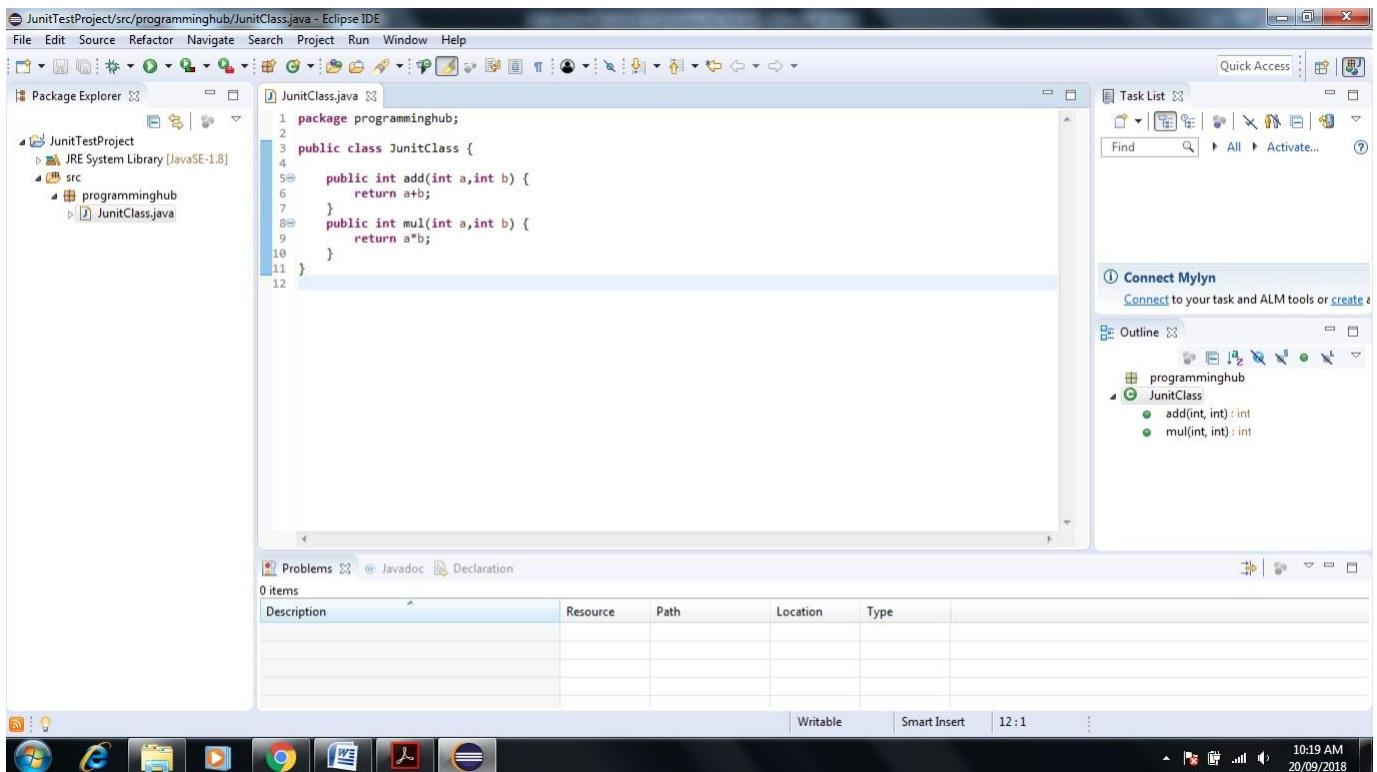
10. Right Click on Programminghub Package->New->Class give the name JunitClass->Click Finish.



11. Next screen will appear

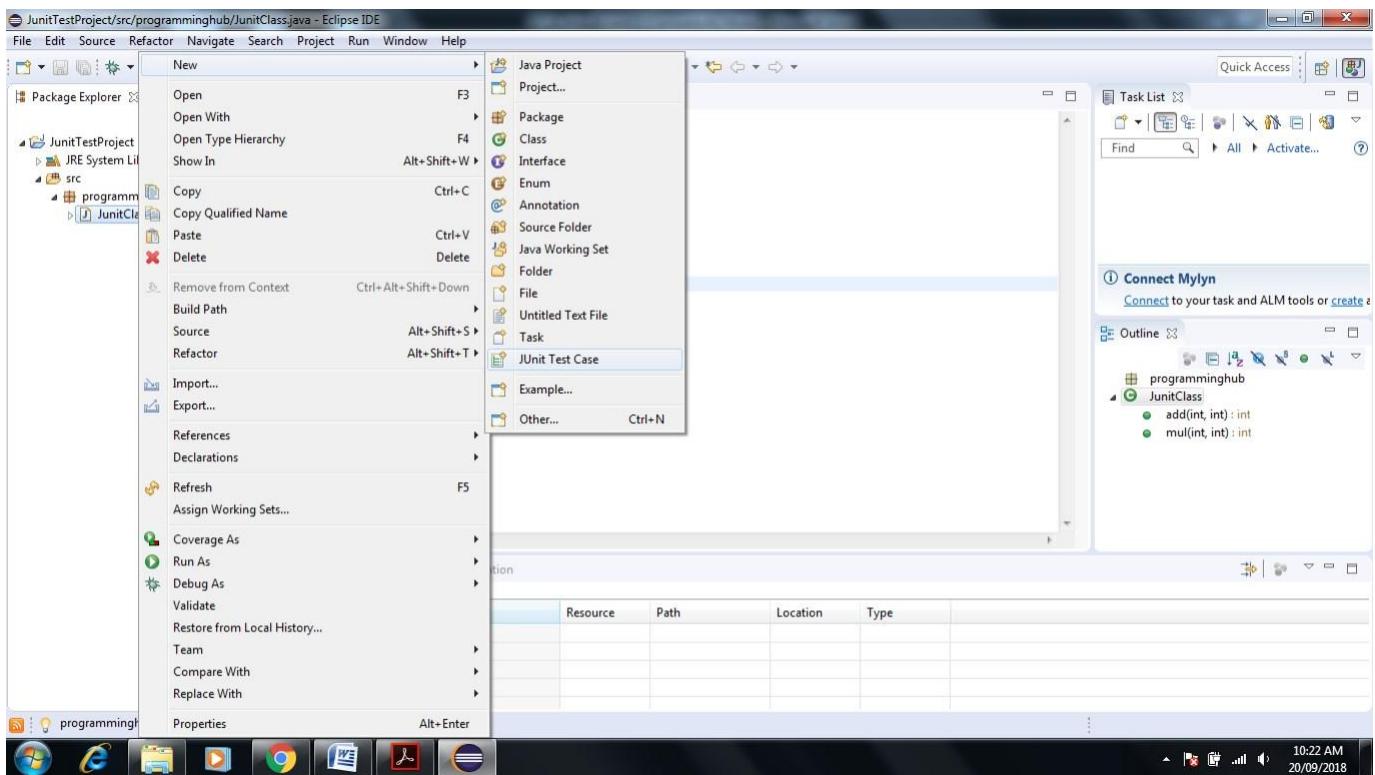


12 Write a small program with only two functions Add and Multiplication

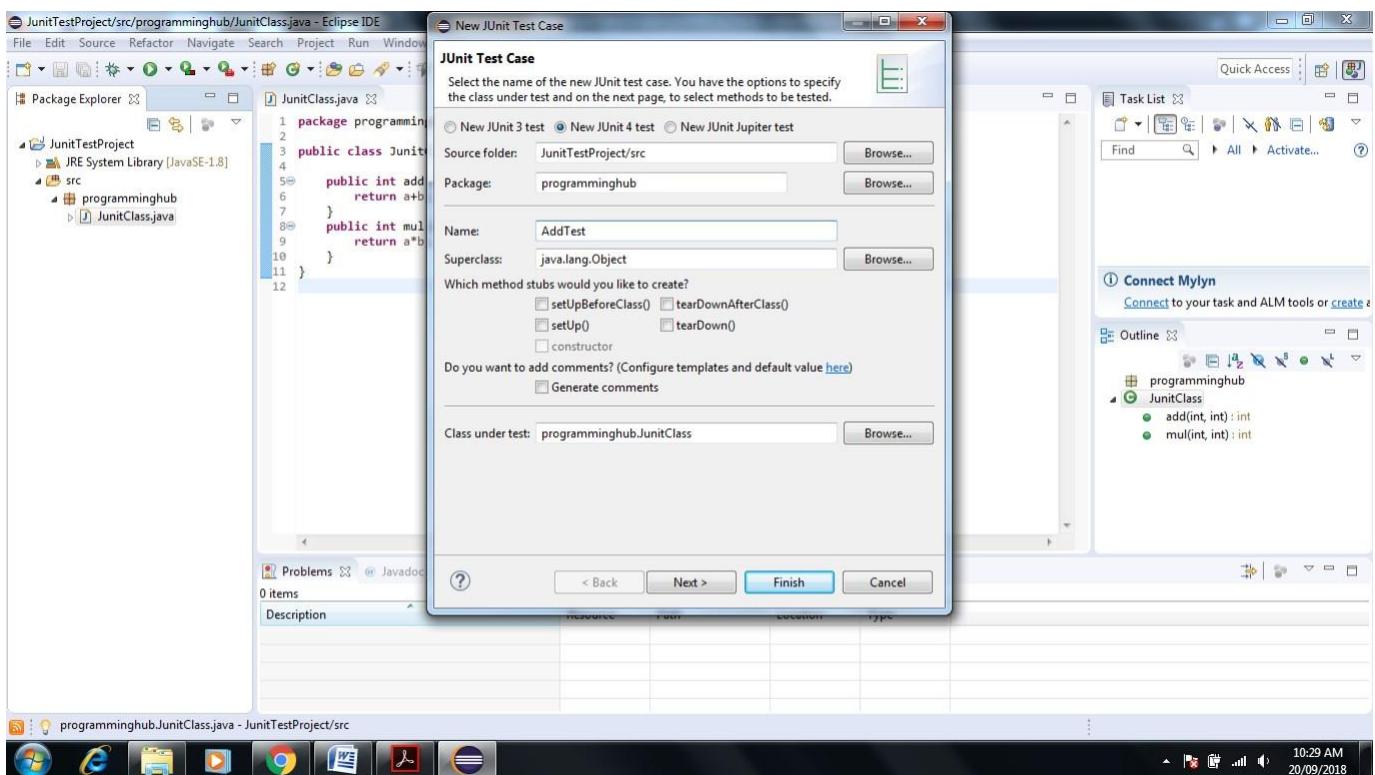


13. Write Test Cases for Java Program

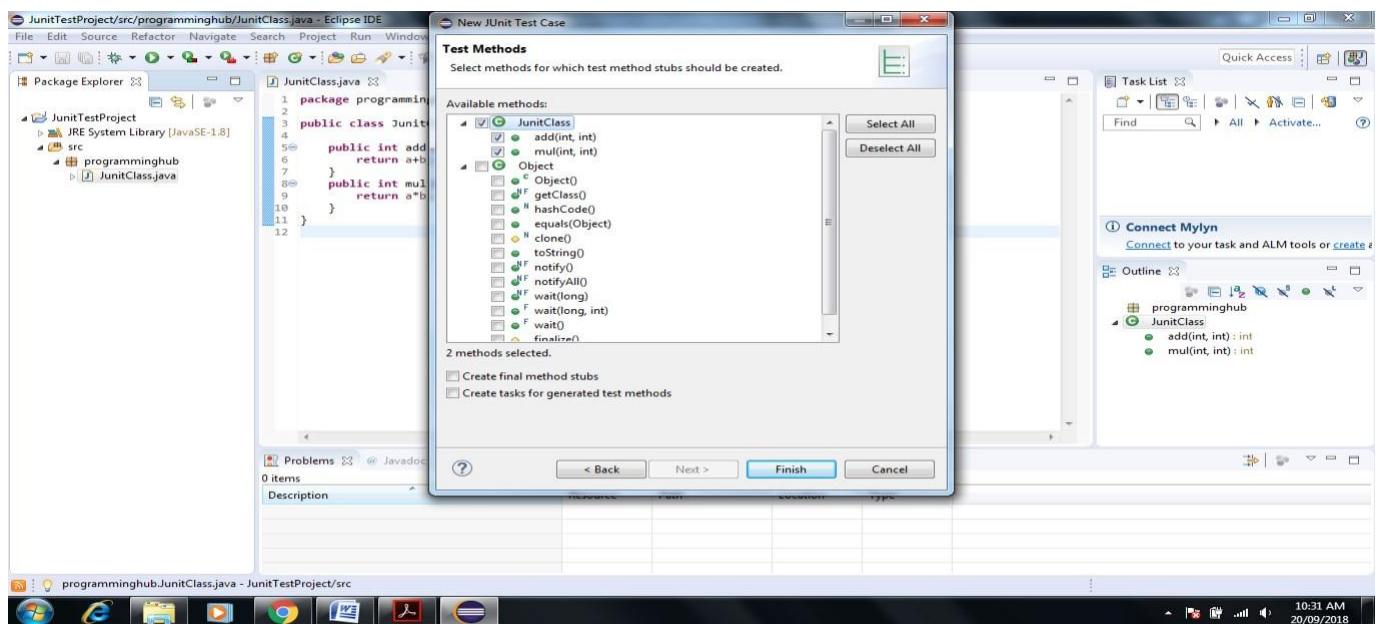
Right click on Junitclass-> New-> Click on Junit Test Cases



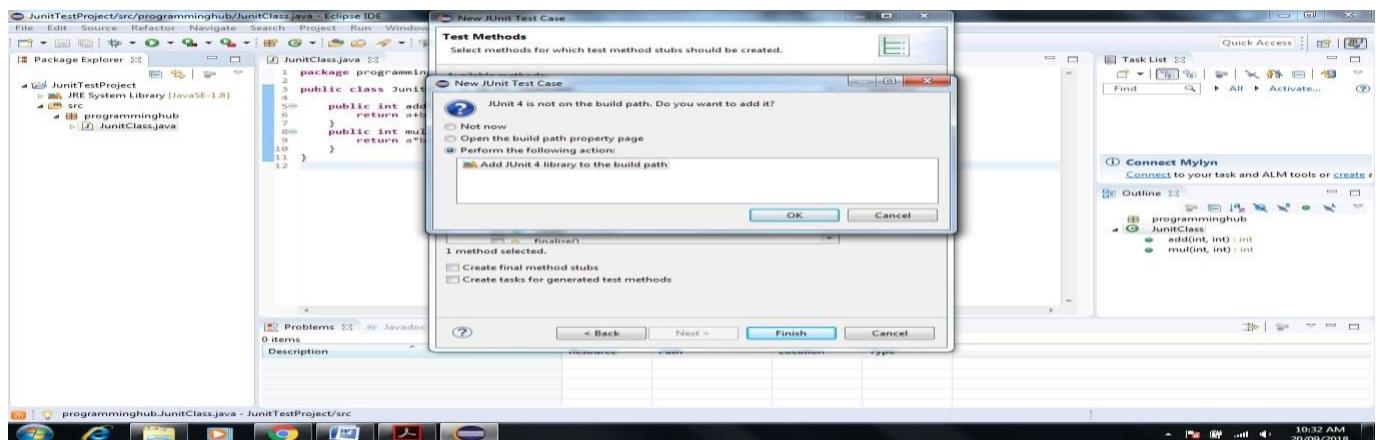
14. Name test suite as AddTest and choose New Junit4 test



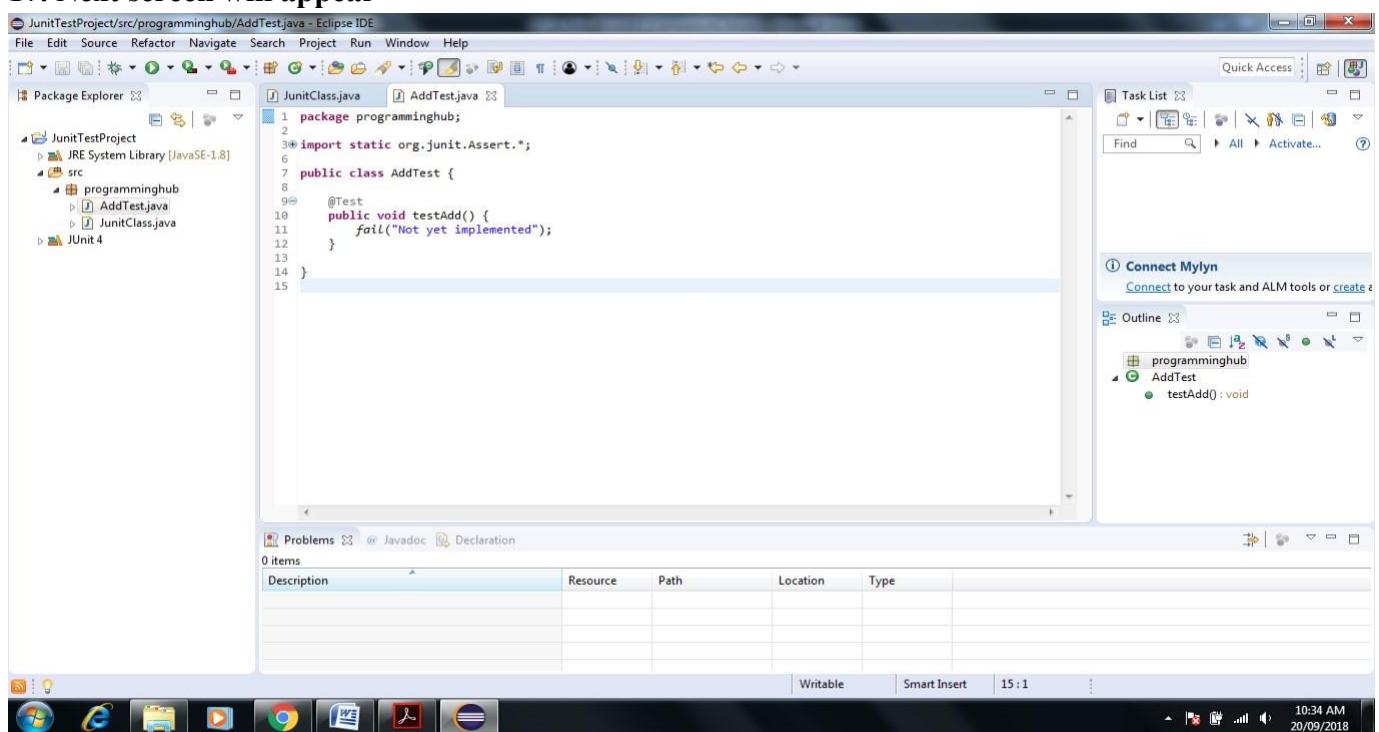
15. Click on add Checkbox



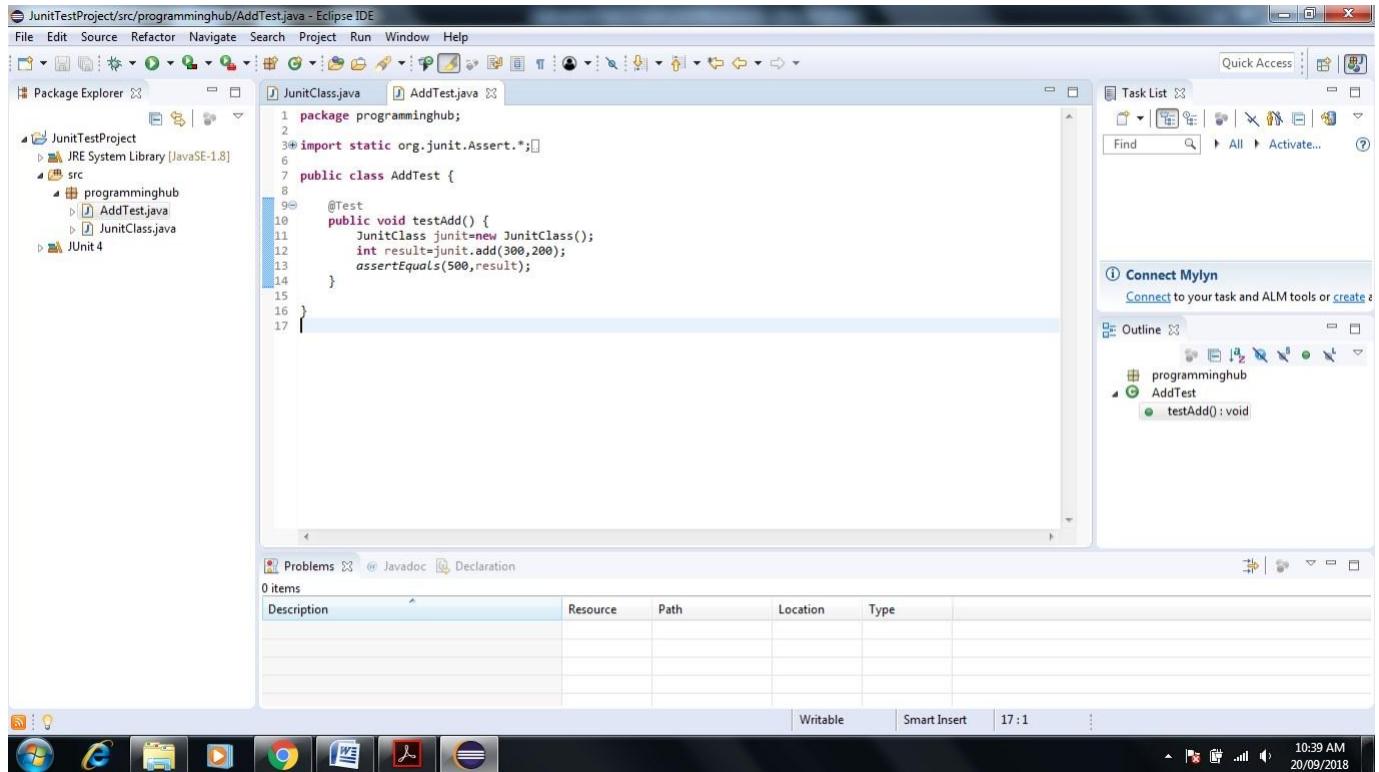
16. Click on Next-> Ok



17. Next screen will appear



18. Write a code for Test case addition of two number inside AddTest



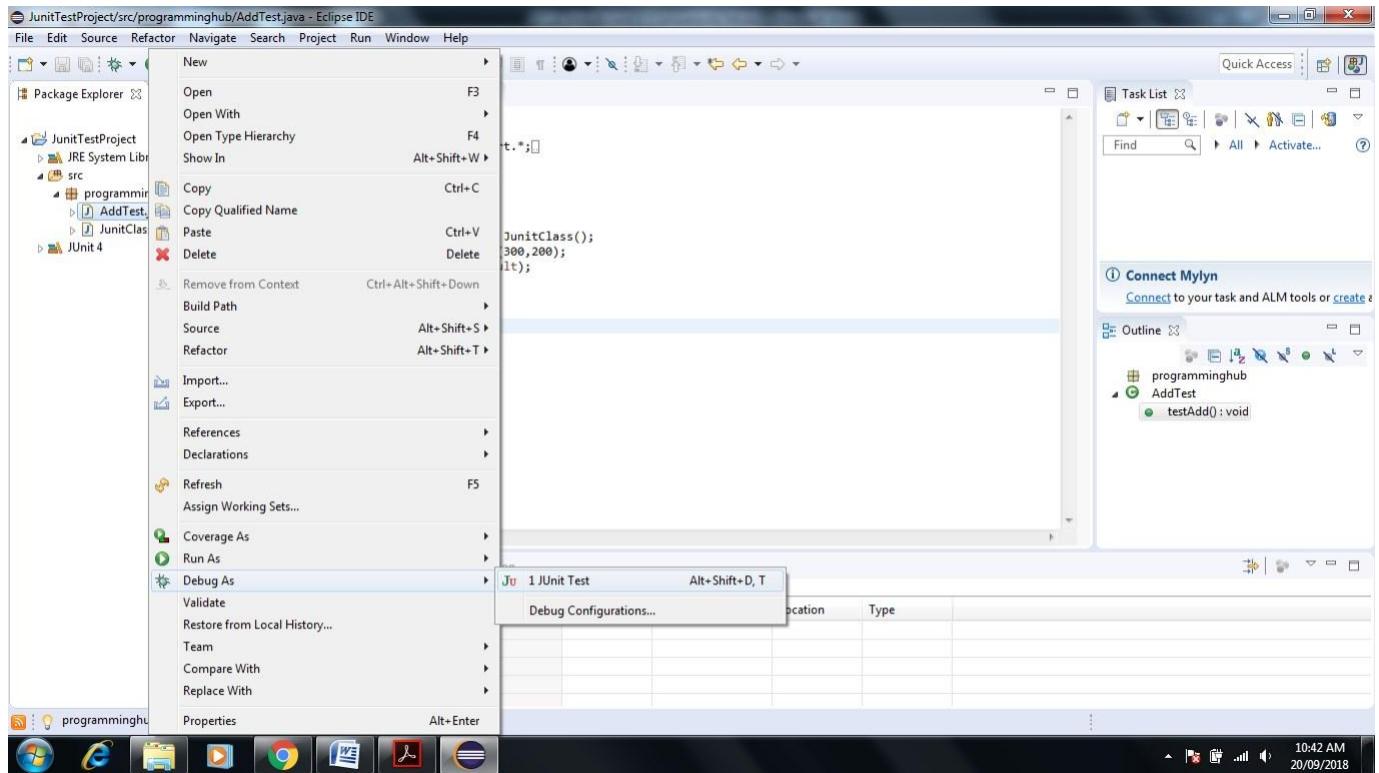
The screenshot shows the Eclipse IDE interface with the following details:

- Title Bar:** JunitTestProject/src/programminghub/AddTest.java - Eclipse IDE
- Menu Bar:** File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, Help
- Toolbars:** Standard, Selection, Status, Structure, Navigator, Outline, Problems, Javadoc, Declaration.
- Left Sidebar:** Package Explorer (JunitTestProject, src, programminghub, AddTest.java, JUnitClass.java, JUnit 4).
- Central Area:** Editor showing JunitClass.java and AddTest.java. The AddTest.java code is:

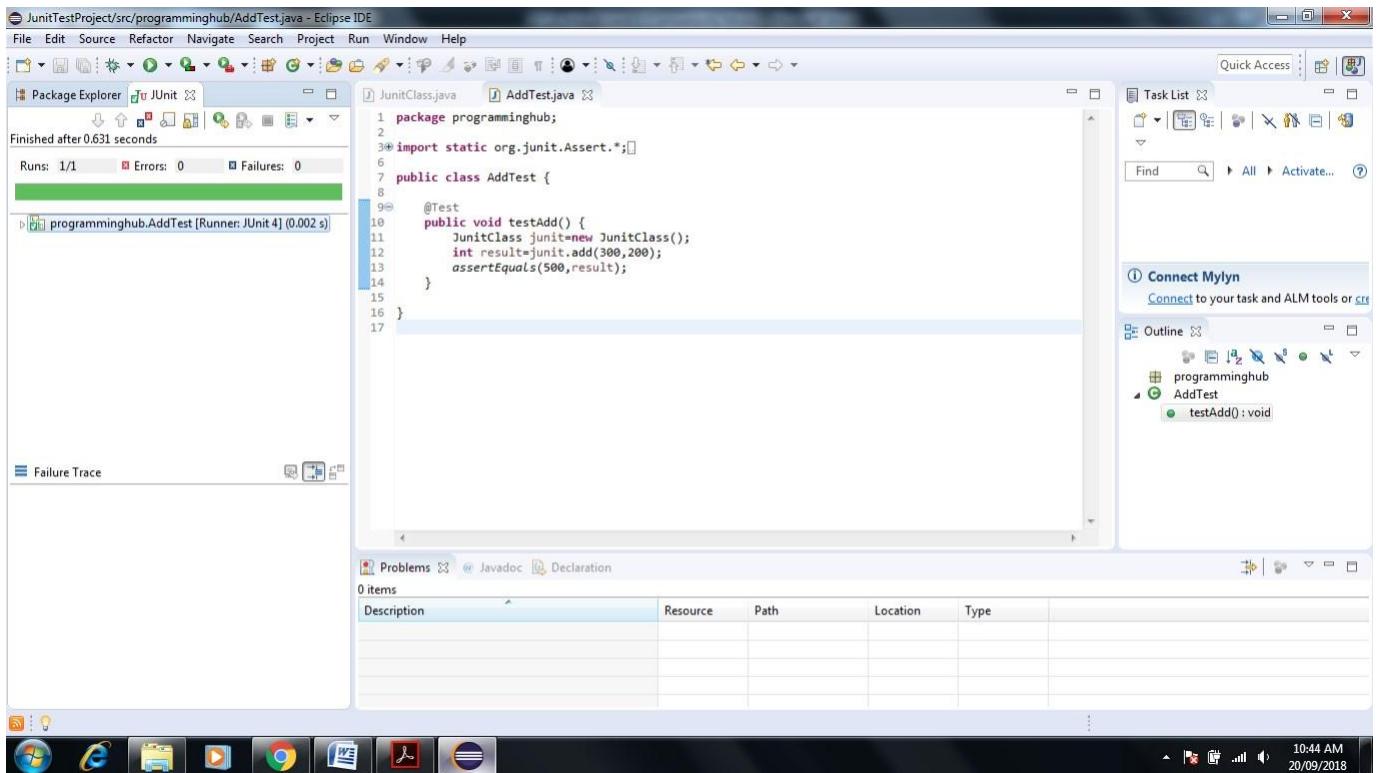
```

1 package programminghub;
2
3 import static org.junit.Assert.*;
4
5 public class AddTest {
6
7     @Test
8     public void testAdd() {
9         JunitClass junit=new JunitClass();
10        int result=junit.add(300,200);
11        assertEquals(500,result);
12    }
13
14 }
15
16
17 }
```
- Right Sidebar:** Task List, Outline (showing AddTest and testAdd() : void).
- Bottom:** Status bar showing 10:39 AM, 20/09/2018.

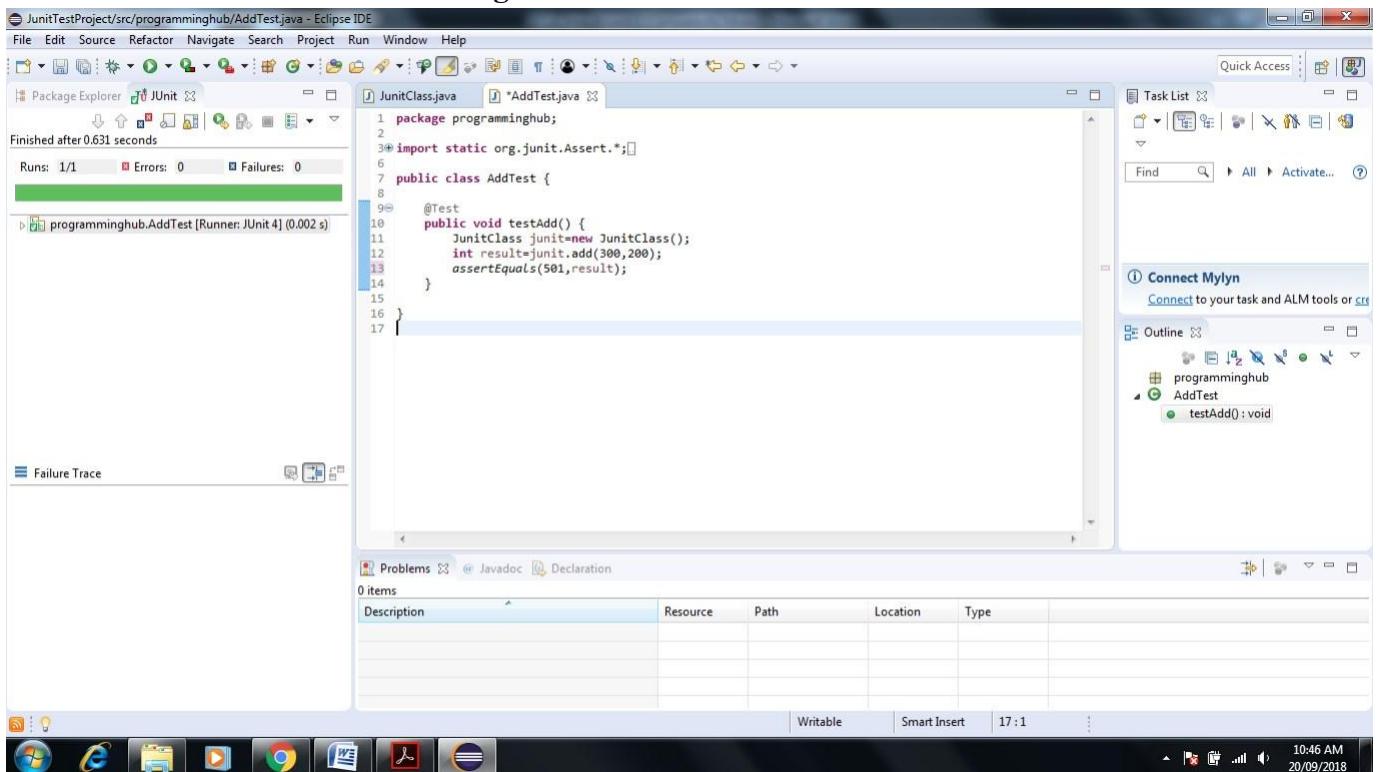
19. Let us run AddTest test case. Right click AddTest-> Debug As->JUnit Test



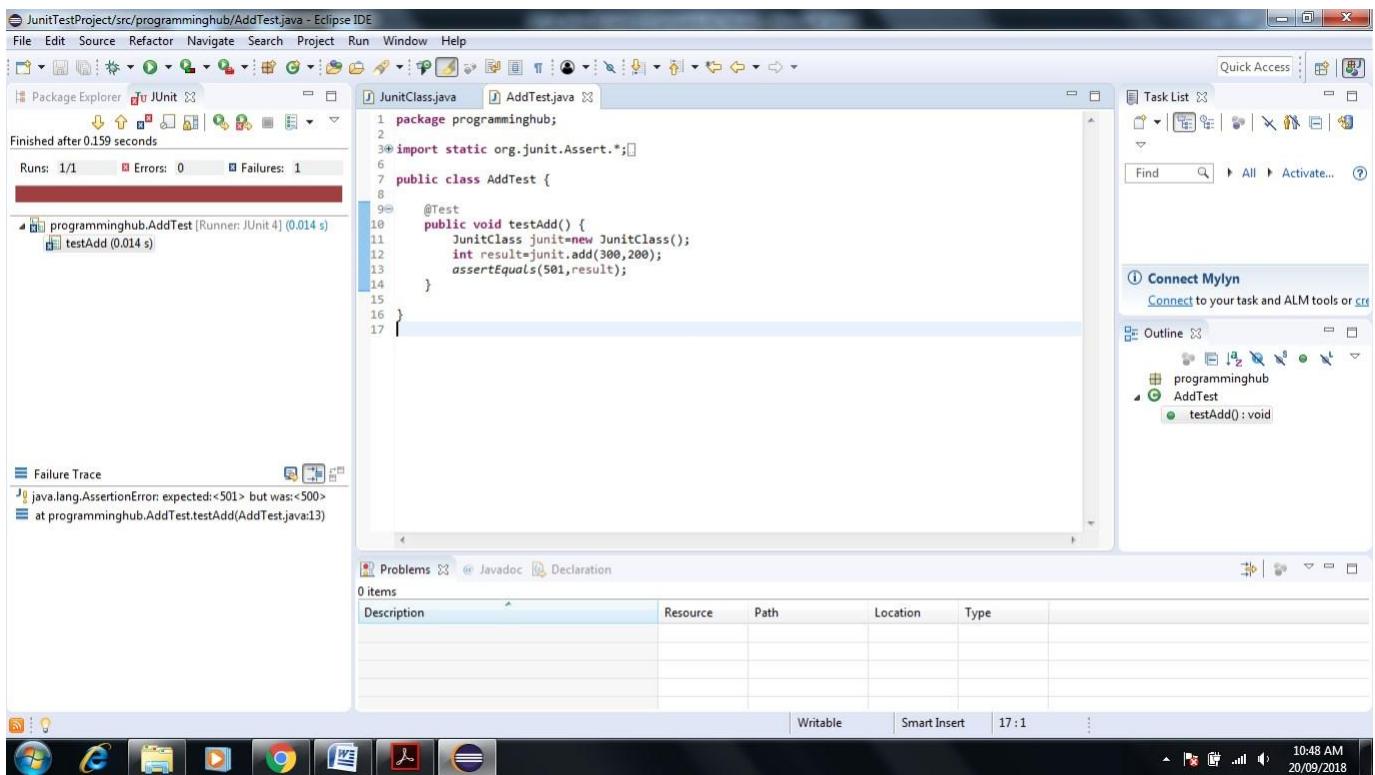
20. Result of test case is as follows. It shows 0 error and 0 failure and green color test bar which means that test case has run successfully(Green Color Bar Indicate)



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

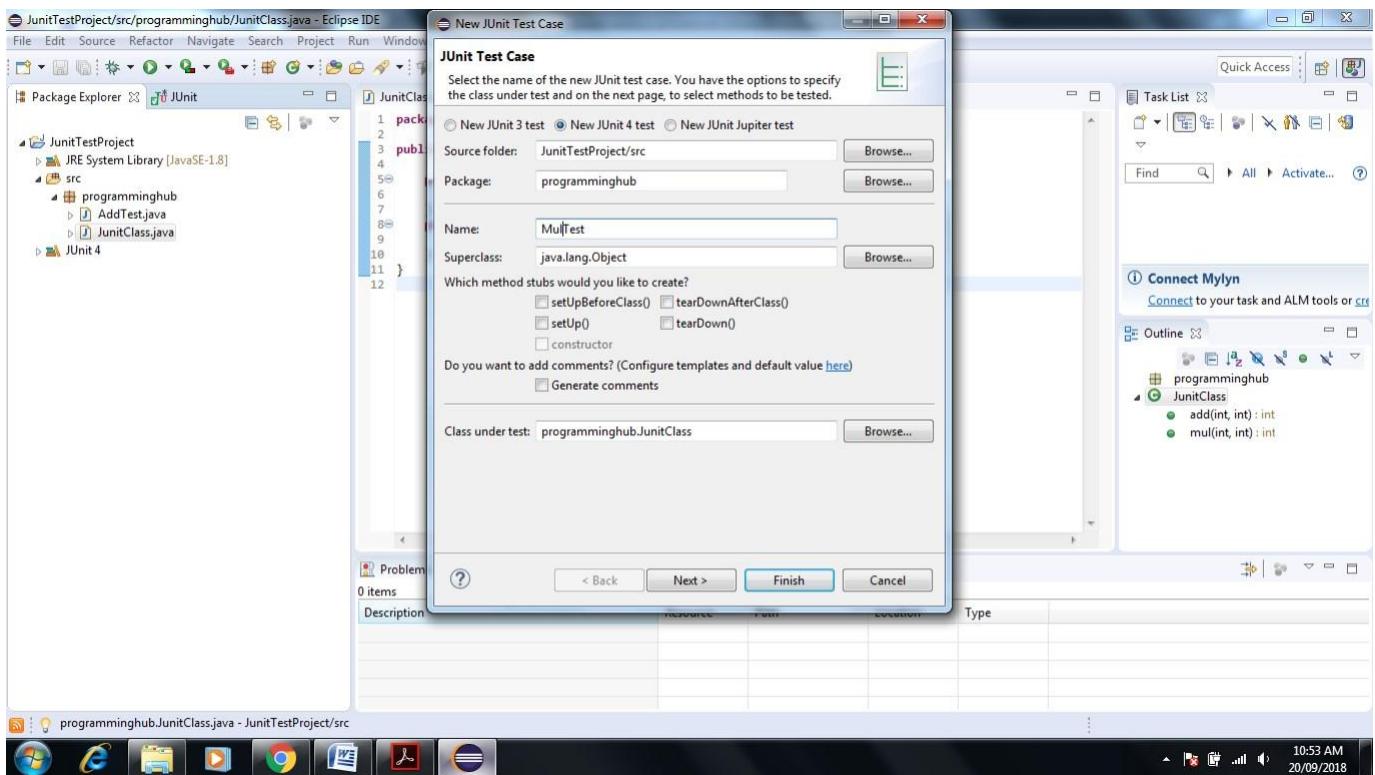


22. Now test case should fail.(Brown Color Bar Indicate) So again run AddTest as follows

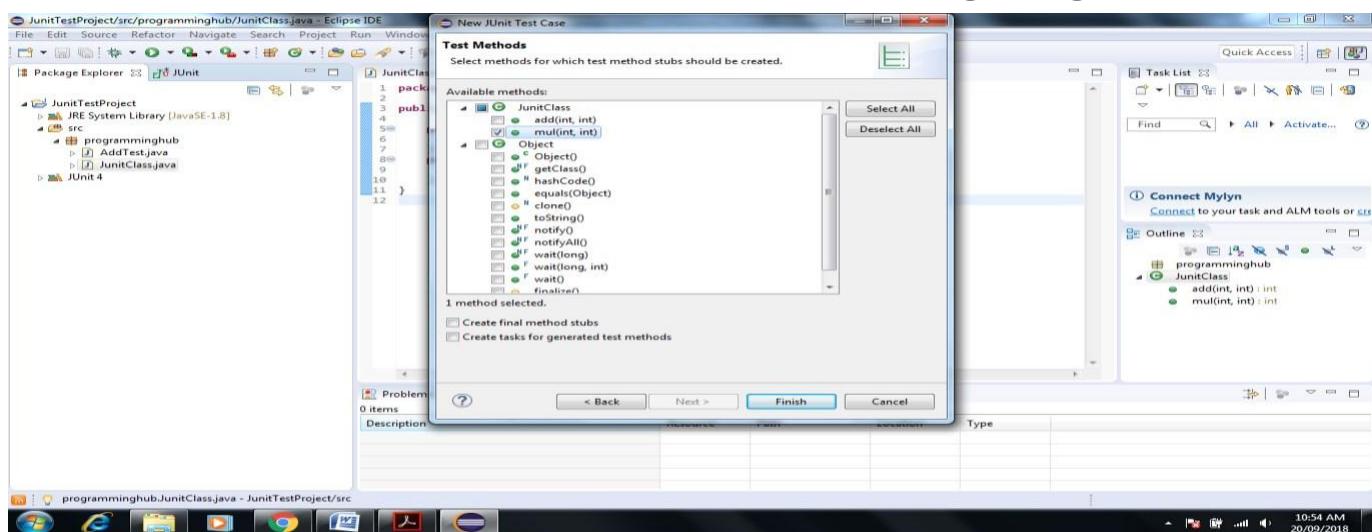


23. Similarly you can Create Test case for Multiplication Function

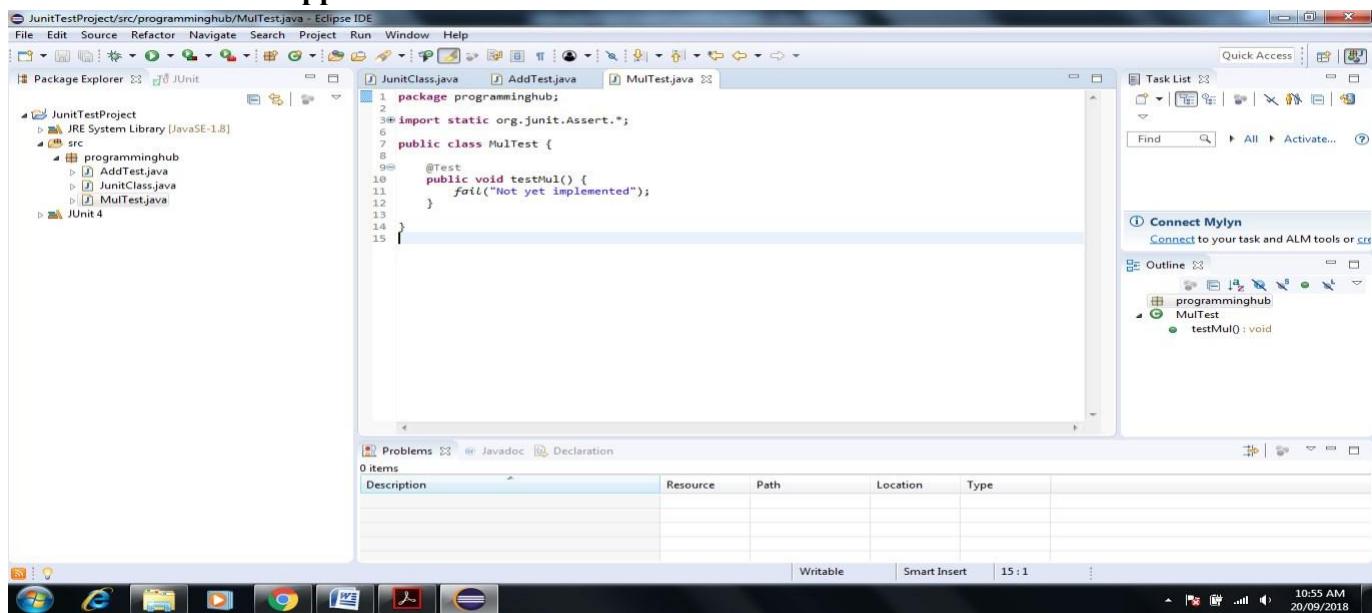
Click on Project Explorer Screen-> Right Click on JunitClass->New->JUnit Test Case-> Give name MulTest.



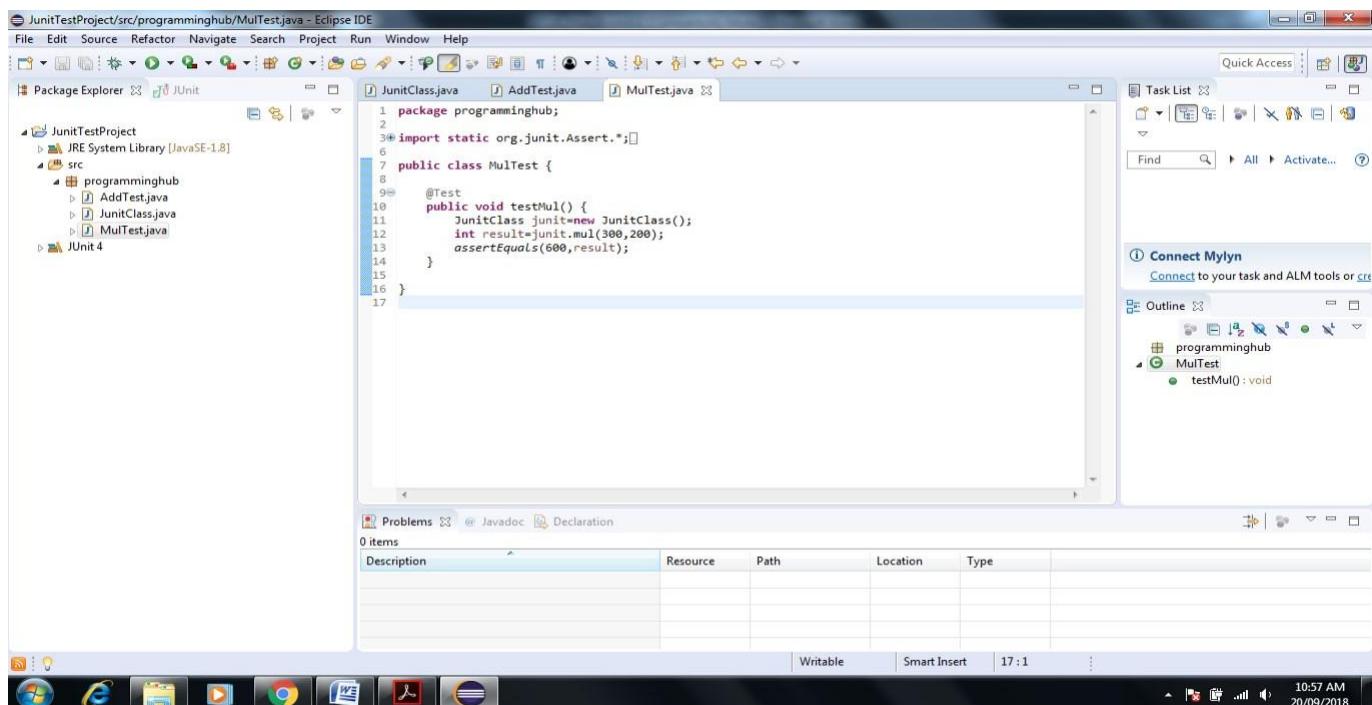
24. Click on Next ->Select Mul Check Box -> Click Finish



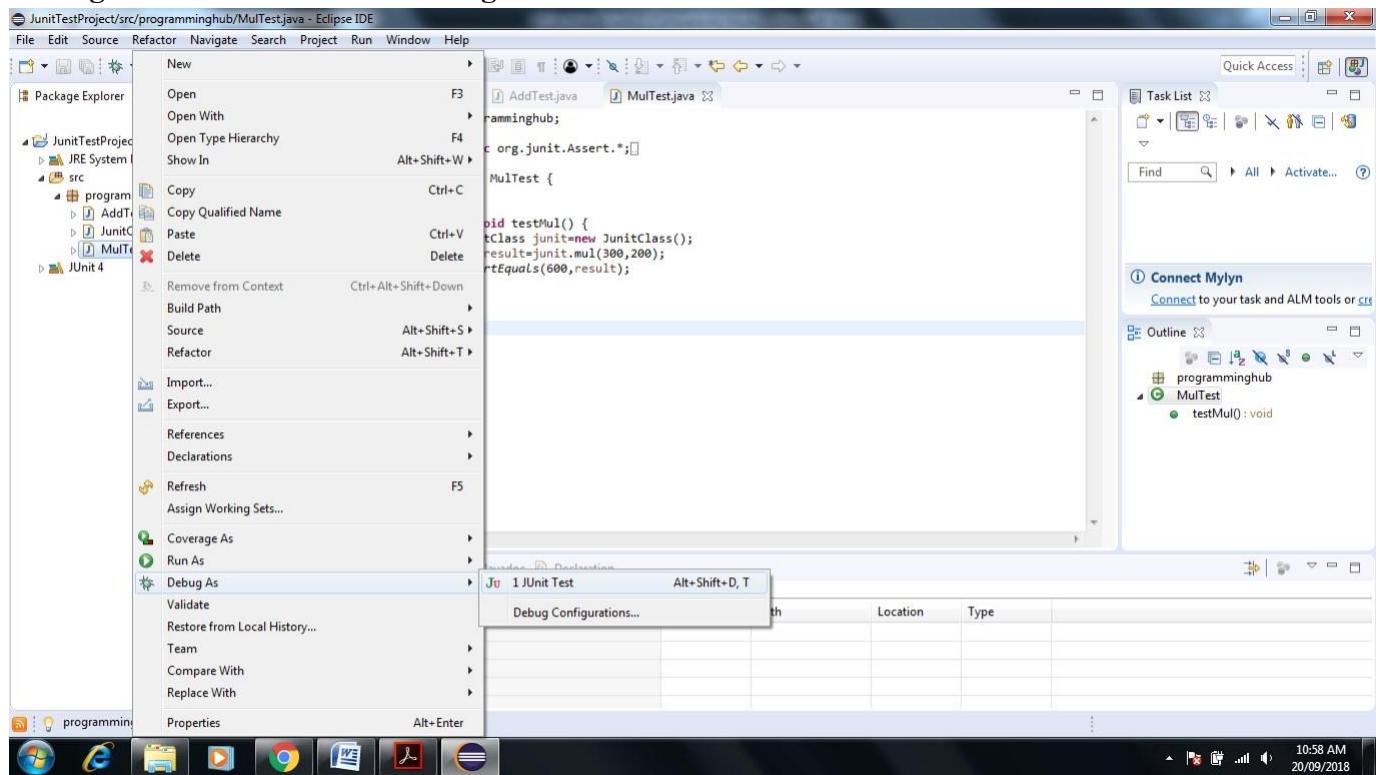
25. Next Screen will appear



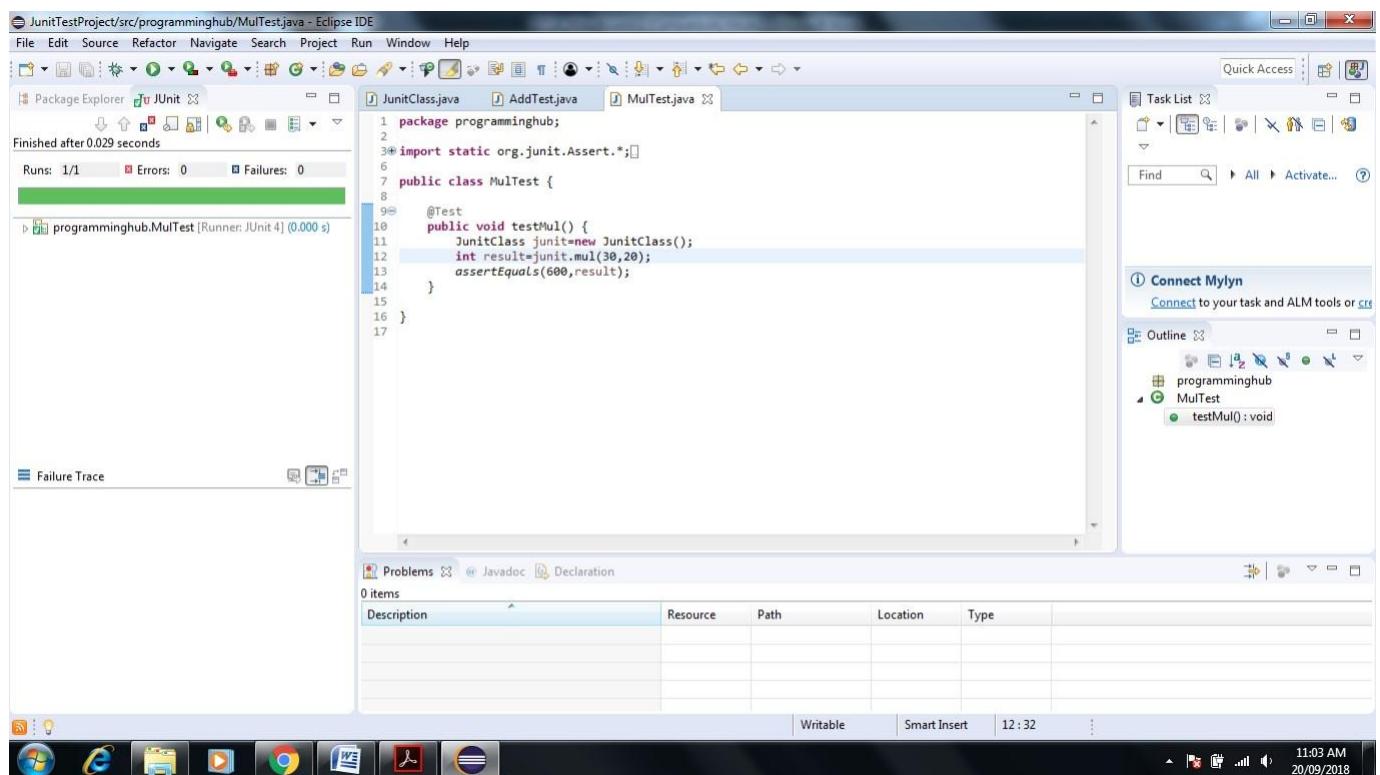
26. Write a Test Case Code inside MulTest method



27. Right Click on MulTest->Debug->JUnit Test

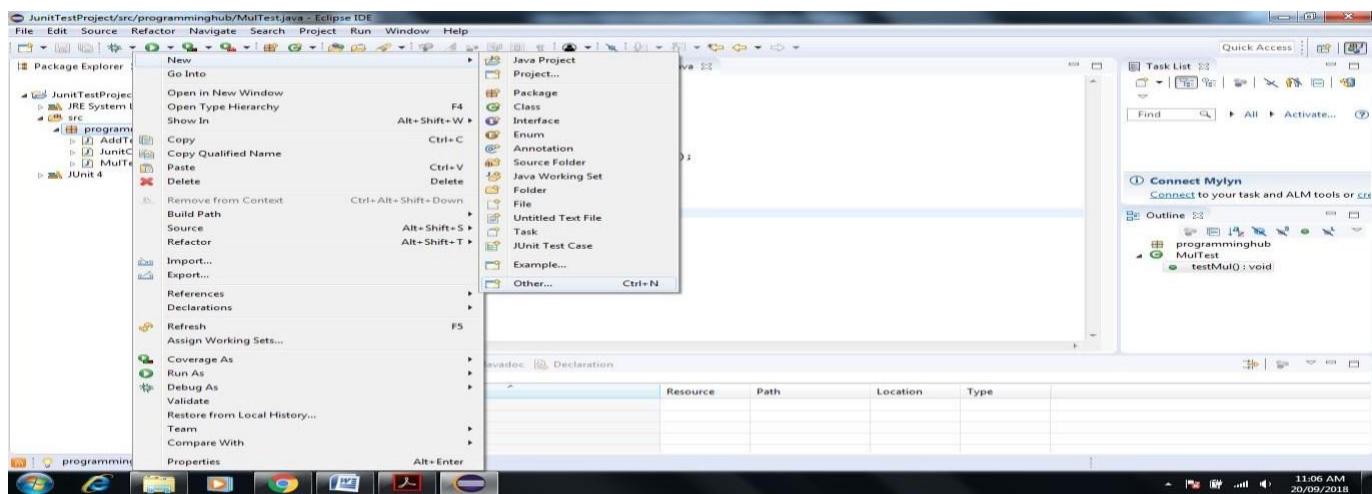


28. Execute Test

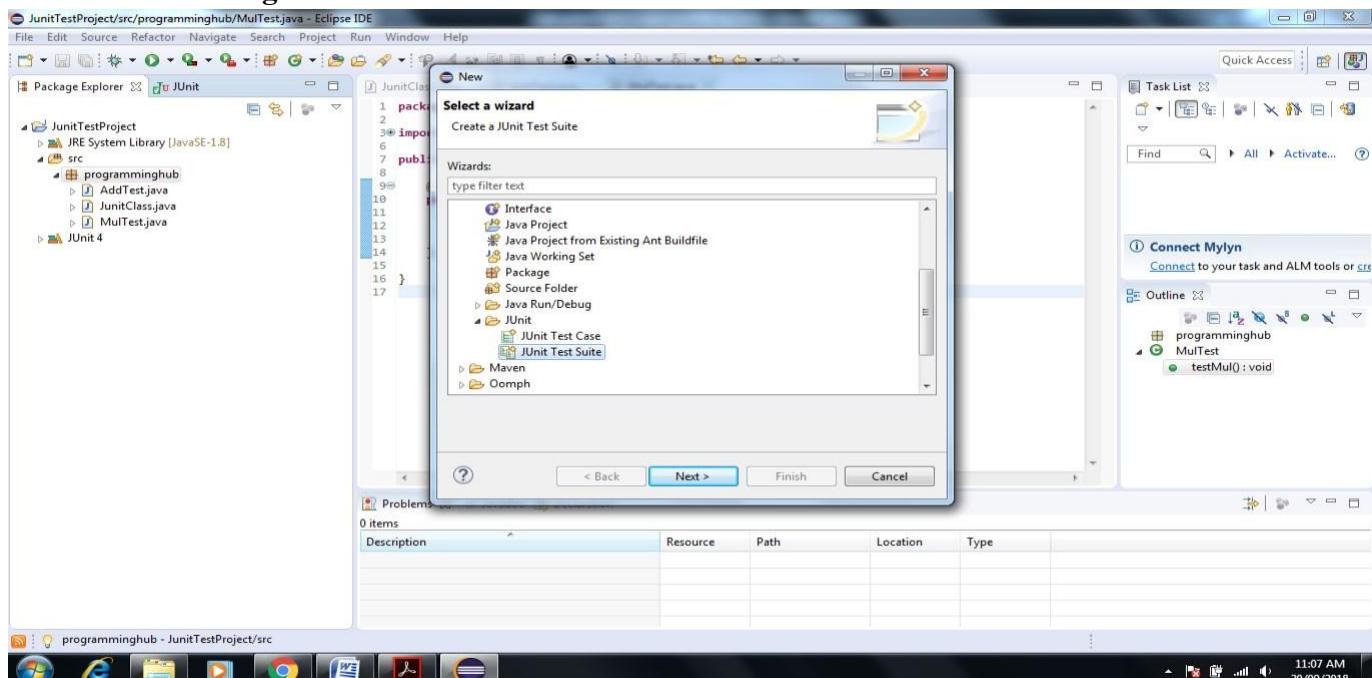


Test Suite – it is used to test multiple test cases at one time.

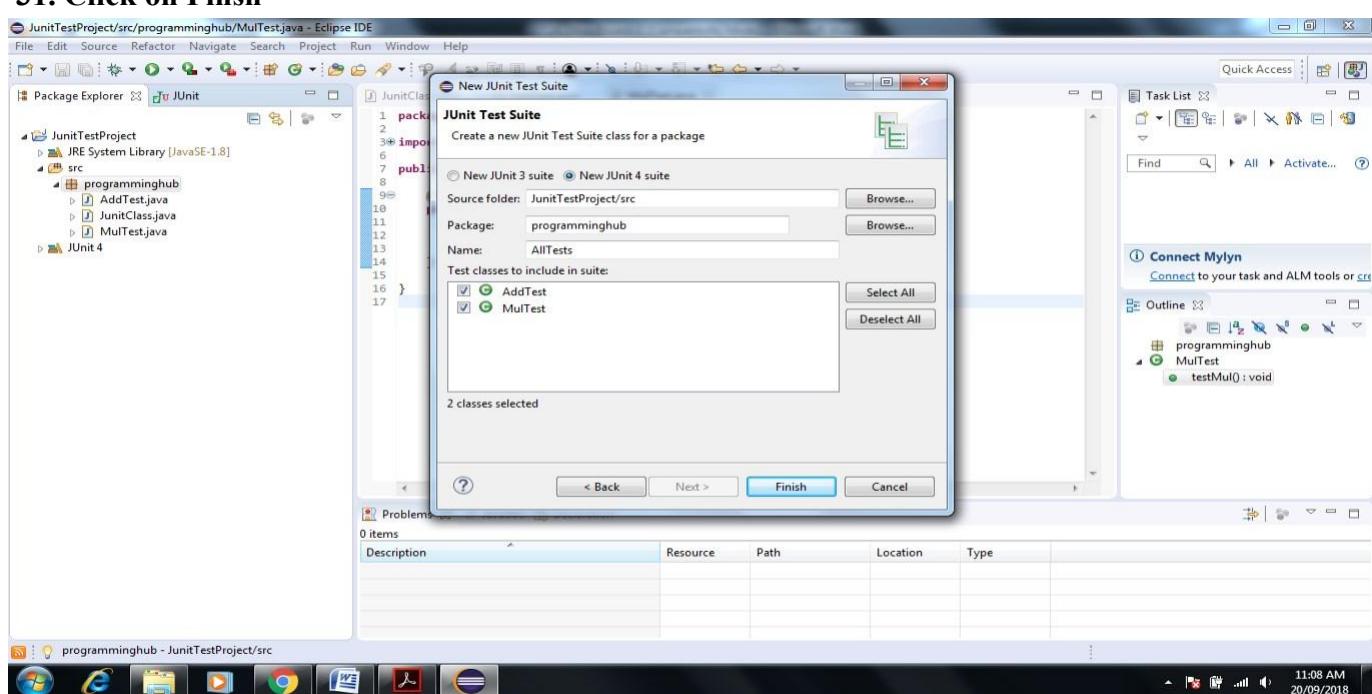
29. Now let us create Test Suite both add and mul test cases in one time



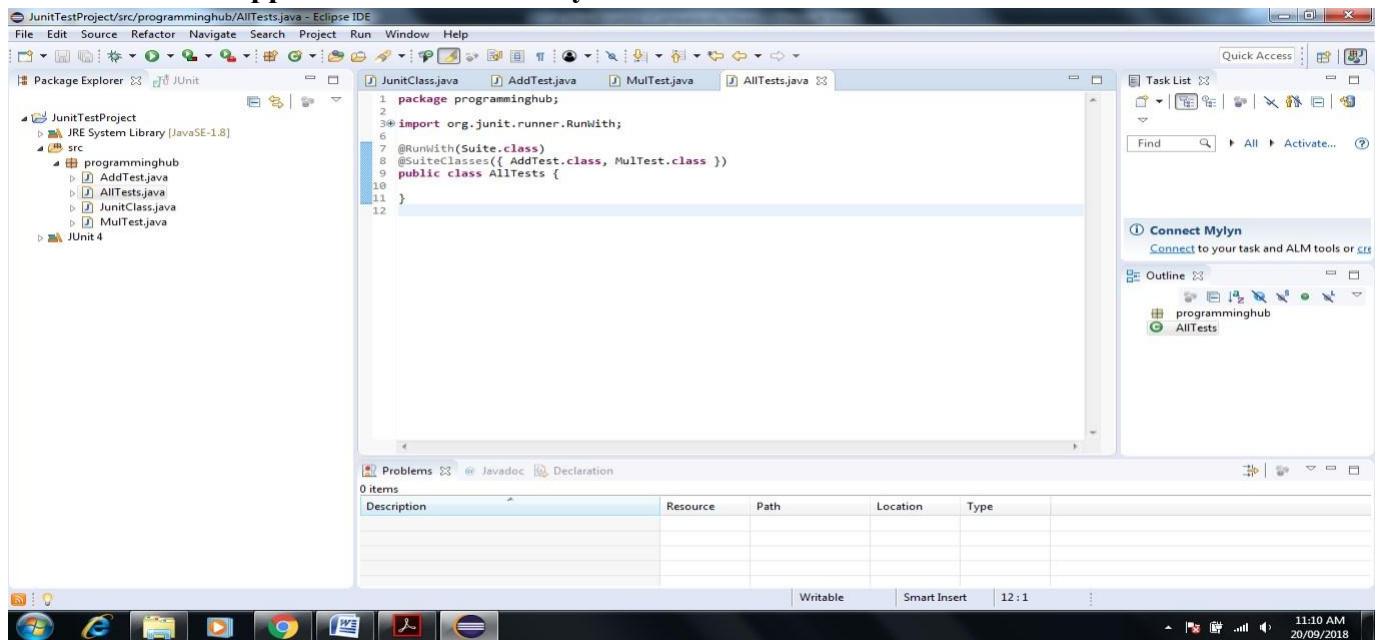
30. Click on Package name->New->Other->JUnit->JUnit Test Suite->Next



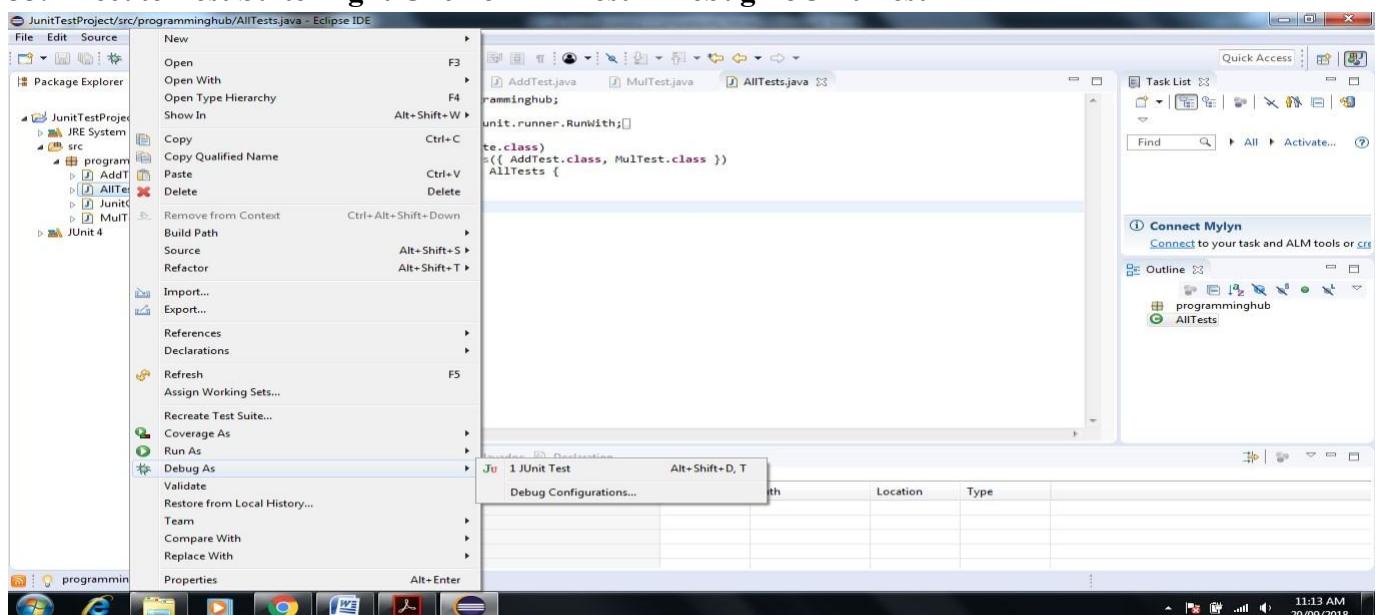
31. Click on Finsh



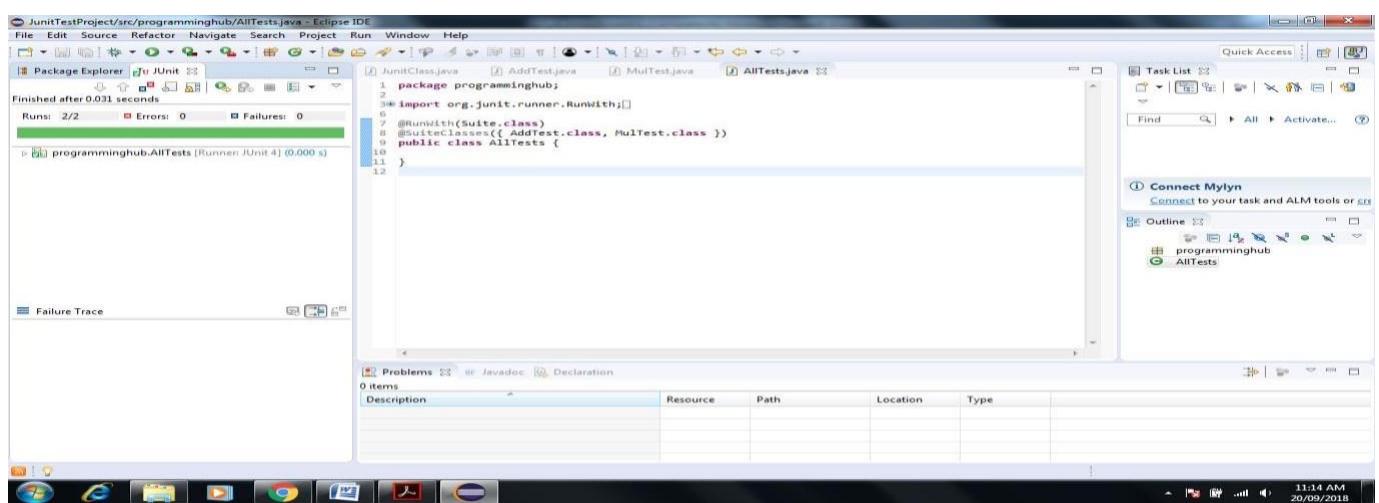
32. Next Screen Appear that automatically create Test Suite for Add and Mul



33. Execute Test Suite Right Click on All Test ->Debug->JUnit Test



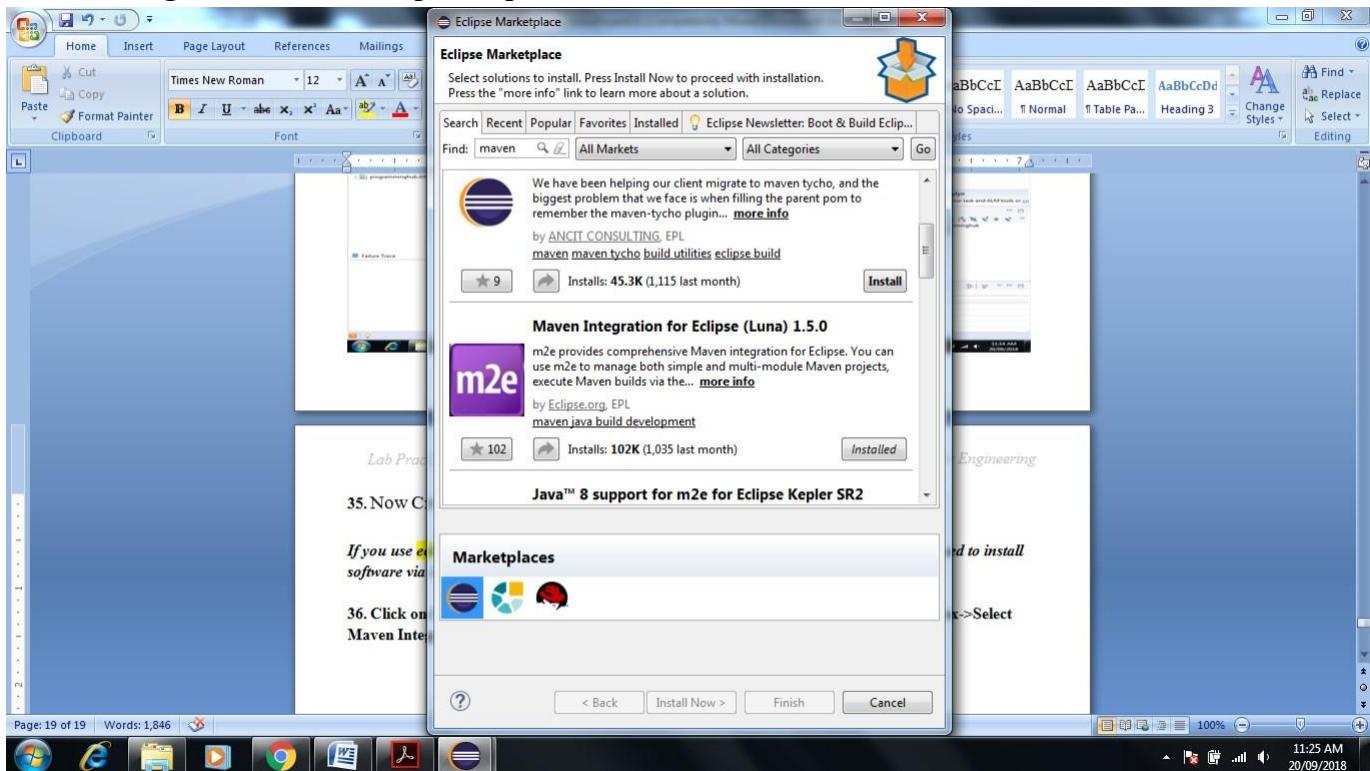
34. Test Suite Executed successfully Test suite fails even if a single test case among all fails.



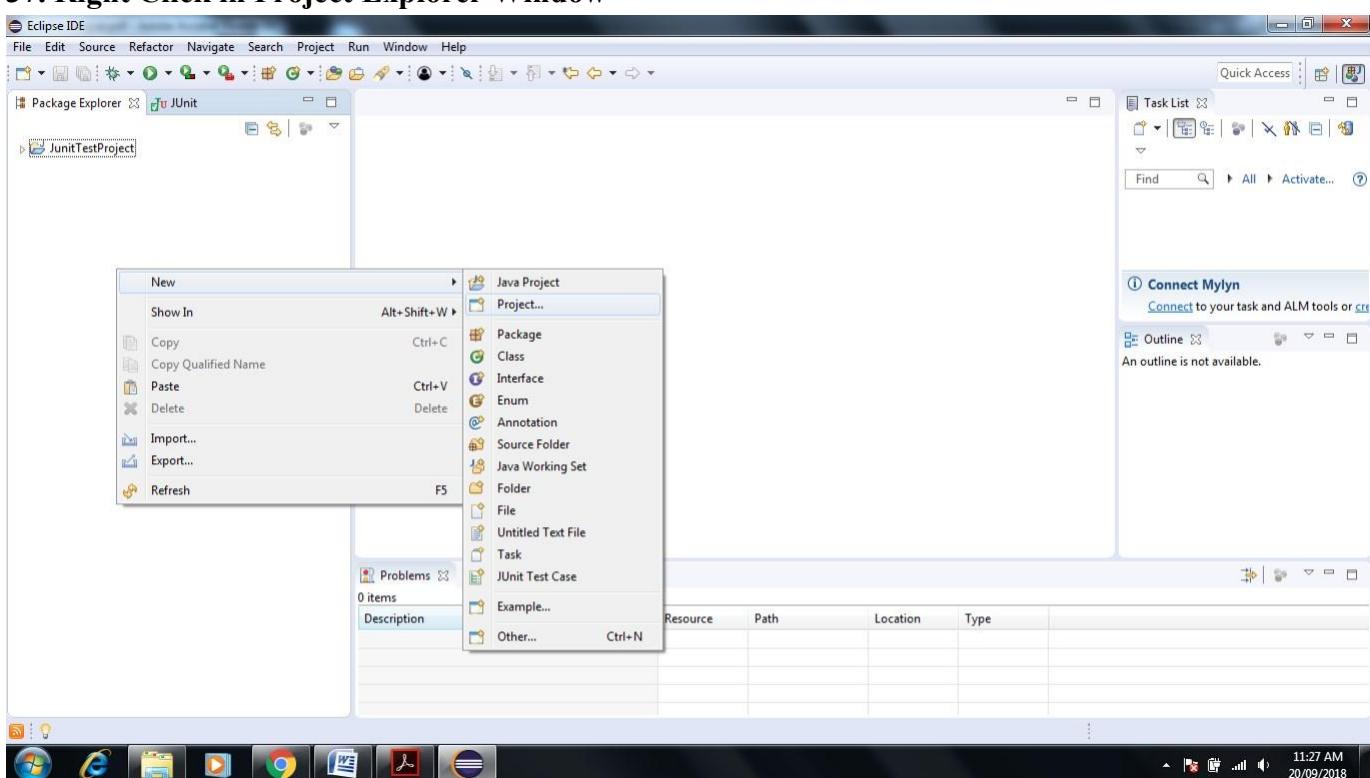
35. Now Create Test Report Using Apache Maven

If you use **eclipse-java-photon-R-win32** Version it include Maven in built installed so no need to install software via Eclipse help Install Software Option

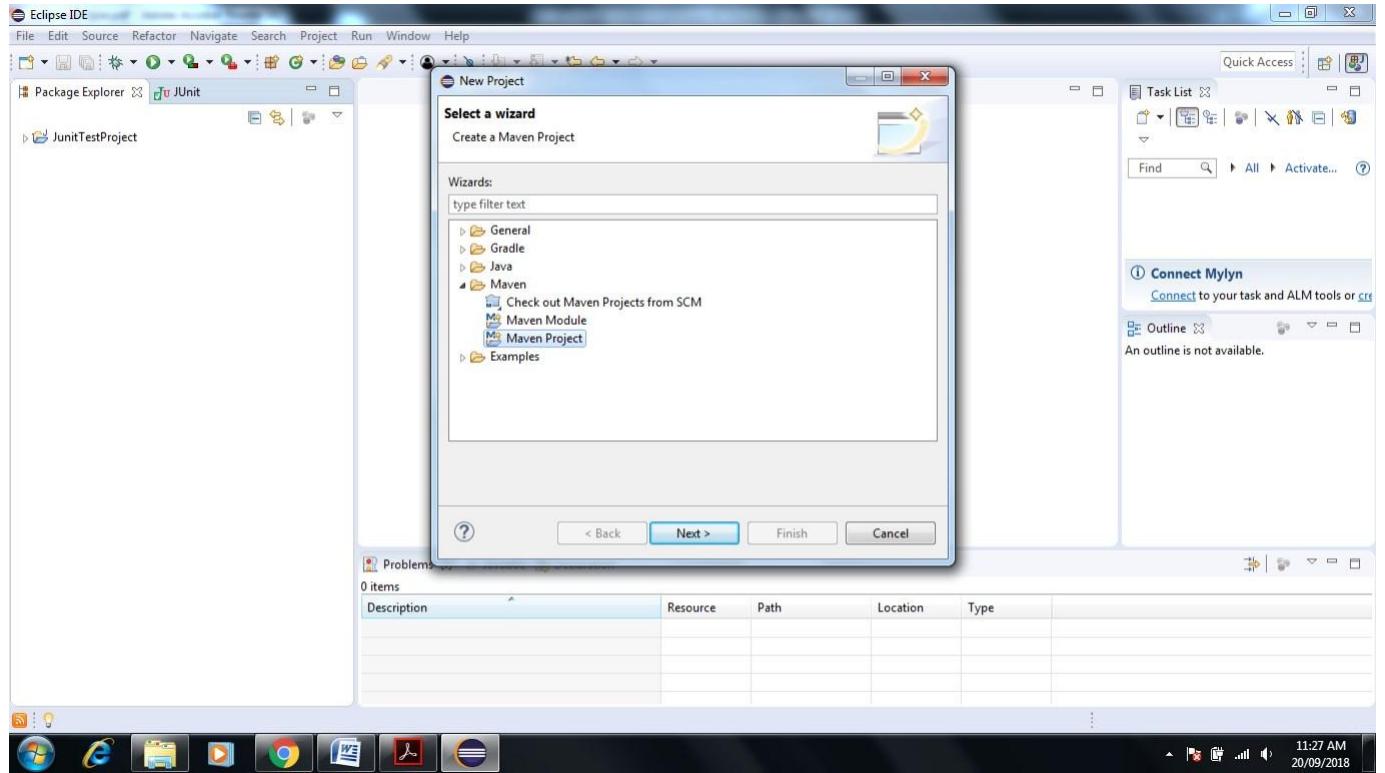
36. Click on Help in Eclipse->Eclipse Marketplace->Enter Maven Keyword in Search box->Select Maven Integration version as per requirement->Click on Install



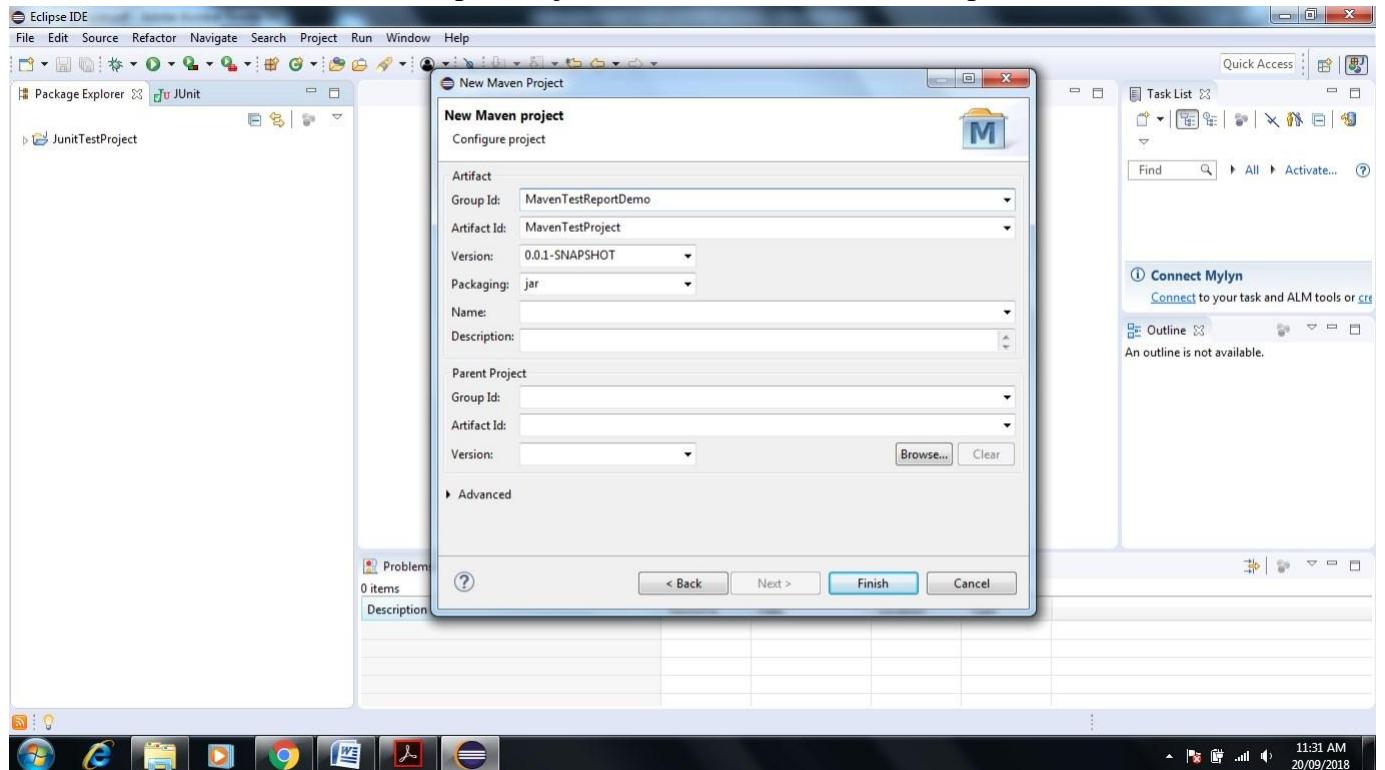
37. Right Click in Project Explorer Window



38. Go to Maven Project-> Click Next

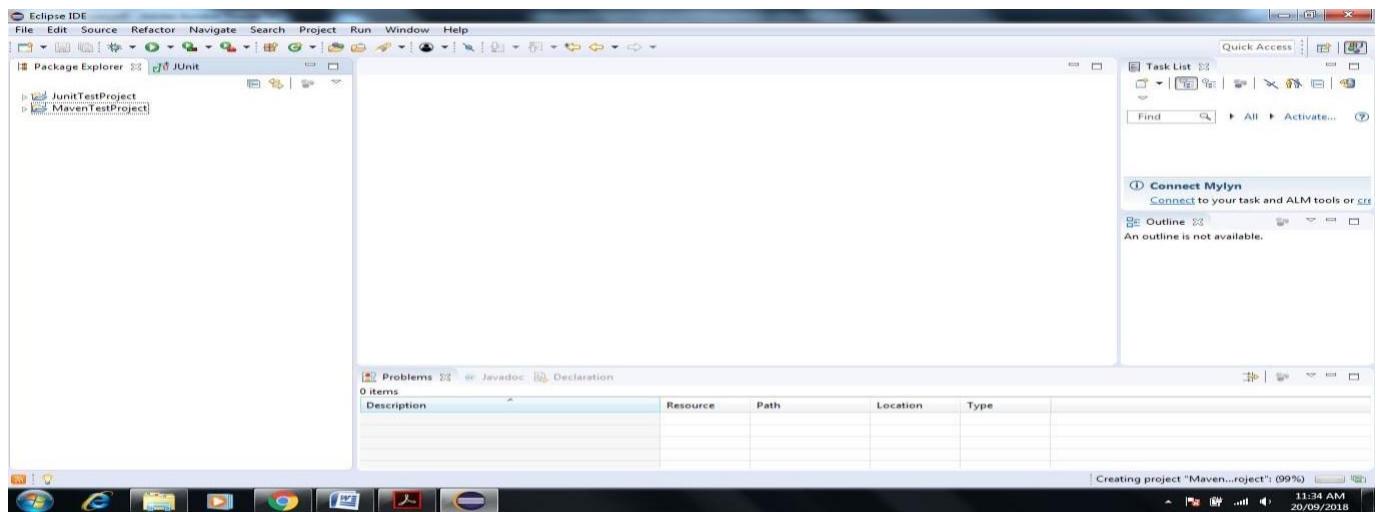


39. Select Check Box Create Simple Project-> Click Next-> Give Group Id and Artifact name

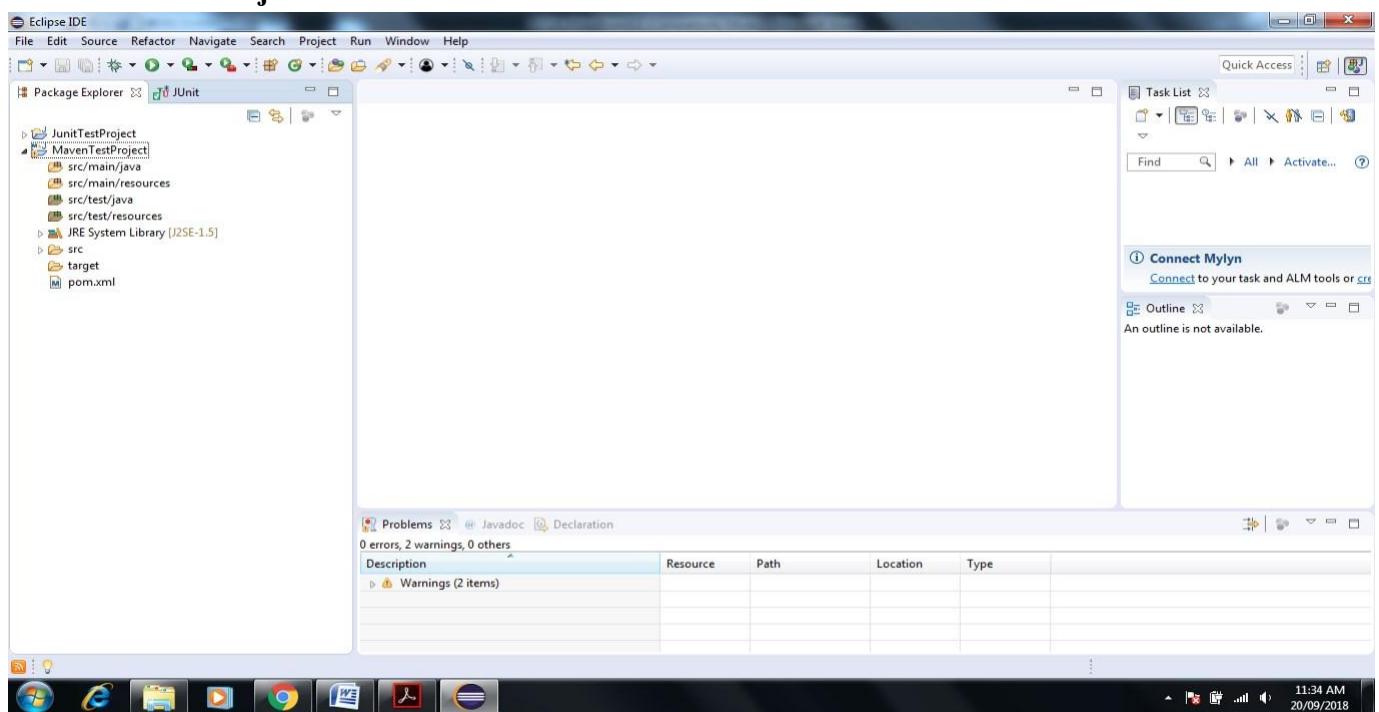


40. Click on Finish-> Next Screen Appear

Engineering

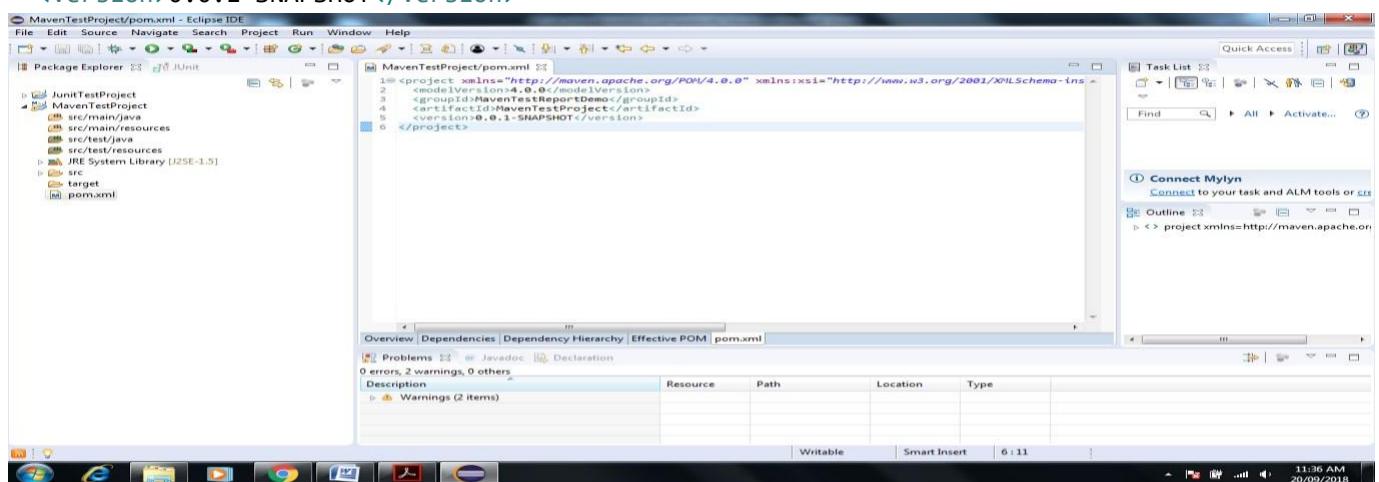


41. MavenTestProject shown Pom.xml file doble click on same

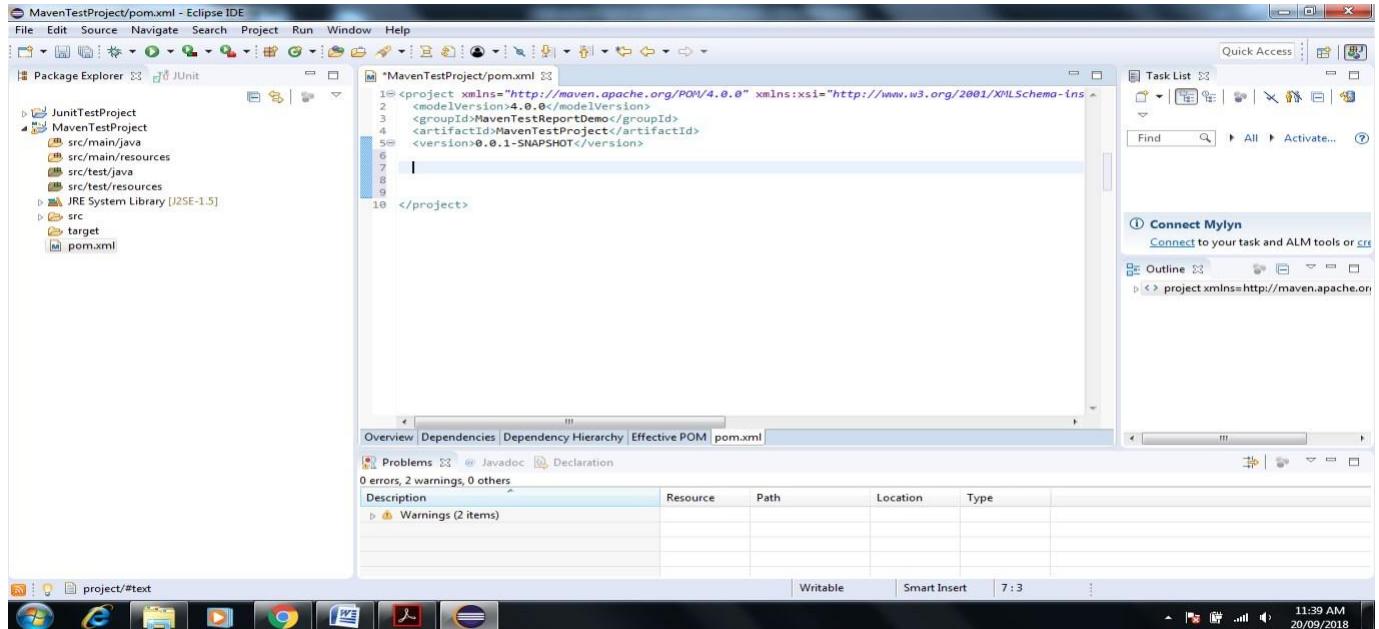


42. it shown some description like

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



43. We add dependencies to pom.xml of Junit and Selenium



44. To add dependency → Go to Google.com->Enter Maven repository-> in Search box on Site Enter Junit

Google search results for "Maven repository" showing the Apache Maven page.

Apache Maven Software

Maven is a build automation tool used primarily for Java projects. Maven addresses two aspects of building software: first, it describes how software is built, and second, it describes its dependencies. Wikipedia

Developed by: Apache Software Foundation
Written in: Java

People also search for

- Spring Framework
- Eclipse
- Gradle
- Apache Tomcat
- Jenkins

45. after Enter keyword Junit inside Seach box then Enter->it shown another Site Maven Repository for Junit Select that site.

Engineering

Maven repository - Google

Secure | https://www.google.com/search?ei=wDmjW-iHYSW8gWy87uAAw&q=Maven+repository&oq=Maven+repository&gs_l=psy-ab.3..0i67k1l2j0i730k1l8.19617.20252.0.21572.7.4.0... ☆

Google Maven repository

All News Books Images Videos More Settings Tools

About 1,08,00,000 results (0.54 seconds)

Maven Repository: Search/Browse/Explore
mvnrepository.com/ ▾
Popular Categories - Aspect Oriented - Actor Frameworks - Application Metrics - Build Tools - Bytecode Libraries - Command Line Parsers - Cache ...

Juni

Maven Repository: spring
Spring TestContext Framework: Last Release on Sep 7, 2018 ...

Central
URL: http://central.maven.org/maven2/. Jars, 3,116,199 ...

Categories
JavaServer(TM) Specification, CDDLGPL, 10,126 · Java ...

Maven Repositories - TutorialsPoint
https://www.tutorialspoint.com/maven/maven_repositories.htm ▾
Maven Repositories - Learn Maven in simple and easy steps starting from basic to advanced concepts with examples including Overview, Environment Setup, ...

Apache Maven maven

Software

Maven is a build automation tool used primarily for Java projects. Maven addresses two aspects of building software: first, it describes how software is built, and second, it describes its dependencies. Wikipedia

Developed by: Apache Software Foundation
Written in: Java

People also search for

View 15+ more

Spring Framework Eclipse Gradle Apache Tomcat Jenkins

Feedback

Junit site:mvnrepository.com

Secure | https://www.google.com/search?ei=3TmjW92lCoqk8QXOwaboDw&q=Junit%20site%3Amvnrepository.com&oq=Maven+repository&gs_l=psy-ab.3..0i67k1l2j0i730k1l8.19617.202... ☆

Google Junit site:mvnrepository.com

All Books Images Videos News More Settings Tools

About 1,94,000 results (0.34 seconds)

Maven Repository: junit » junit
https://mvnrepository.com/artifact/junit/junit ▾
JUnit: JUnit is a unit testing framework for Java, created by Erich Gamma and Kent Beck. Mastering Unit Testing Using Mockito and JUnit (2014) by Sujay ...

Maven Repository: junit
https://mvnrepository.com/artifact/junit ▾
junit » junit-depCPALCPL: JUnit is a regression testing framework written by Erich Gamma and Kent Beck. It is used by the developer who implements unit tests ...

Maven Repository: junit » junit » 4.12
https://mvnrepository.com/artifact/junit/junit/4.12 ▾
JUnit is a unit testing framework for Java, created by Erich Gamma and Kent Beck. Mastering Unit Testing Using Mockito and JUnit (2014) by Sujay Acharya.

Repositories: CentralAsposeRedhat GASonatype Used By: 75,164 artifacts
License: EPL 1.0 Date: (Dec 04, 2014)

Maven Repository: junit » junit » 4.11
https://mvnrepository.com/artifact/junit/junit/4.11 ▾
JUnit is a unit testing framework for Java, created by Erich Gamma and Kent Beck. Mastering Unit Testing Using Mockito and JUnit (2014) by Sujay Acharya.

Repositories: CentralAdobeAsposeGeomajas... License: CPAL 1.0CPL 1.0
Categories: Testing Frameworks Used By: 75,281 artifacts

https://mvnrepository.com/artifact/junit

46. Click on Maven Repository-JUnit it open another site-(<https://mvnrepository.com/artifact/junit>)

Indexed Artifacts (12.3M)

Group: JUnit

Sort: **popular** | newest

1. JUnit
junit > junit
78,839 usages EPL

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

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

Related Books

	How to use JUnit (2016) by Van Nguyen
	Junit with examples (2016) by Mr Sagar Salunke

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

Indexed Artifacts (12.3M)

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				
4.12	4.12-beta-3	4.12-beta-2	4.12-beta-1	4.11
Repository				
Central	Central	Central	Central	Central
Usages				
34,788	30	31	31	22,754
Date				
Dec, 2014	Nov, 2014	Sep, 2014	Jul, 2014	Nov, 2012

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

Indexed Artifacts (12.3M)

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!

49. Add `<dependencies>` tag before pasting as shown below

```

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
  <modelVersion>4.0.0</modelVersion>
  <groupId> MavenTestReportDemo</groupId>
  <artifactId> MavenTestProject</artifactId>
  <version>0.0.1-SNAPSHOT</version>
  <dependencies>
  </dependencies>
</project>

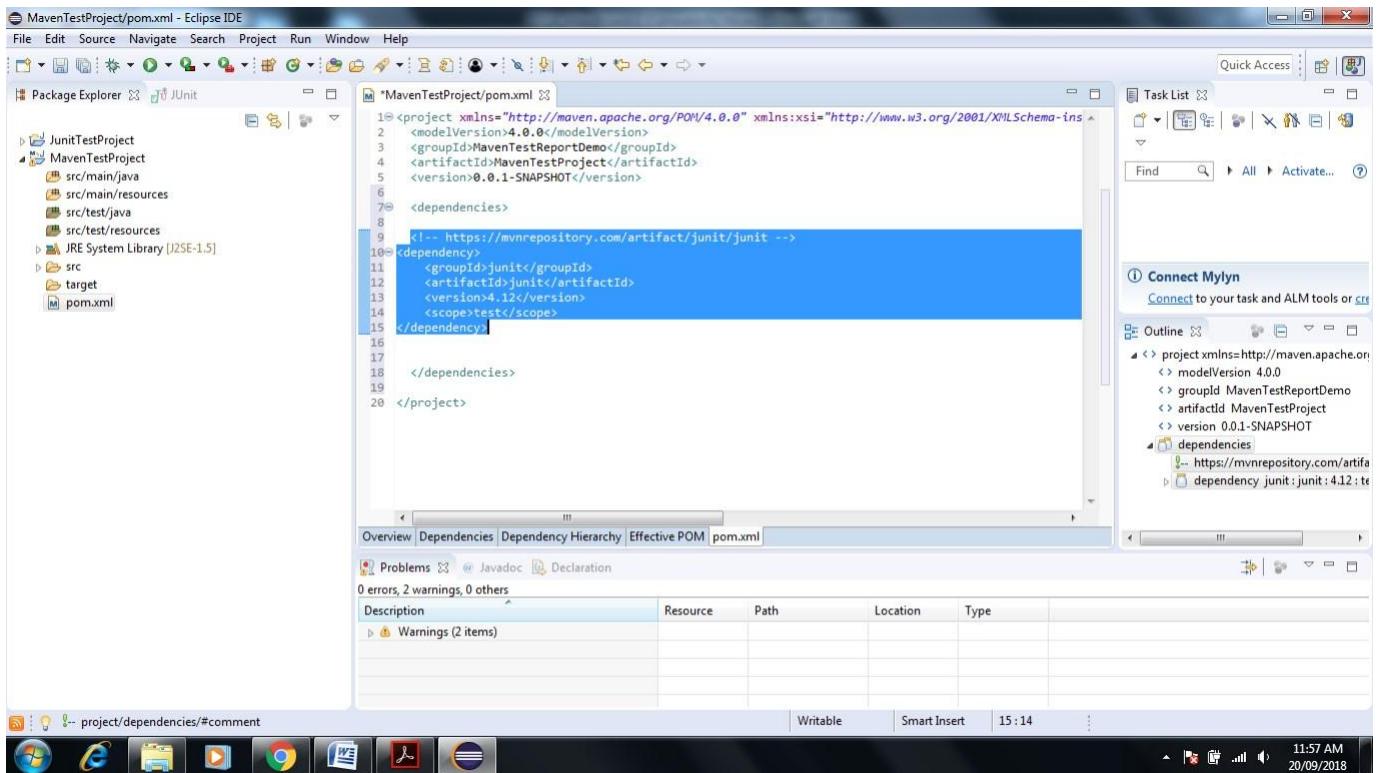
```

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

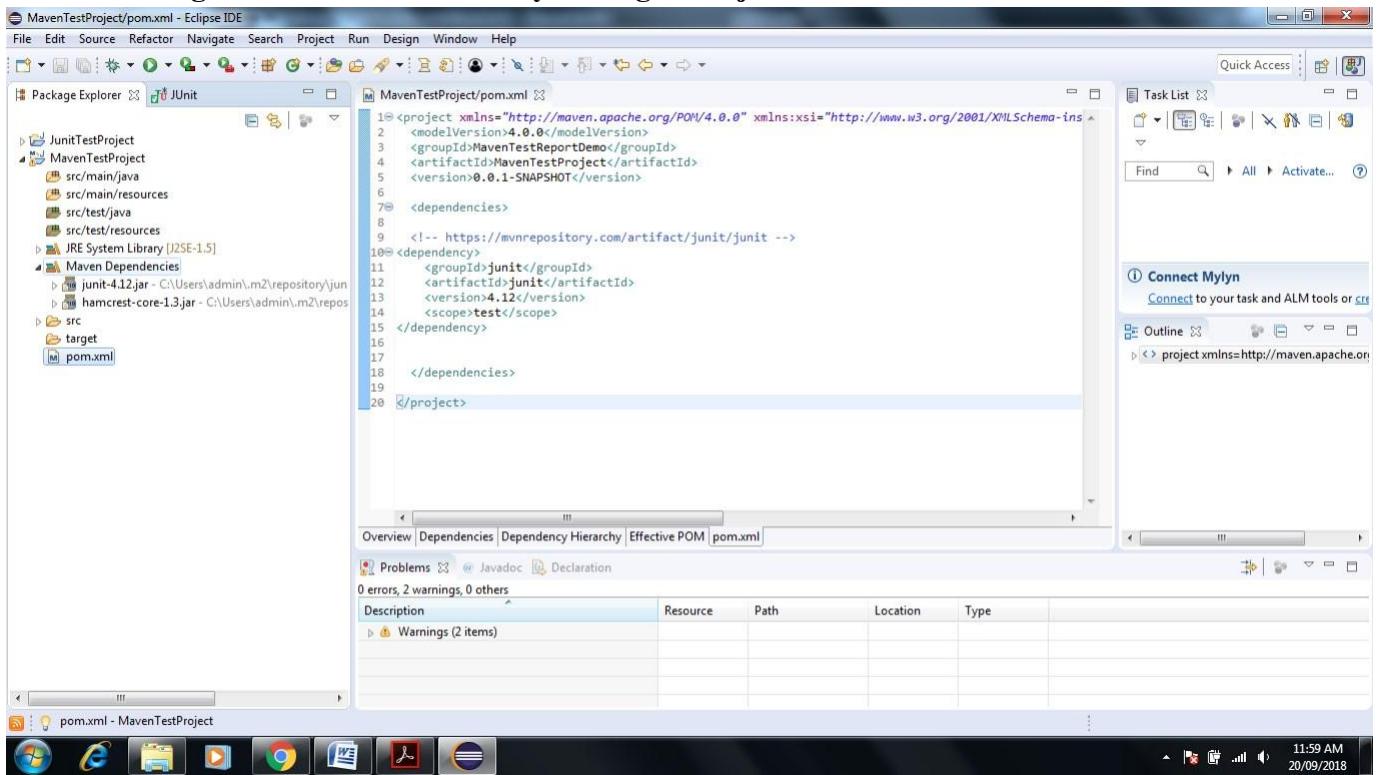
```

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

```



51. Now it gets reflected in Maven by adding Junit jars



52. Same process can be repeated for Selenium server

Go to Google-> Enter Maven Repository->Enter Selenium Server in Search box->Enter

Google Maven repository

About 1,08,00,000 results (0.54 seconds)

Maven Repository: Search/Browse/Explore
mvnrepository.com/

Popular Categories: Aspect Oriented · Actor Frameworks · Application Metrics · Build Tools · Bytecode Libraries · Command Line Parsers · Cache ...

selenium

Maven Repository: spring
Spring TestContext Framework. Last Release on Sep 7, 2018 ...

Aspect Oriented
The byteman jar merges the byteman-agent jar contents with ...

Aws-java-sdk-sqs
The AWS Java SDK for Amazon SQS module holds the client ...

Categories
JavaServlet(TM) Specification, CDDLGPL, 10,126 · Java ...

Build Tools
A minimal build system interpreting Maven-style pom.xml files. Last ...

Maven Repositories - TutorialsPoint
https://www.tutorialspoint.com/maven/maven_repositories.htm ▾
Maven Repositories - Learn Maven in simple and easy steps starting from basic to advanced concepts with examples including Overview, Environment Setup, ...

Apache Maven Software

Maven is a build automation tool used primarily for Java projects. Maven addresses two aspects of building software: first, it describes how software is built, and second, it describes its dependencies. Wikipedia

Developed by: Apache Software Foundation
Written in: Java

People also search for

View 15+ more

SPR Eclipse Gradle Apache Tomcat Jenkins

Feedback

12:03 PM 20/09/2018

53. Click on First Link of Website-> Click on latest version

Google selenium server site:mvnrepository.com

About 47,700 results (0.42 seconds)

Maven Repository: org.seleniumhq.selenium » selenium-server
<https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server> ▾
Selenium automates browsers. That's it! What you do with that power is entirely up to you. License, Apache 2.0. Categories, Web Testing

Maven Repository: org.seleniumhq.selenium
<https://mvnrepository.com/artifact/org.seleniumhq.selenium> ▾
org.seleniumhq.selenium » selenium-serverApache. Selenium automates browsers. That's it! What you do with that power is entirely up to you. Last Release on ...
Selenium Server · Selenium Server Standalone · Selenium Java · Selenium API

Maven Repository: org.seleniumhq.selenium » selenium-server
<https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server...usages> ▾
Artifacts using Selenium Server Standalone (32) ... automation framework designed to extend and enhance the capabilities provided by Selenium (WebDriver).

Maven Repository: org.seleniumhq.selenium » selenium-server » 2.48.0
<https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server/2.48.0> ▾
Selenium Server » 2.48.0. Selenium automates browsers. That's it! ... Selenium Webdriver: Software Automation Testing Secrets Revealed Part 2 (2016)

Maven Repository: org.seleniumhq.selenium » selenium-server » 2.28.0
<https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server/2.28.0> ▾
Functional Automation Testing: Your Beginners

12:05 PM 20/09/2018

Maven Repository: org.seleniumhq.selenium

Home > org.seleniumhq.selenium » selenium-server

Selenium Server
Selenium automates browsers. That's it! What you do with that power is entirely up to you.

License	Apache 2.0		
Categories	Web Testing		
Tags	testing, selenium, server, web		
Used By	249 artifacts		
Central (106)	Atlassian 3rdParty (1)	Alfresco (1)	
Version	Repository	Usages	Date
3.14.x	Central	6	Aug, 2018
3.13.x	Central	8	Jun, 2018
3.12.x	Central	9	May, 2018
3.11.x	Central	13	Mar, 2018
3.10.x	Central	2	Mar, 2018
3.9.x	Central	7	Feb, 2018
3.9.0	Central	1	Feb, 2018
3.8.x	Central	14	Dec, 2017
3.8.1	Central	1	Nov, 2017

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54. Copy Code in Maven Tab

The screenshot shows the Maven Repository website at <https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server/3.14.0>. The page displays information about the Selenium Server 3.14.0 artifact, including its license (Apache 2.0), categories (Web Testing), homepage, date (Aug 02, 2018), files (pom.xml, jar (589 KB)), repositories (Central), and usage (249 artifacts). A dependency code snippet is shown in a code editor:

```
<!-- https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server -->
<dependency>
    <groupId>org.seleniumhq.selenium</groupId>
    <artifactId>selenium-server</artifactId>
    <version>3.14.0</version>
</dependency>
```

A message indicates "Copied to clipboard!".

55. Paste in pom.xml file in between <dependencies> tag

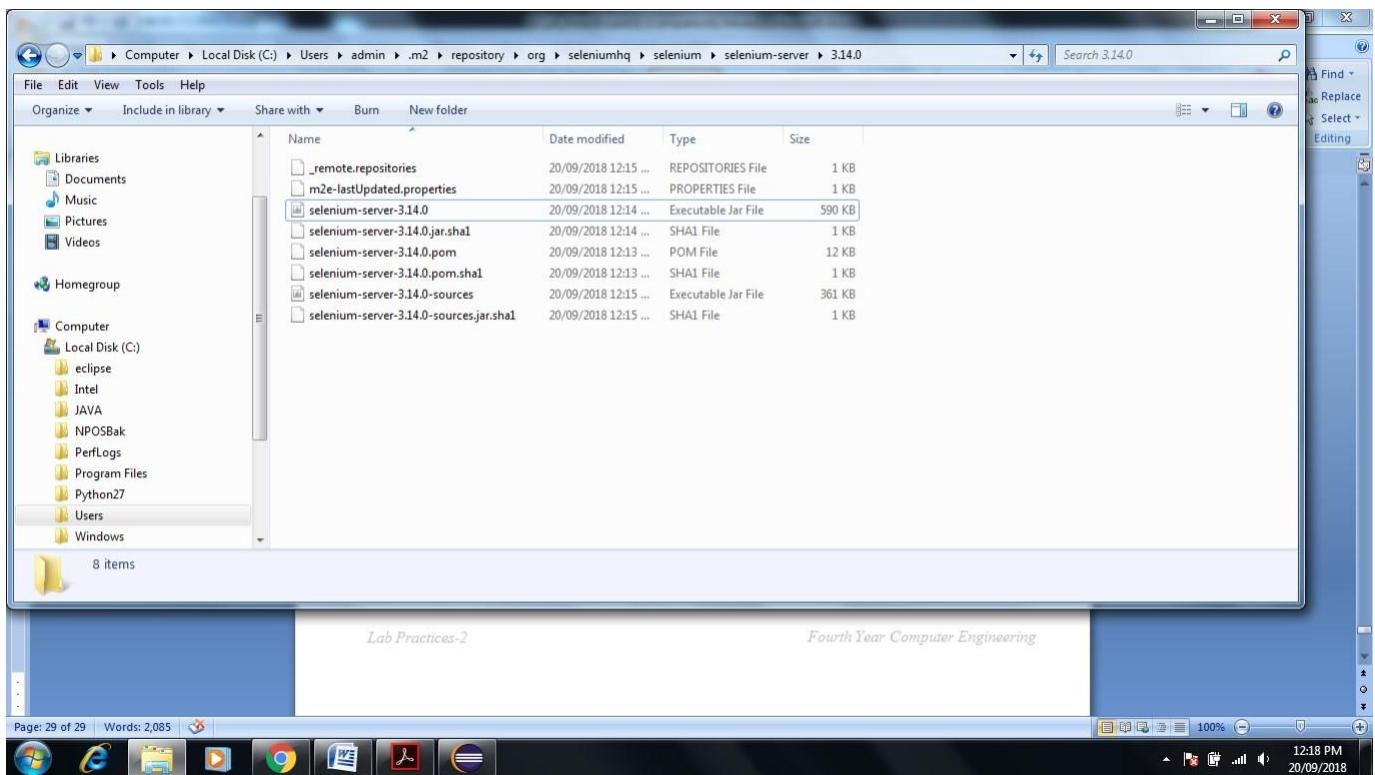
The screenshot shows the Eclipse IDE interface with the "MavenTestProject/pom.xml - Eclipse IDE" window active. The code editor displays the following Maven POM XML file:

```
1<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-in
2    <modelVersion>4.0.0</modelVersion>
3    <groupId> MavenTestReportDemo </groupId>
4    <artifactId> MavenTestProject </artifactId>
5    <version>0.0.1-SNAPSHOT </version>
6
7    <dependencies>
8
9        <!-- https://mvnrepository.com/artifact/junit/junit -->
10       <dependency>
11           <groupId>junit</groupId>
12           <artifactId>junit</artifactId>
13           <version>4.12</version>
14           <scope>test</scope>
15       </dependency>
16
17        <!-- https://mvnrepository.com/artifact/org.seleniumhq.selenium/selenium-server -->
18       <dependency>
19           <groupId>org.seleniumhq.selenium</groupId>
20           <artifactId>selenium-server</artifactId>
21           <version>3.14.0</version>
22       </dependency>
23
24
25   </dependencies>
26
27 </project>
```

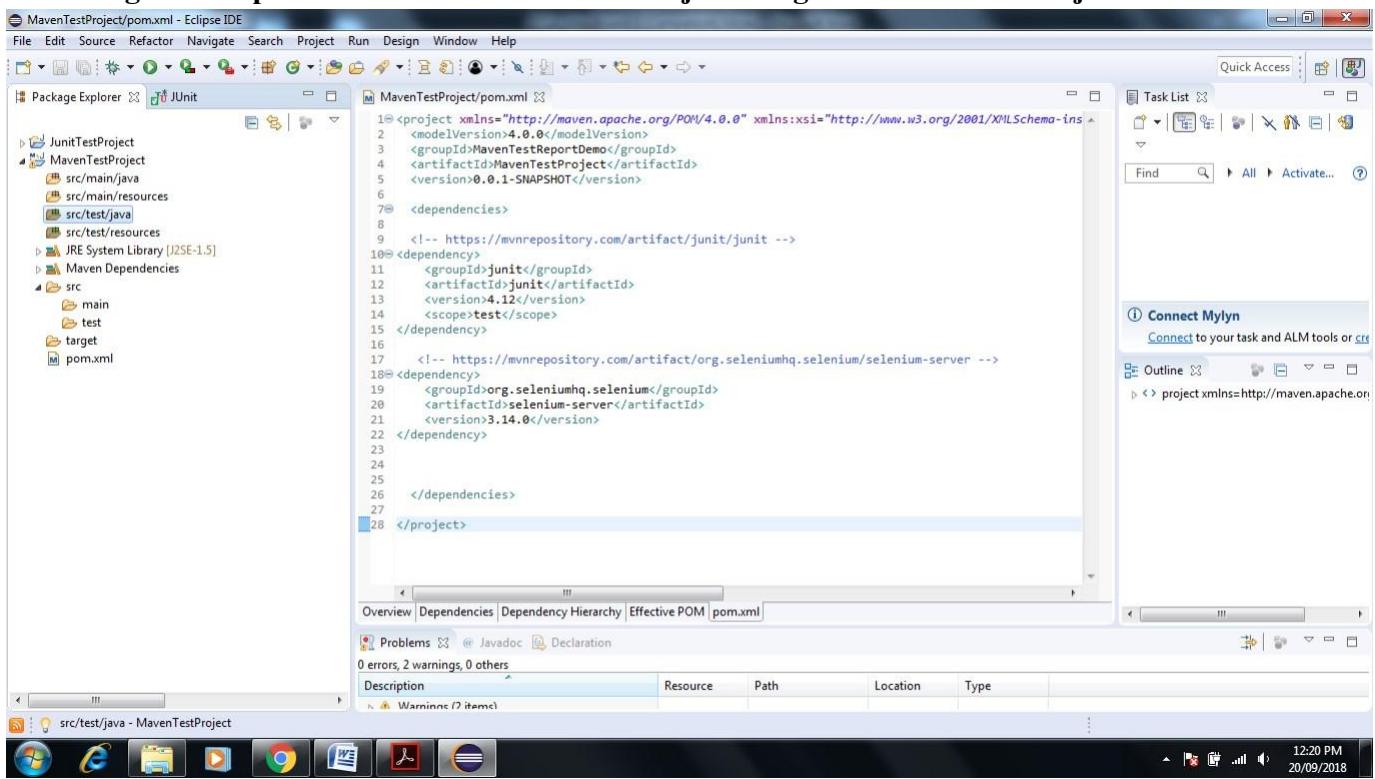
The "Dependencies" tab is selected in the bottom navigation bar. The status bar at the bottom right shows the date and time: 12:02 PM 20/09/2018.

56. Now Go to C:\Users\admin\.m2\repository\org\seleniumhq\selenium\selenium-server\3.14.0 Check the latest selenium server version.

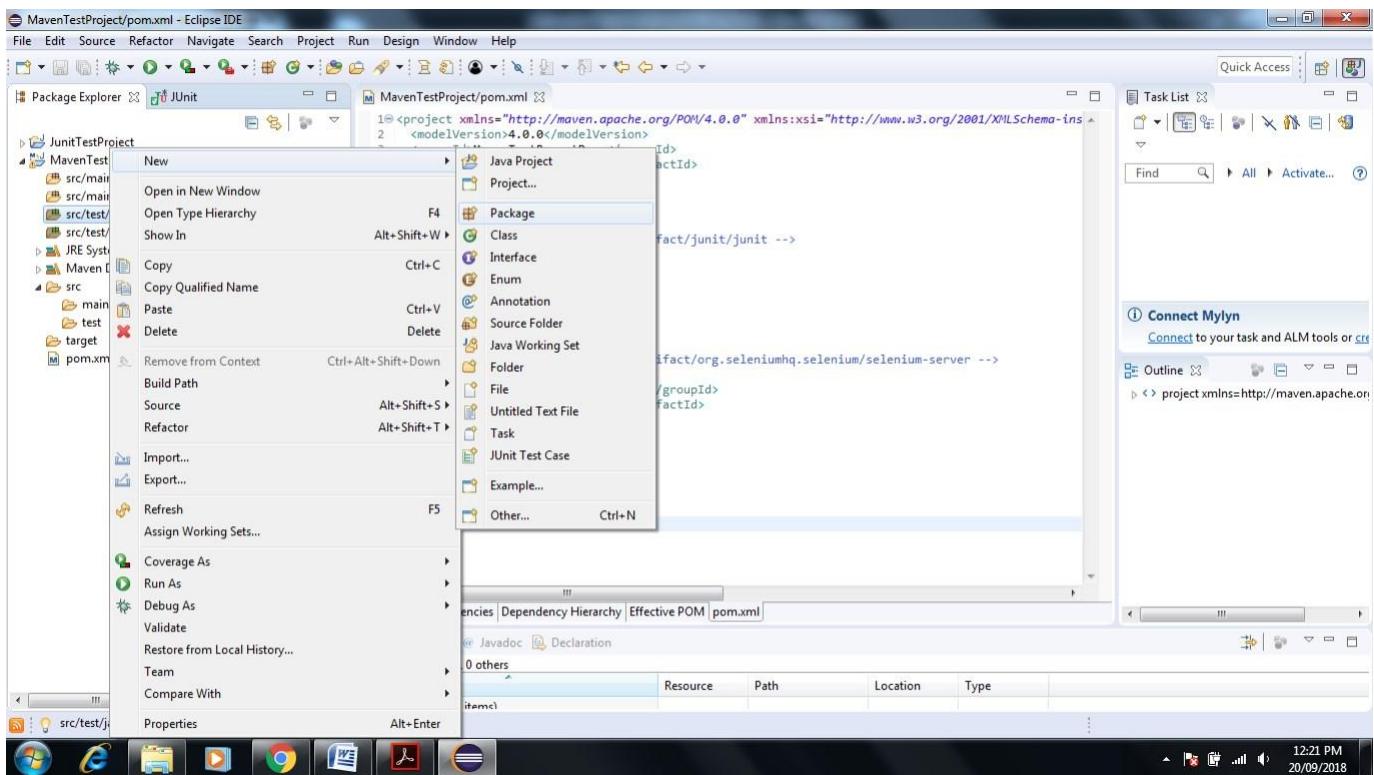
Engineering



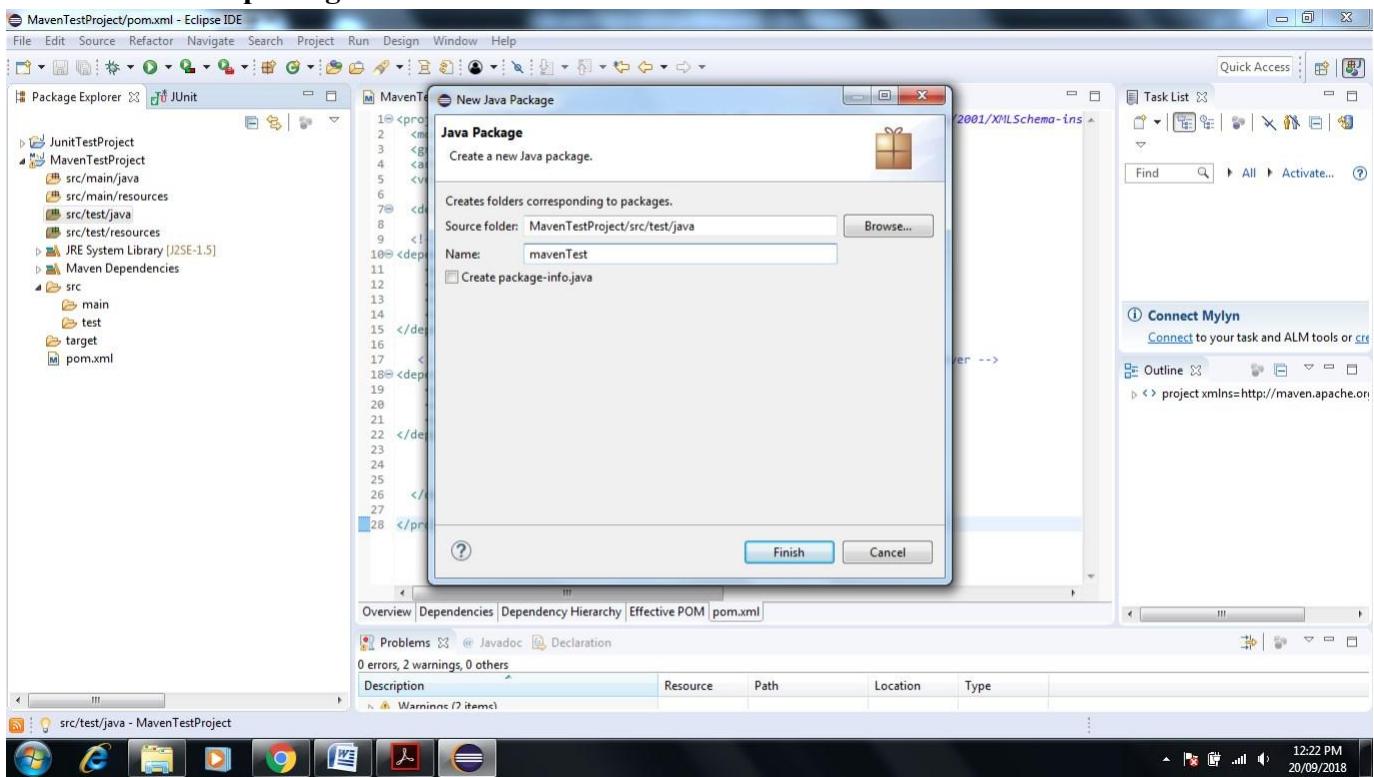
57. Now go to Eclipse -> Click on Maven Test Project->Right Click on src/test/java



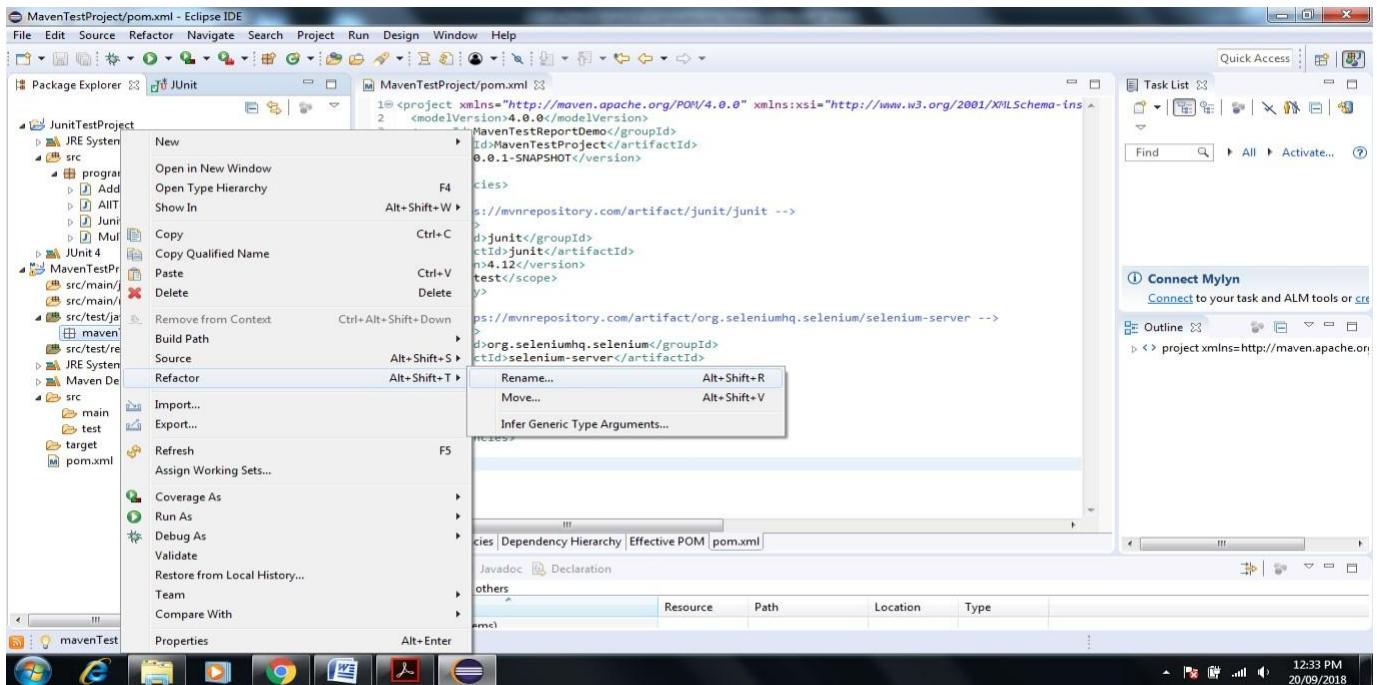
58. Click New->Package



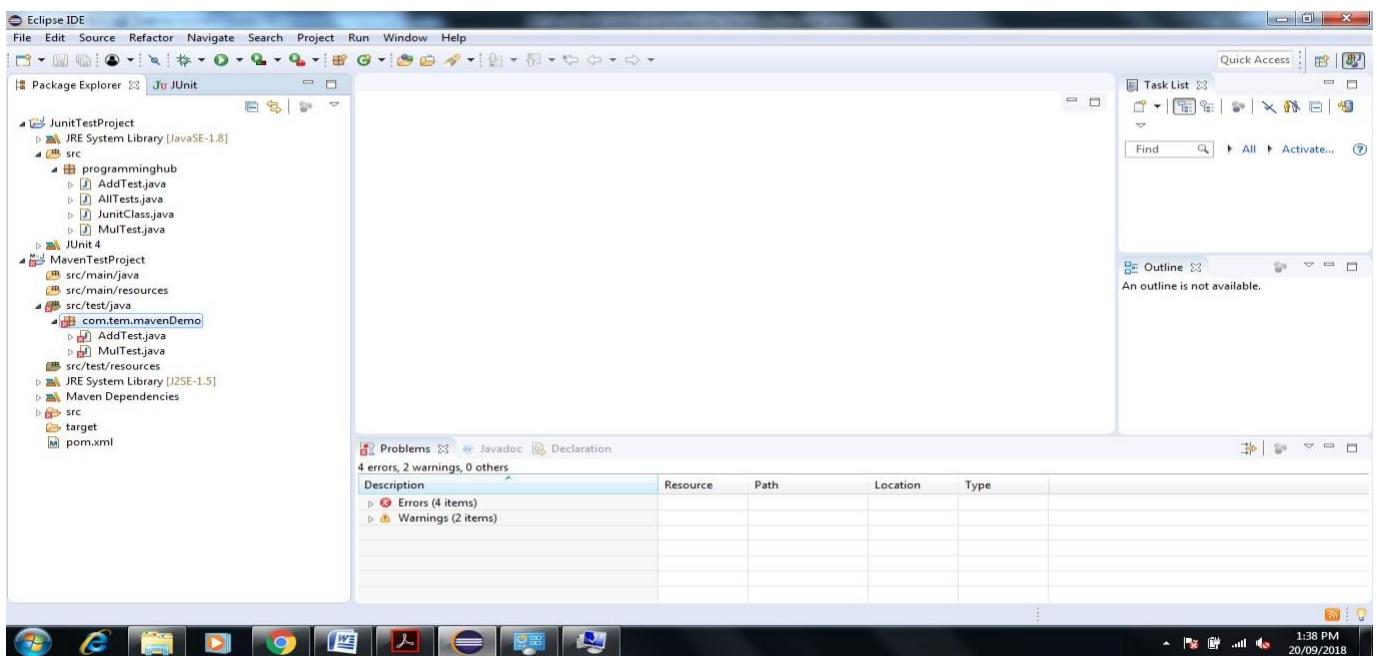
59. Give name to package mavenTest



60. It shows the mavenTest Package under src/test/java folder now rename same by right click on mavenTest Click on Refactor->Rename->give another name com.tem.mavenDemo->Click on ok



61. rename as com.tem.mavenDemo



62. Download Apache Maven Select that binary apache-maven-3.5.4-bin

Files

Maven is distributed in several formats for your convenience. Simply pick a ready-made binary distribution archive and follow the [installation instructions](#). Use a source archive if you intend to build Maven yourself.

In order to guard against corrupted downloads/installations, it is highly recommended to verify the [signature](#) of the release bundles against the public [KEYS](#) used by the Apache Maven developers.

Link	Checksums	Signature
Binary tar.gz archive	apache-maven-3.5.4-bin.tar.gz.sha512	apache-maven-3.5.4-bin.tar.gz.asc
Binary zip archive	apache-maven-3.5.4-bin.zip.sha512	apache-maven-3.5.4-bin.zip.asc
Source tar.gz archive	apache-maven-3.5.4-src.tar.gz.sha512	apache-maven-3.5.4-src.tar.gz.asc
Source zip archive	apache-maven-3.5.4-src.zip.sha512	apache-maven-3.5.4-src.zip.asc

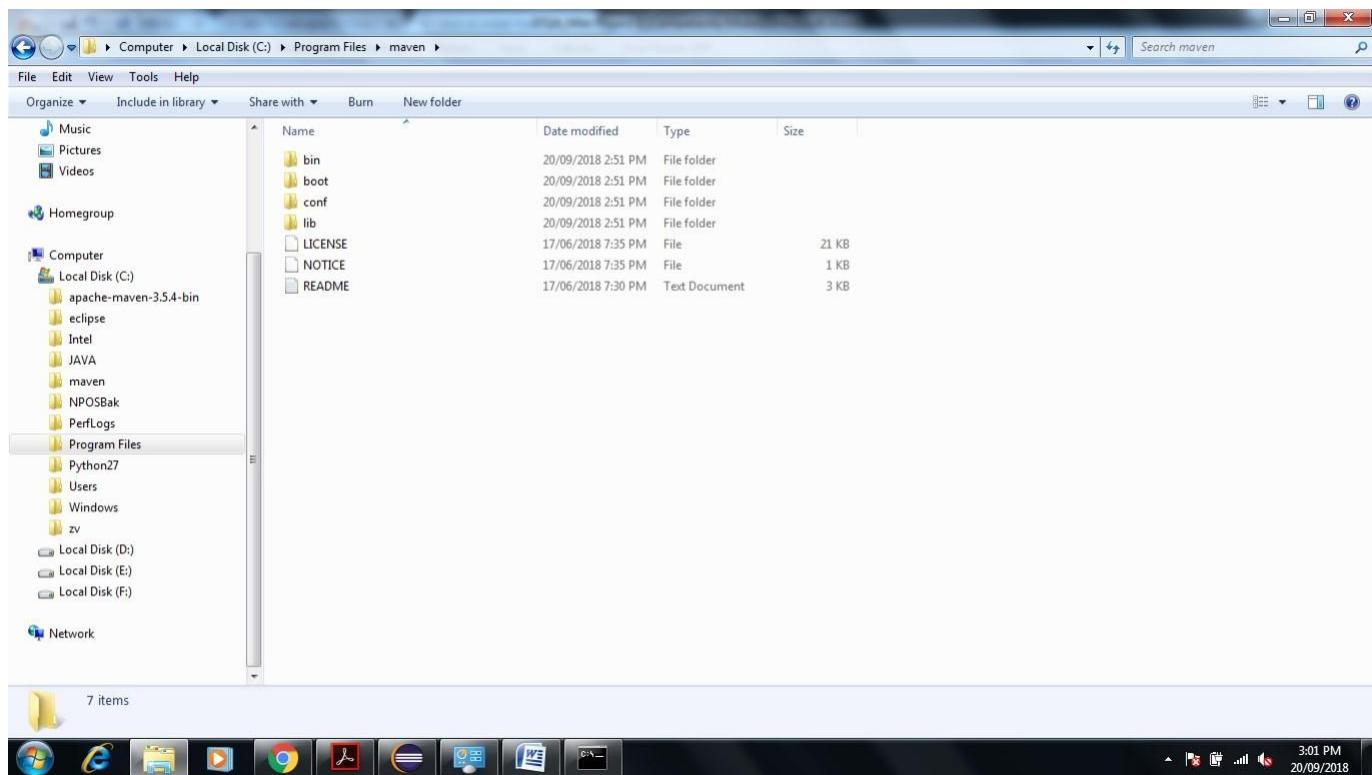
- [Release Notes](#)
- [Reference Documentation](#)
- [Apache Maven Website As Documentation Archive](#)
- All current release sources (plugins, shared libraries,...) available at <https://www.apache.org/dist/maven/>
- latest source code from source repository
- Distributed under the Apache License, version 2.0

Previous Releases

It is strongly recommended to use the latest release version of Apache Maven to take advantage of newest features and bug fixes.

If you still want to use an old version you can find more information in the [Maven Releases History](#) and can download files from the [archives](#) for versions 3.0.4+ and [legacy](#).

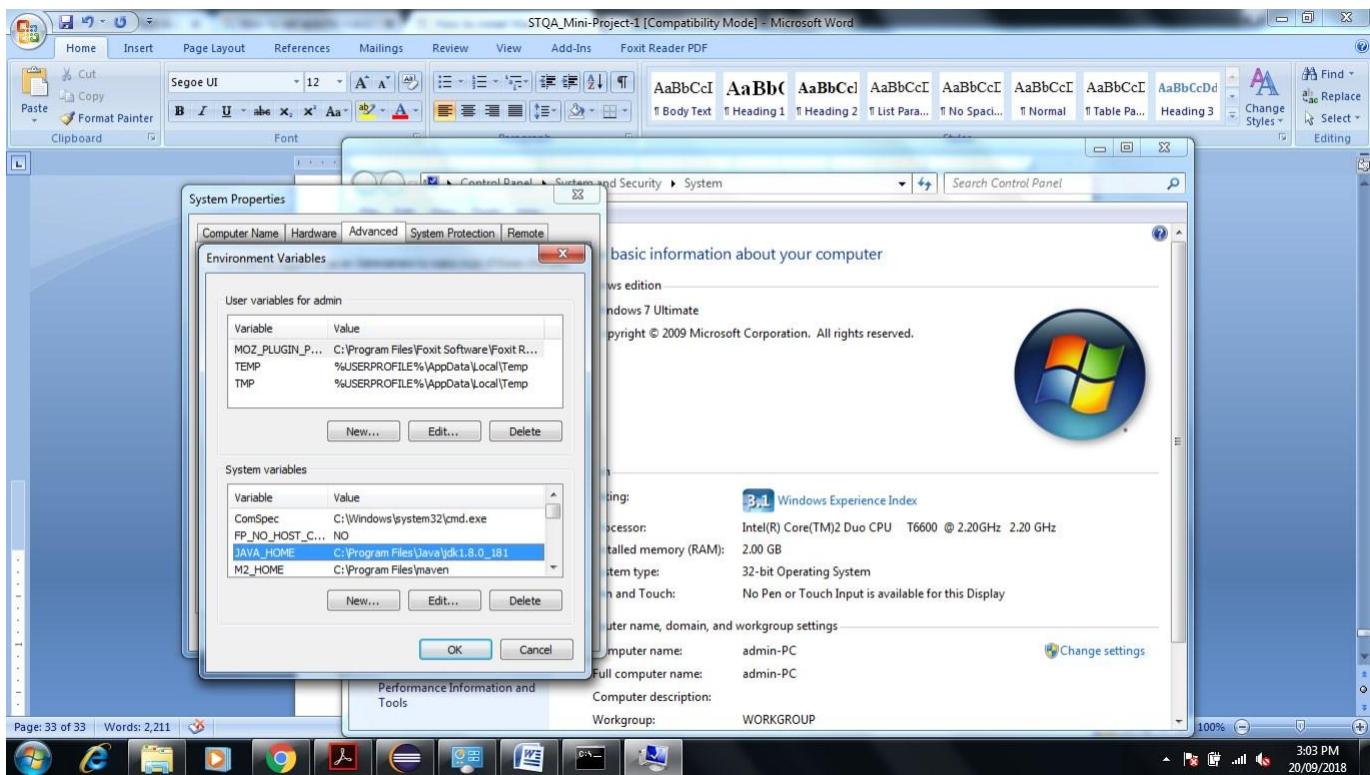
63. after Download->go to Program File->create one folder give name maven-> now extract the downloaded file in maven folder



64. 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**

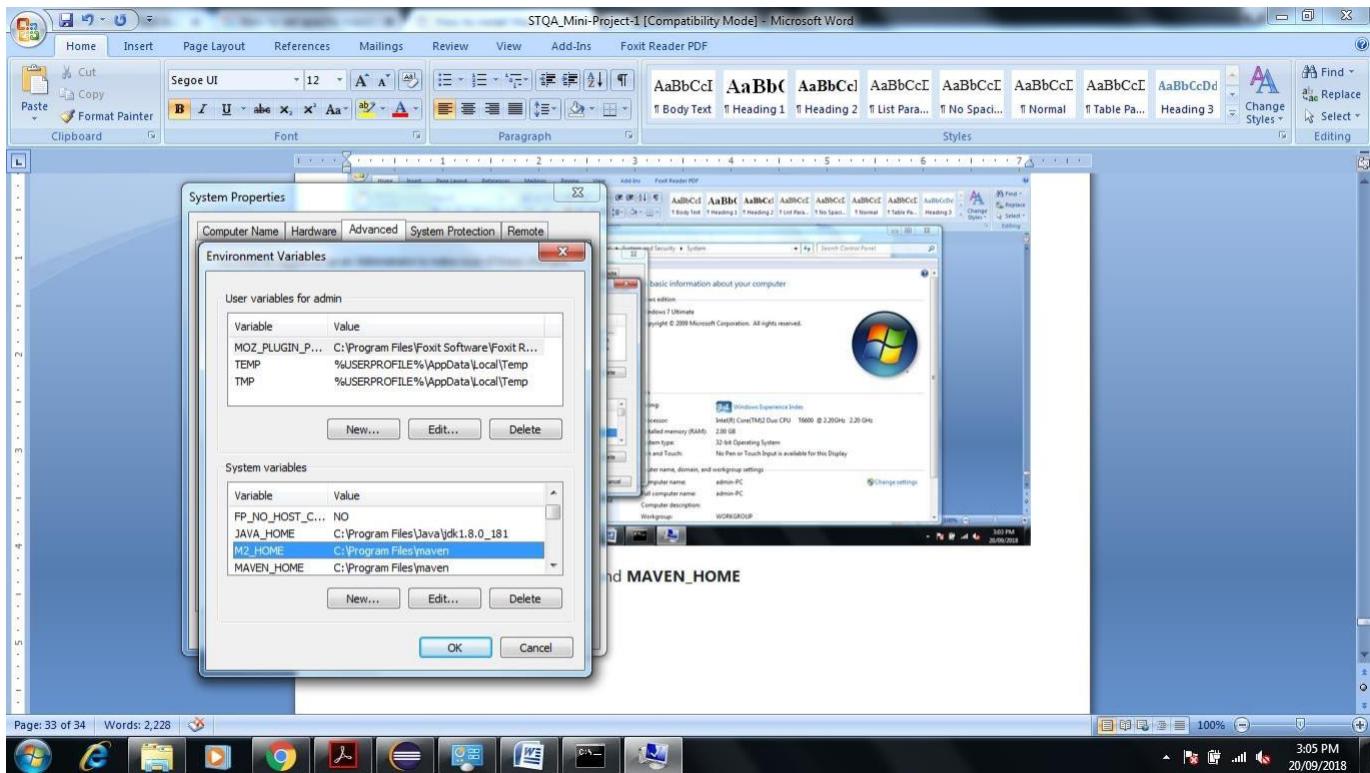


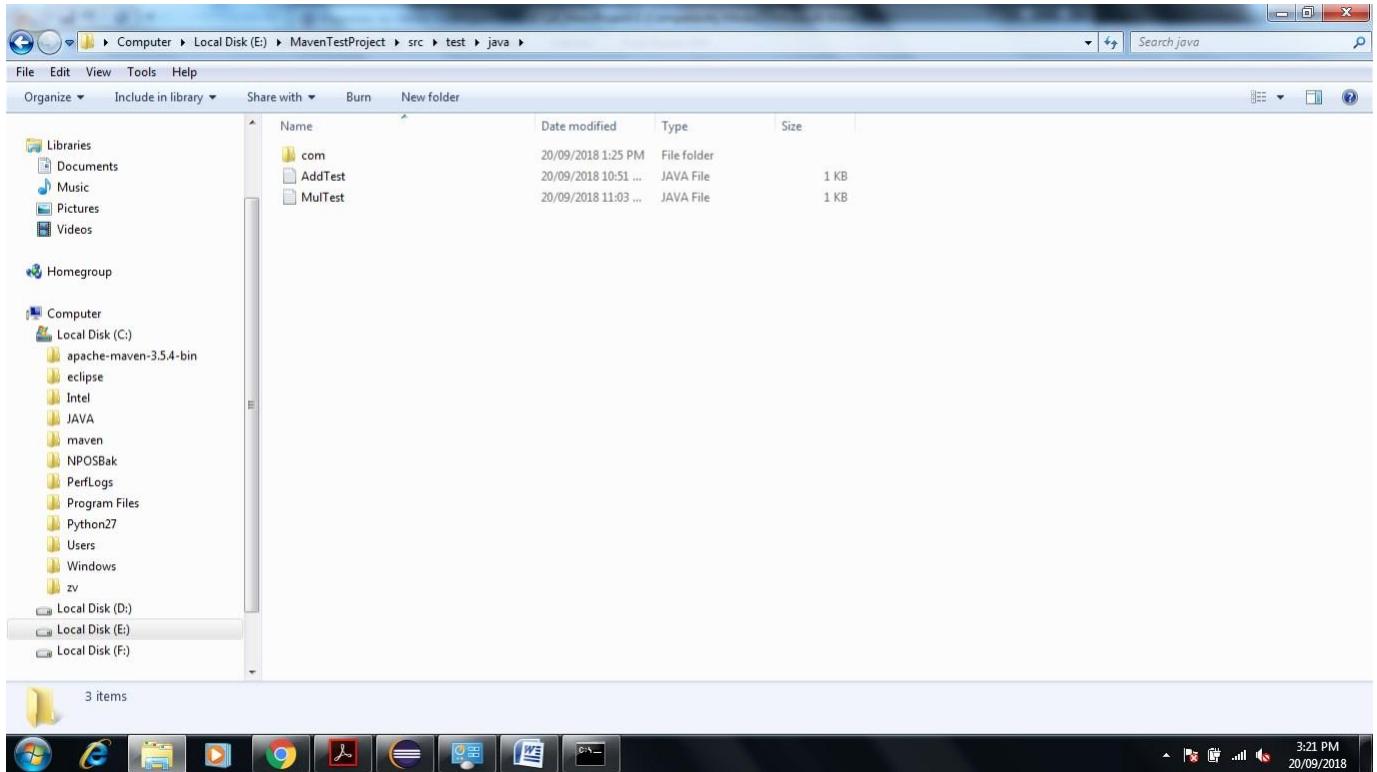
Figure Shows the Path of **M2_HOME** & **MAVEN_HOME** same.

3. Update PATH Variable as per following

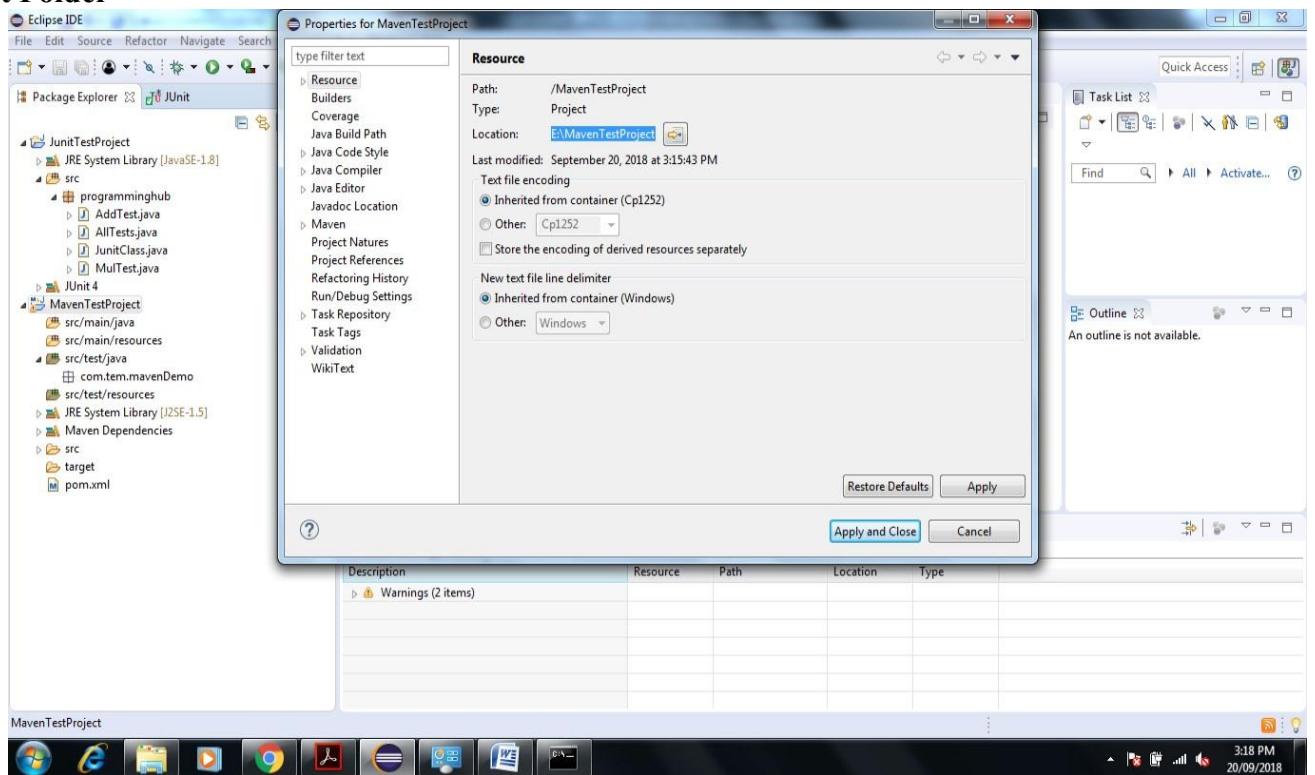
C:\Program Files\maven;%MAVEN_HOME%\bin;%M2_HOME%\bin;

4. Verification

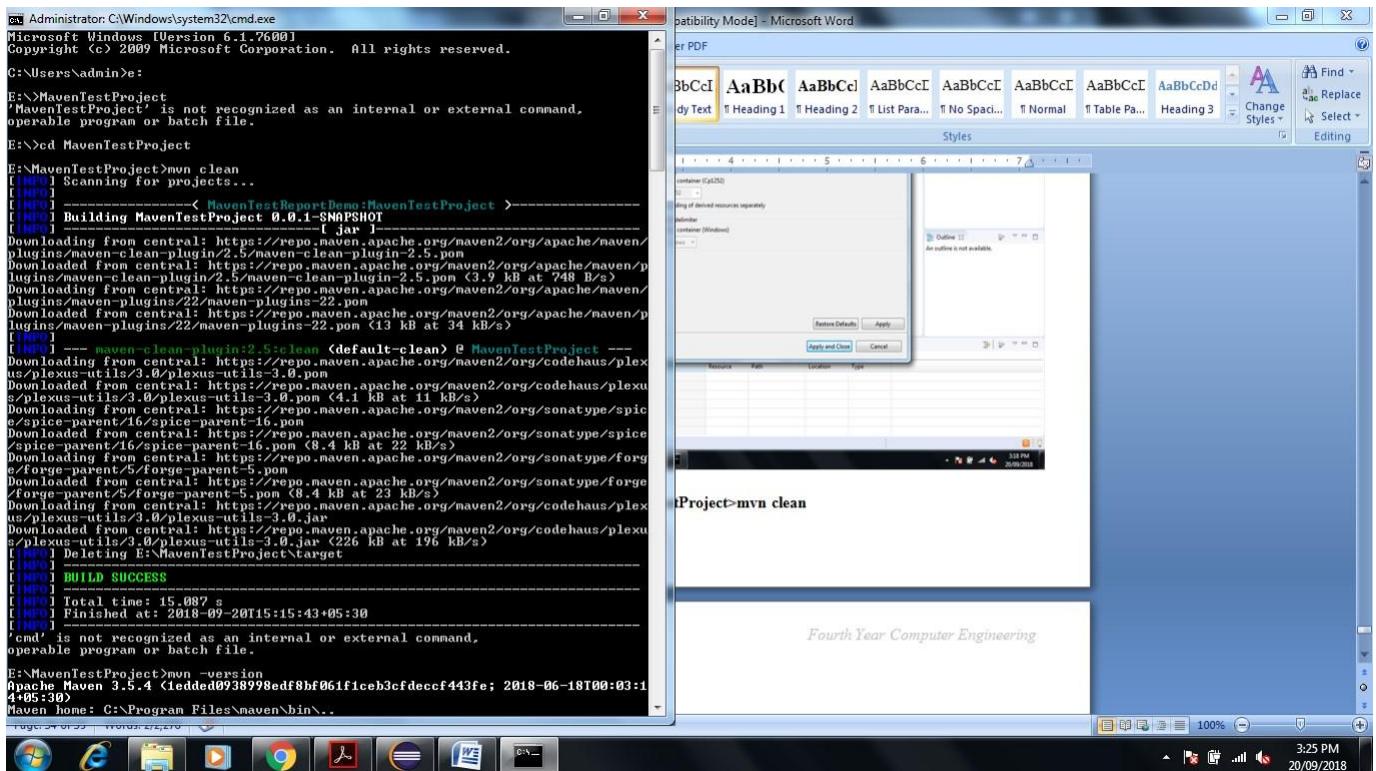
Now copy Previous Created JUnit Test case java file Add Test and Mul Test Paste Externally in E:\ MavenTestProject\src\test\java



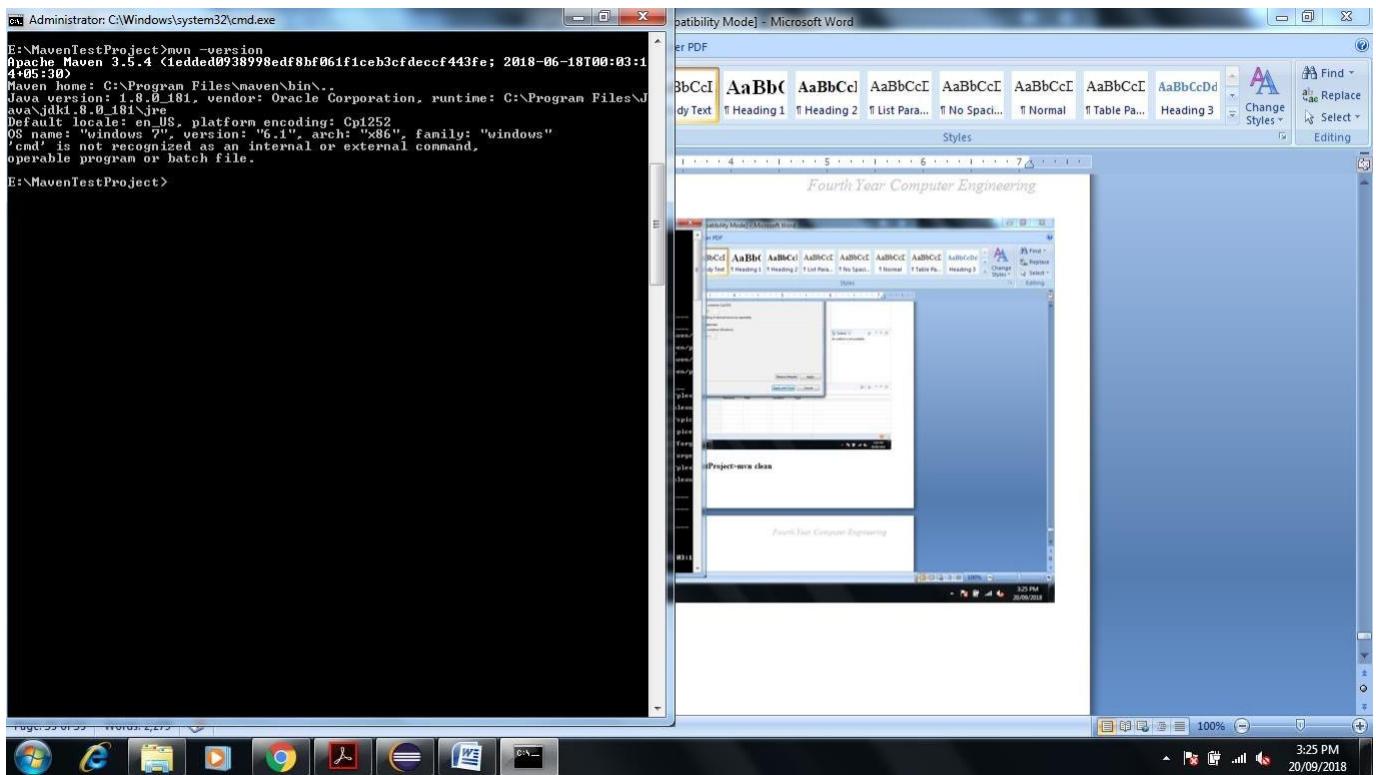
Now Open Eclipse Right Click on MavenTestProject->Properties→Resources→Copy Path of Project Folder



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



Enter E:\MavenTestProject>mvn -version



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

```
E:\MavenTestProject>mvn test
[INFO] Scanning for projects...
[INFO] [INFO] < MavenTestReportDemo:MavenTestProject >---[INFO]
[INFO] Building MavenTestProject 0.0.1-SNAPSHOT
[INFO]   [jar]
[INFO] --- maven-resources-plugin:2.6:resources <default-resources> @ MavenTestProject
[WARNING] Using platform encoding <Cp1252 actually> to copy filtered resources,
i.e. build is platform dependent!
[INFO] Copying 0 resource
[INFO] --- maven-compiler-plugin:3.1:compile <default-compile> @ MavenTestProject
[INFO] Nothing to compile - all classes are up to date
[INFO] --- maven-resources-plugin:2.6:testResources <default-testResources> @ MavenTestProject
[WARNING] Using platform encoding <Cp1252 actually> to copy filtered resources,
i.e. build is platform dependent!
[INFO] Copying 0 resource
[INFO] --- maven-compiler-plugin:3.1:testCompile <default-testCompile> @ MavenTestProject
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding Cp1252, i.e. build is platform dependent!
[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 (2.5 kB at 6.4 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-in-annotations/3.1/maven-plugin-in-annotations-3.1.pom
[INFO] Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugin-tools/maven-plugin-in-annotations/3.1/maven-plugin-in-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 30 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
[INFO] BUILD SUCCESS
[INFO] Total time: 3.848 s
[INFO] Finished at: 2018-09-20T15:53:21+05:30
[INFO] 
[INFO] 'cmd' is not recognized as an internal or external command,
operable program or batch file.
```

```
E:\MavenTestProject>mvn test -Dtest=AllTest
[INFO] Scanning for projects...
[INFO] [INFO] < MavenTestReportDemo:MavenTestProject >---[INFO]
[INFO] Building MavenTestProject 0.0.1-SNAPSHOT
[INFO]   [jar]
[INFO] --- maven-resources-plugin:2.6:resources <default-resources> @ MavenTestProject
[WARNING] Using platform encoding <Cp1252 actually> to copy filtered resources,
i.e. build is platform dependent!
[INFO] Copying 0 resource
[INFO] --- maven-compiler-plugin:3.1:compile <default-compile> @ MavenTestProject
[INFO] Nothing to compile - all classes are up to date
[INFO] --- maven-resources-plugin:2.6:testResources <default-testResources> @ MavenTestProject
[WARNING] Using platform encoding <Cp1252 actually> to copy filtered resources,
i.e. build is platform dependent!
```

1.8.8 Conclusion

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

1.8.9 Assignment Question

- Write any Five Tool for White Box and Black Box Testing Purpose.

STQA Mini Project No. 2

2.1 Title

Create a small web-based application by selecting relevant system environment/platform and programming languages. Narrate concise Test Plan consisting features to be tested and bug taxonomy. Narrate scripts in order to perform regression tests. Identify the bugs using Selenium WebDriver and IDEand generate test reports encompassing exploratory testing.

2.2 Problem Definition:

Perform Web testing and identify the bugs using Selenium WebDriver and IDEand generate test reports encompassing exploratory testing.

2.3 Prerequisite:

Knowledge of Core Java

2.4 Software Requirements:

Eclipse photon R latest Version, JAVA 1.8, selenium-server-standalone-3.13.0 Chromedriver.exe

2.5 Hardware Requirement:

PIV, 2GB RAM, 500 GB HDD, Lenovo A13-4089Model.

2.6 Learning Objectives:

We are going to learn how Identify the bugs using Selenium WebDriver and IDEand generate test reports encompassing exploratory testing.

2.7 Outcomes:

You are able to Web Testing using Automation Tool like Selenium Web driver and IDE

2.8 TheoryConcepts:

2.8.1 What is Selenium?

Selenium is a free (open source) automated testing suite for web applications across different browsers and platforms.

Selenium is a suite of software tools to automate Web Browsers.

- It is an Open source suite of tools mainly used for Functional and Regression Test Automation.

Selenium is a free (open source) automated testing suite for web applications across different browsers and platforms.

It is quite similar to HP Quick Test Pro (QTP now UFT) only that Selenium focuses on automating web-based applications. Testing done using Selenium tool is usually referred as Selenium Testing.

- **Selenium supports various Operating environments.**

- ✓ MS Windows
- ✓ Linux
- ✓ Macintosh etc...

- **Selenium supports various Browsers.**

- ✓ Mozilla Firefox
- ✓ IE
- ✓ Google Chrome
- ✓ Safari
- ✓ Opera etc...

Note: **Selenium IDE supports Mozilla Firefox only.**

- **Selenium supports various programming environments to write programs (Test scripts)**

- ✓ Java
- ✓ C#
- ✓ Python
- ✓ Perl
- ✓ Ruby
- ✓ PHP

2.8.2 History of the Selenium Project

Selenium first came to life in 2004.

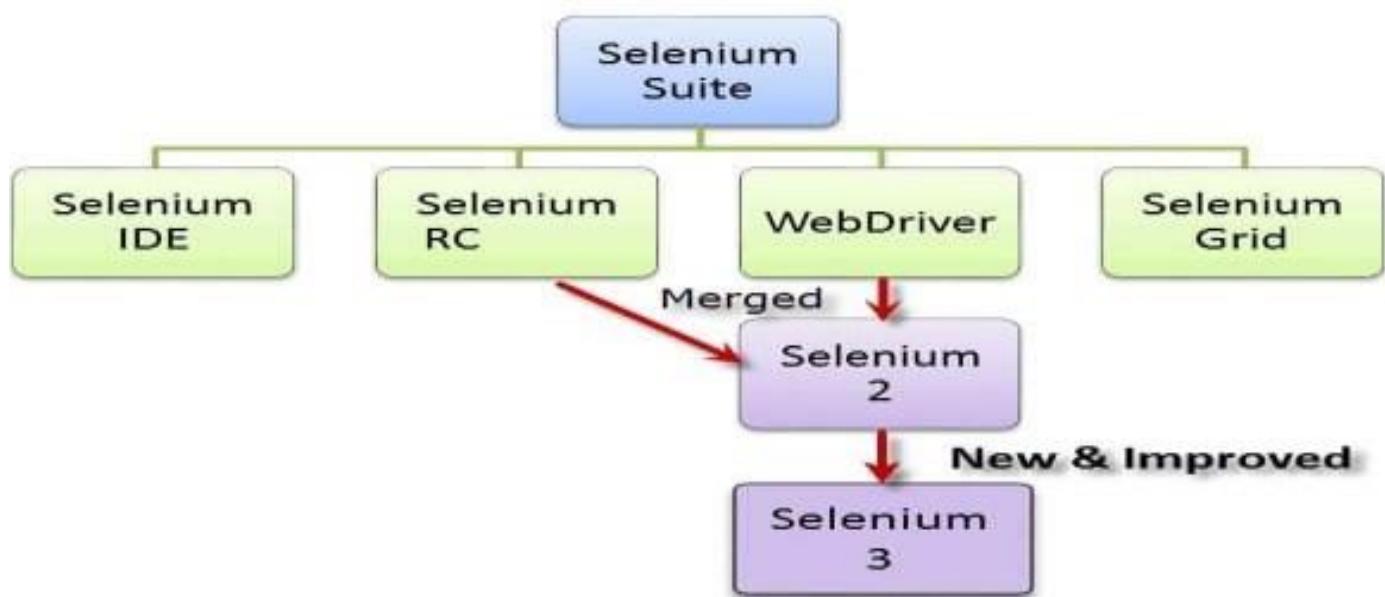
- In 2006, Selenium WebDriver was launched at Google.
- In 2008, the whole Selenium team decided to merge Selenium WebDriver with Selenium RC in order to form more powerful tool called Selenium 2.0
 - ✓ **Selenium 1**
(Selenium IDE + Selenium RC + Selenium Grid)
 - ✓ **Selenium 2**
(Selenium IDE + Selenium RC + Selenium WebDriver + Selenium Grid)

2.8.3 Selenium's Tools Suite

Selenium is not just a single tool but a suite of software's, each catering to different testing needs of an organization.

It has four components.

- **Selenium Integrated Development Environment (IDE)**
- **Selenium Remote Control (RC)**
- **WebDriver**
- **Selenium Grid**



2.8.4 Brief Introduction Selenium IDE

It is a Firefox browser plug in, used to create and execute Test cases.

1. Selenium IDE Features:

- Create Test Cases, Test suites (We can Record test cases or type Test steps using element locators and Selenese commands)
- Edit Test Cases
- Execute Test cases, Test suites
- Debug Test Cases.
- Enhance Test Cases
- Export Test cases to other formats (java, ruby etc...)

Note: **selenium IDE Test case default format is .html**

2. Drawbacks of Selenium IDE

- It supports Mozilla Firefox browser only.
- It doesn't support Programming logic/features to enhance Test cases.
- It doesn't support Data Driven Testing.
- It is not suitable for complex test case design.
- No centralized maintenance of Objects/Elements

3. Selenium RC (* Out dated) -Currently, Selenium RC is still being developed but only in maintenance mode.

4. Selenium WebDriver

- ✓ It is a Programming interface to create and execute Test cases.

Selenium IDE has IDE but doesn't have Programming interface

- ✓ Selenium WebDriver has Programming interface but doesn't have IDE
- ✓ It communicates Directly to the browser.
- ✓ No need of Separate Server such as RC Server
- ✓ UFT/QTP has both IDE as well as Programming interface
- ✓ Faster Execution than IDE & RC

- **Selenium WebDriver supports various programming environments to write programs.**

- ✓ Java,
 - ✓ C#
 - ✓ Perl
 - ✓ Python
 - ✓ Ruby
 - ✓ PHP
- Using Element/Object locators/properties and Webdriver Methods we can create and execute Test cases.
 - Selenium Webdriver supports various browsers to create and execute test case/test script/test

Note: **Browser driver varies from one browser to another.**

- **Selenium WebDriver supports various operating environments**

- ✓ MS Windows
- ✓ Linux Macintosh etc...

Drawback of Selenium WebDriver

- It doesn't generate detailed Test Reports.
- No centralized maintenance of Object/elements
- It require Programming Knowledge
- cannot support the readily new browser
- Installation is More Complicated than Selenium IDE
- No built-in mechanism for logging runtime message

5. Selenium Grid

- Selenium Grid is used to execute tests across multiple browsers, operating environments and machines in parallel.
- Selenium Grid 2 supports Selenium RC Tests as well as Selenium WebDriver Tests.
- i) Selenium WebDriver to create Test cases using element locators and Webdriver methods.
- ii) Java Programming to enhance test cases.
- iii) TestNG Framework to group test cases, execute test batches and generate detailed test reports.

Features:

- Enables **simultaneous running of tests in multiple browsers and environments**.
- **Saves time** enormously.
- Utilizes the **hub-and-nodes** concept. The hub acts as a central source of Selenium commands to each node connected to it.

Note on Browser and Environment Support

- Because of their architectural differences, Selenium IDE, Selenium RC, and WebDriver support different sets of browsers and operating environments.

	Selenium IDE	WebDriver
Browser Support	Mozilla Firefox	Internet Explorer versions 6 to 11, both 32 and 64-bit Microsoft Edge version 12.10240 & above (partial support some)

	Selenium IDE	WebDriver
		<p>functionalities under development)</p> <p>Firefox 3.0 and above</p> <p>Google Chrome 12.0. and above</p> <p>Opera 11.5 and above</p> <p>Android - 2.3 and above for phones and tablets (devices & emulators)</p> <p>iOS 3+ for phones (devices & emulators) and 3.2+ for tablets (devices & emulators)</p> <p>HtmlUnit 2.9 and above</p>
Operating System	Windows, Mac OS X, Linux	All operating systems where the browsers above can run.

- **Note:** Selenium WebDriver is termed as the successor of Selenium RC which has been deprecated & officially announced by SeleniumHQ.

2.8.5 How to Choose the Right Selenium Tool for Your Need

Tool	Why Choose?
Selenium IDE	<ul style="list-style-type: none"> • To learn about concepts on automated testing and Selenium, including: • Selenese commands such as type, open, clickAndWait, assert, verify, etc. • Locators such as id, name, xpath, css selector, etc. • Executing customized JavaScript code using runScript • Exporting test cases in various formats. • To create tests with little or no prior knowledge in programming. • To create simple test cases and test suites that you can export later to RC or WebDriver. • To test a web application against Firefox only.
Selenium RC	<ul style="list-style-type: none"> • To design a test using a more expressive language than Selenese • To run your test against different browsers (except HtmlUnit) on different operating systems. • To deploy your tests across multiple environments using Selenium Grid.

Tool	Why Choose?
	<ul style="list-style-type: none"> • To test your application against a new browser that supports JavaScript. • To test web applications with complex AJAX-based scenarios.
WebDriver	<ul style="list-style-type: none"> • To use a certain programming language in designing your test case. • To test applications that are rich in AJAX-based functionalities. • To execute tests on the HtmlUnit browser. • To create customized test results.
Selenium Grid	<ul style="list-style-type: none"> • To run your Selenium RC scripts in multiple browsers and operating systems simultaneously. • To run a huge test suite, that needs to complete in the soonest time possible.

2.8.6 Advantages of Selenium

- i) It is an Open source Software.
- ii) It supports various Operating environments (Windows, Linux, Mac etc...)
- iii) It supports various browsers (IE, Mozilla Firefox, Chrome, safari, Opera etc...)
- iv) It supports various programming environments (Java, Perl, Python, Ruby and PHP)
- v) It supports parallel Test execution.
- vi) It uses less Hardware resources.

2.8.7 Disadvantages of Selenium

- i) It supports Web based Applications only.
- ii) No reliable support from anybody.
- iii) No centralized maintenance of Elements/objects
- iv) Difficult to setup environment.
- v) Difficult to use.
- vi) Limited support for Image based testing.
- vii) New features may not work properly.
- viii) No other tool integration for test management & No built in Reporting facility.

2.8.8 Selenium Versus UFT

Selenium	UFT / QTP
1) Open Source	Vendor tool, License is required.
2) Supports various OS Environments.	MS Windows only.
3) Supports various Programming Environments	VBScript only.
4) No Object Repositories	Local and Shared object Repositories.
5) No built-in Reporting feature.	Built-in reporting feature.
6) Selenium WebDriver has no IDE and Selenium IDE has no Programming Interface.	UFT has both IDE and Programming Interface.
7) Uses less Hardware resources.	Uses more Hardware resources
8) Difficult to setup environment and use.	Easy to setup and use.
9) Limited support for Image Testing	Rich support for Image Testing
10) No Reliable support	Support from HP
11) No other tool integration for Test management.	UFT can be integrated with ALM/QC for Test Management.
12) New features may not work properly.	New features will work properly.
13) No Add ins for supporting Application Environments.	Add ins are required for supporting Application environments.
14) Supports Web Applications only	Supports Desktop and Web Applications.
15) No Authorized Certification	Authorized Certification program.

2.8.9 What is TestNG?

TestNG is a powerful testing framework, an enhanced version of JUnit which was in use for a long time before TestNG came into existence. NG stands for 'Next Generation'.

TestNG framework provides the following features –

- Annotations help us organize the tests easily.
- Flexible test configuration.
- Test cases can be grouped more easily.
- Parallelization of tests can be achieved using TestNG.
- Support for data-driven testing.
- Inbuilt reporting.

2.8.9 Step by Step Tutorial

1. First of Download Latest Eclipse java photon-R version.
2. Download latest selenium-server-standalone-3.13.0 jar File from following link

<https://www.seleniumhq.org/download/> here on site 3.14.0 version is latest

The screenshot shows the SeleniumHQ website with the URL <https://www.seleniumhq.org/download/> in the address bar. The page title is "SeleniumHQ Browser Automation". The main content area is titled "Downloads" and contains information about the Selenium Standalone Server, Selenium Client & WebDriver Language Bindings, and Selenium Sponsors. It also features links for "Donate to Selenium" and "through sponsorship". Logos for BrowserStack and SAUCE LABS are visible. The bottom of the screen shows a Windows taskbar with various icons and the date/time as 9/29/2018 2:04 PM.

3. Download and Extract Chromedriver.exe for windows on any drive of computer.

<http://chromedriver.chromium.org/downloads> here 2.42 is latest version

The screenshot shows the ChromeDriver - WebDriver for Chrome website with the URL <http://chromedriver.chromium.org/downloads> in the address bar. The page title is "ChromeDriver - WebDriver for Chrome". The main content area is titled "Downloads" and features a "Latest Release: ChromeDriver 2.42". It includes a "Changes include:" section with a bulleted list of fixes and improvements. The bottom of the screen shows a Windows taskbar with various icons and the date/time as 9/29/2018 2:08 PM.

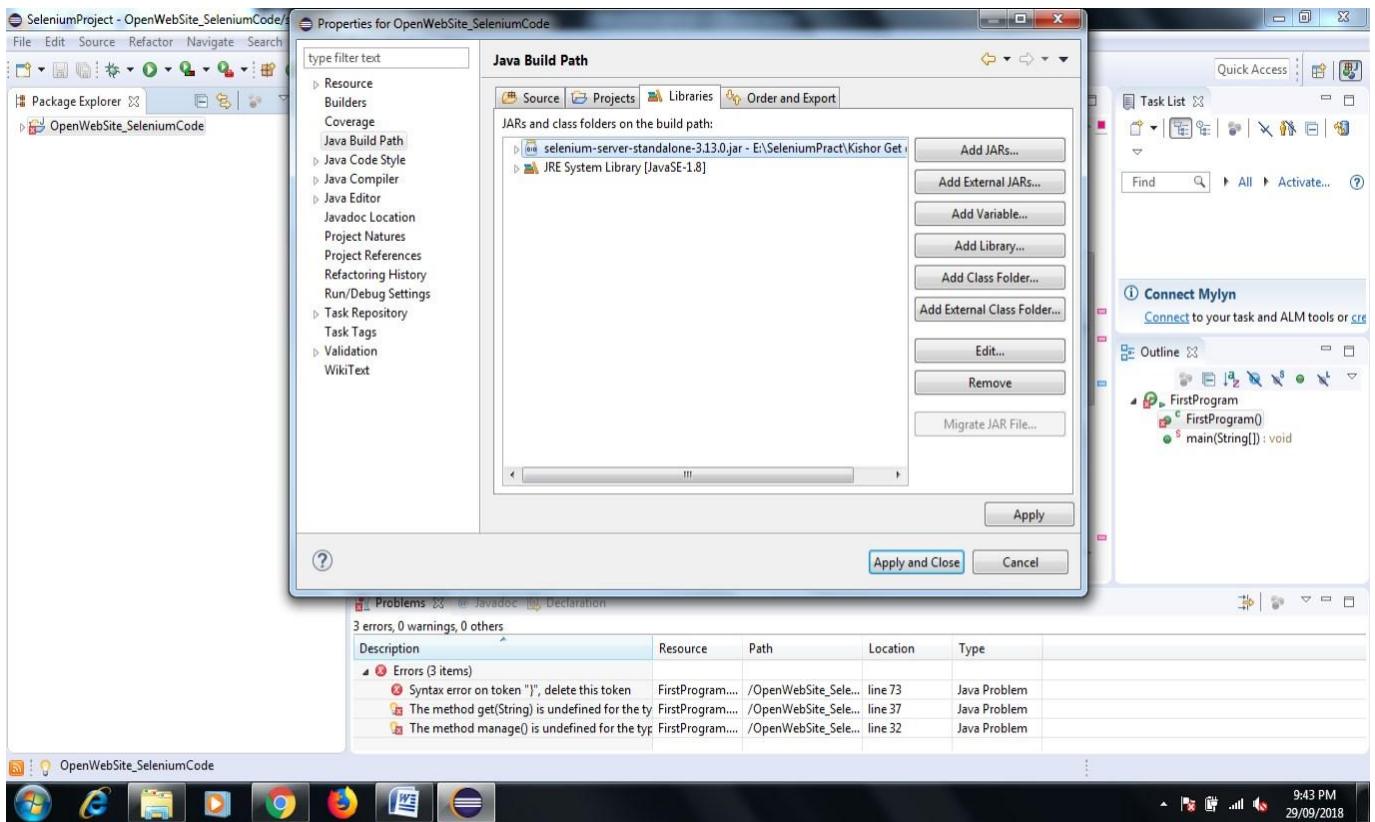
Name	Last modified	Size	ETag
Parent Directory	-	-	-
chromedriver_linux64.zip	2018-09-13 19:30:37	3.85MB	acfcc29fb03df9e913ef4c360a121ad1
chromedriver_mac64.zip	2018-09-13 18:14:11	5.75MB	f7ce04a97c7bf2c8c2a9b824d95e25351
chromedriver_win32.zip	2018-09-13 21:11:33	3.42MB	28d91b313111462500e7ef1afbcd6d026
notes.txt	2018-09-13 21:23:09	0.02MB	18bdf6fcfcffdd668fa44477d9b6bdd



4. After Download Extract same on any Drive here I m extract on D Drive and my path of that exe file is D:\my document\Download\chromedriver_win32

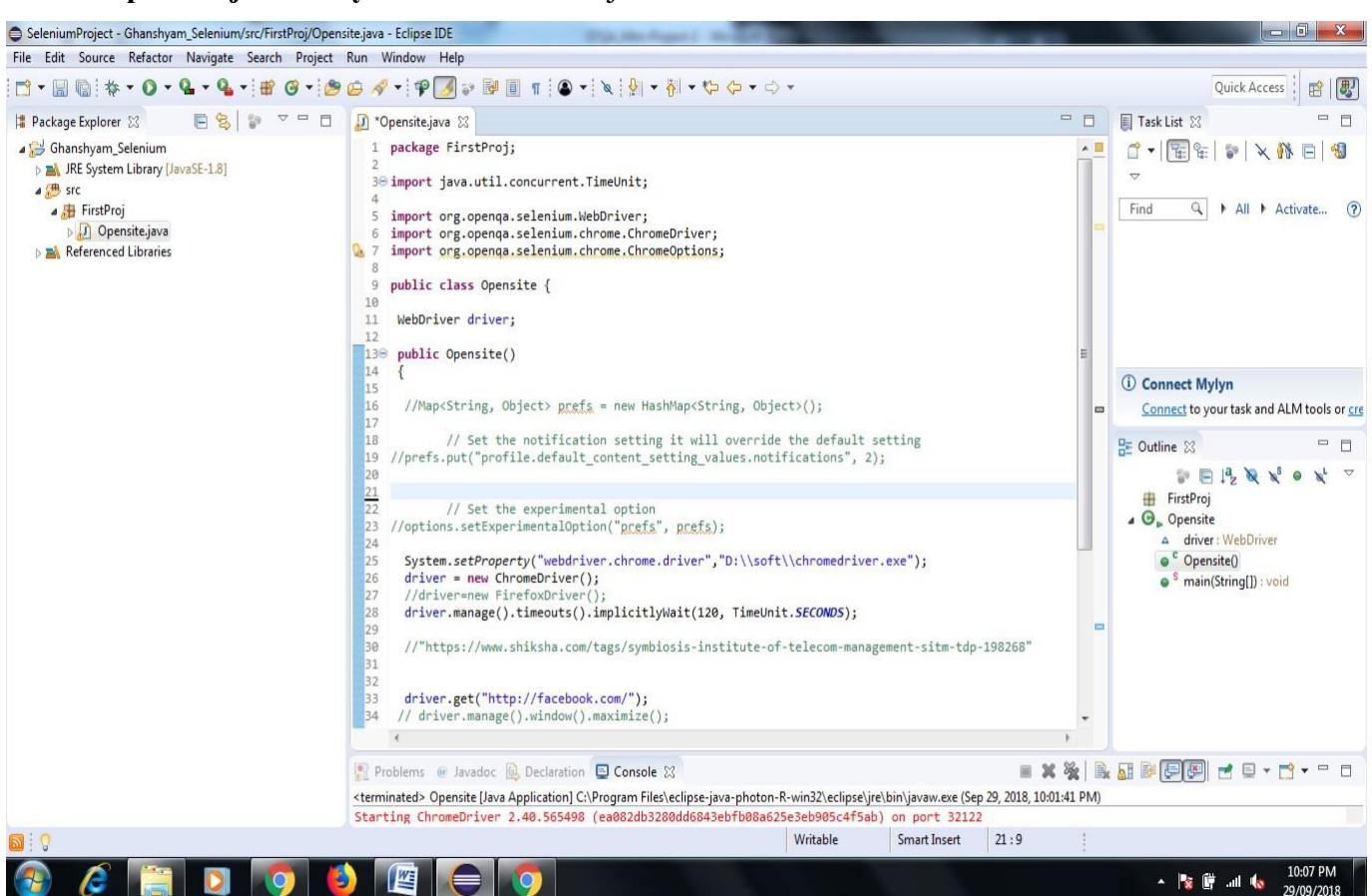
	Name	Date modified	Type	Size
41_2018_09_03_101005_F_E_Basic_Civil_A... 	41_2018_09_03_101005_F_E_Basic_Civil_A... 	9/3/2018 2:08 PM	Nitro PDF Docum...	51 KB
41_2018_09_04_107002_Engineering_Physi... 	41_2018_09_04_107002_Engineering_Physi... 	9/4/2018 2:19 PM	Nitro PDF Docum...	53 KB
41_2018_09_04_107009_Engine... 	41_2018_09_04_107009_Engine... 	Open	Docum...	52 KB
41_2018_09_06_107001_Engine... 	41_2018_09_06_107001_Engine... 	Extract files...	Docum...	65 KB
41_2018_09_08_110003_Fundar... 	41_2018_09_08_110003_Fundar... 	Extract Here	Docum...	52 KB
265-1225-1-PB 	265-1225-1-PB 	Extract to chromedriver_win32\	Docum...	249 KB
2018-09-03-11-27-23-630_153 	2018-09-03-11-27-23-630_153 	Open with	Docum...	95 KB
2018-09-03-11-27-27-997_ALH 	2018-09-03-11-27-27-997_ALH 	Quick Heal Total Security Scan	Docum...	39 KB
179701848_ExamForm 	179701848_ExamForm 	Restore previous versions	Docum...	255 KB
179702088_ExamForm 	179702088_ExamForm 	Send to	Docum...	259 KB
a60c6554ed66129f1717f16107 	a60c6554ed66129f1717f16107 	Cut	File	57 KB
Academic Calendar for Engine... 	Academic Calendar for Engine... 	Copy	Docum...	540 KB
ADMISSION 2018-19 ENQUIRY 	ADMISSION 2018-19 ENQUIRY 	Create shortcut	Excel W...	32 KB
AJS Research proposal 	AJS Research proposal 	Delete	Word D...	25 KB
ALL YEARS TT - Final 	ALL YEARS TT - Final 	Rename	Word D...	19 KB
assignment-no-3-matrix 	assignment-no-3-matrix 	Properties	Excel 97...	23 KB
attendanceSummary_Report1 	attendanceSummary_Report1 		Excel W...	52 KB
BE 	BE 		File	13 KB
c5f66ee7270aa932072533c26b5 	c5f66ee7270aa932072533c26b5 		Properties	23 KB
chromedriver_win32 	chromedriver_win32 		WinRAR ZIP archive	3,500 KB
ChromeSetup 	ChromeSetup 	8/16/2018 3:57 PM	Application	1,105 KB
circular-no-125 	circular-no-125 	9/8/2018 10:15 AM	Nitro PDF Docum...	132 KB
Dates of Commencement and Conclusio... 	Dates of Commencement and Conclusio... 	9/8/2018 10:22 AM	Nitro PDF Docum...	179 KB
db7c1fd9a1dffa3fb9a675163327cbfcfe... 	db7c1fd9a1dffa3fb9a675163327cbfcfe... 	8/25/2018 3:07 PM	TORRENT File	86 KB
disk-drill-win 	disk-drill-win 	9/26/2018 11:07 AM	Windows Installer ...	7,617 KB
eclipse-inst-win32 	eclipse-inst-win32 	9/29/2018 11:35 AM	Application	49,718 KB
IDC contact for book test 	IDC contact for book test 	9/22/2018 11:38 AM	Microsoft Word D...	15 KB

5. Now Open Eclipse IDE----> Create Java Project→ Right Click Project Name→Properties→ Java Build Path→Libraries→Add External JAR→ add selenium-server-standalone-3.13.0 jar →Apply and Close.

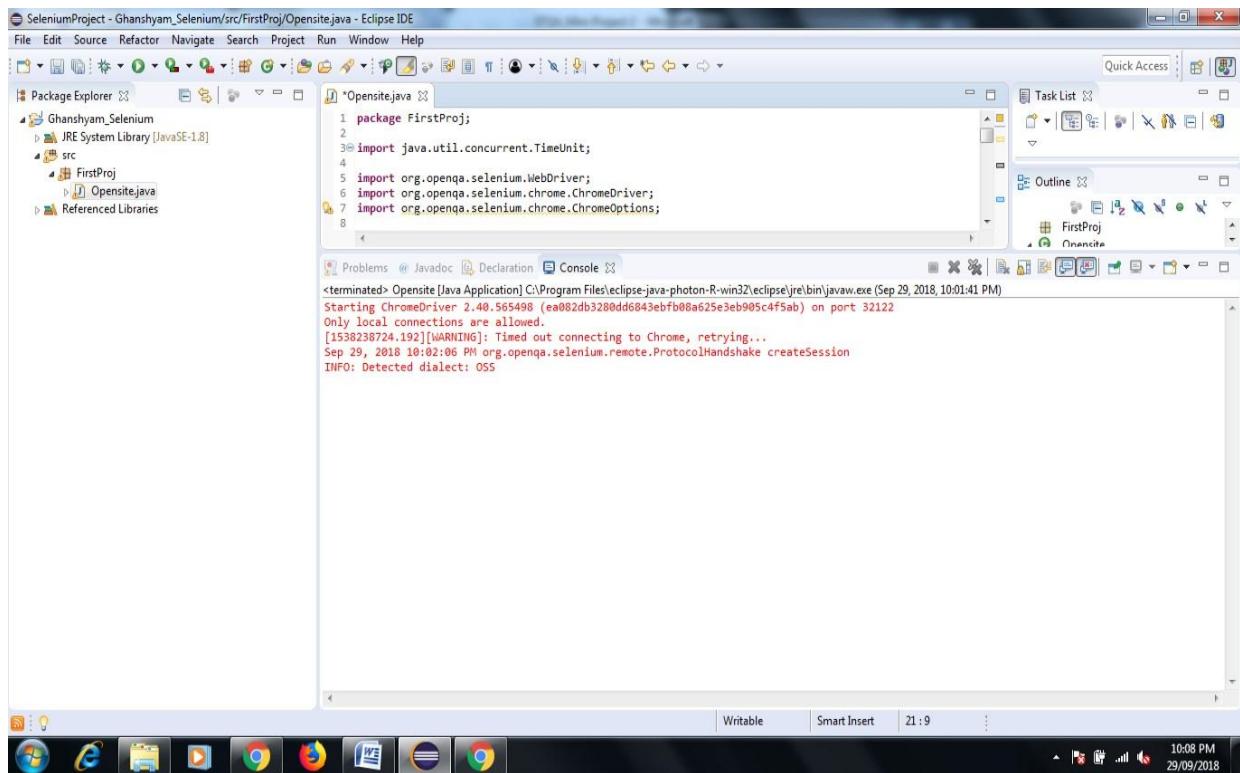


6. Now Want **Open the chrome browser with facebook.com page via Selenium Web driver Java Coding** so here we need to write Java Code in Class file which we already created

7. Here in My Program I Create **Ghanshyam_Selenium Java Project Folder name and Opensite.java is my class file** so write java code in this class file

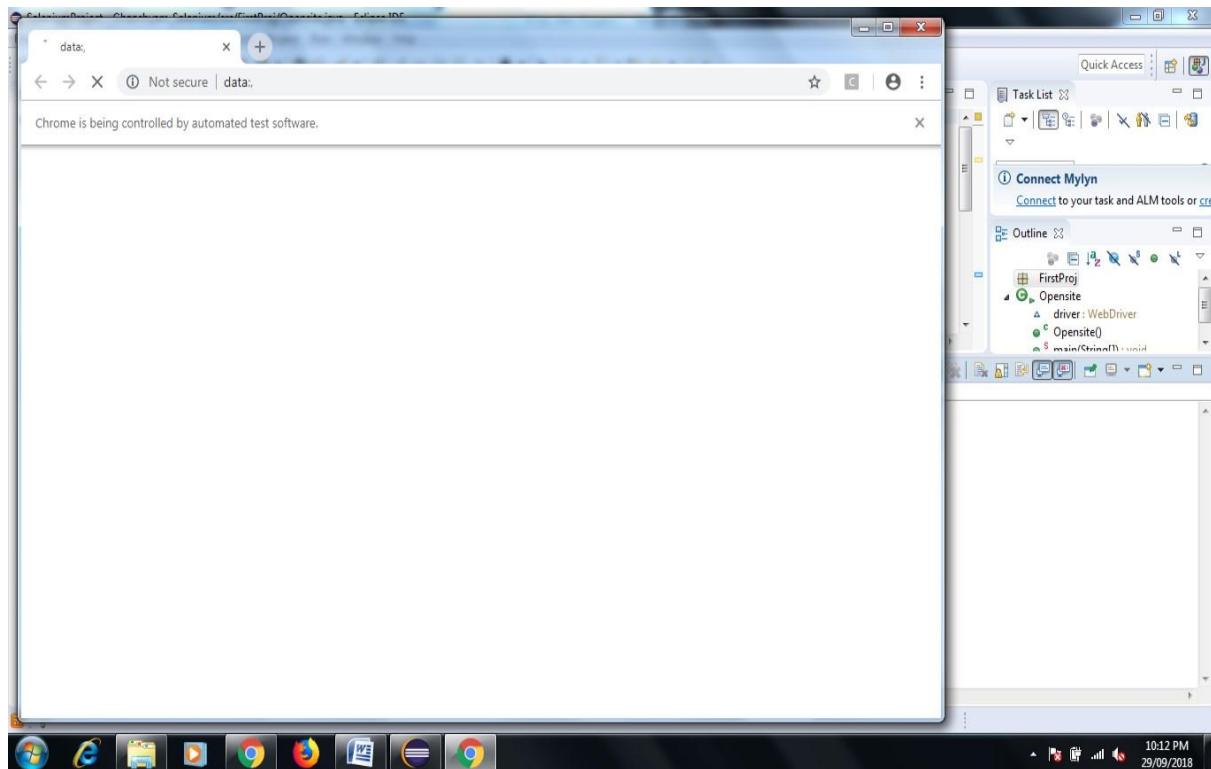


- Right click on java program, select Run As and > "Java Application". After Code Successfully Run now see the output in Console Prompt



- Now Your browser Open Automatically it shown data;
 - one more message display **chrome is being controlled by Automated Test Software**

It mean we open chrome browser and facebook.com page by selenium web driver java code successfully.



In this way Our First Module Run Successfully.

Module-2 In This Project I want to collect all Rating Feedback related our college available on website Justdial.com

1. Create One Java Project Folder Give Name → Review Demo → Now Create One Class File give name Practo.com
2. Right Click Project Name → Properties → Java Build Path → Libraries → Add External JAR → add selenium-server-standalone-3.13.0 jar → Apply and Close.
3. Similarly Copy the Chromedriver.exe file on my D Drive `D:/soft/chromedriver.exe` in this way.
4. Now Start right writing code for Practo.java to Collect all review of any Hospital.

Here I want search all feedback of **SNJB-s-Late-Sau-Kantabai-Bhavarlalji-Jain-College-Of-Engineering-Neminagar-Chandwad**

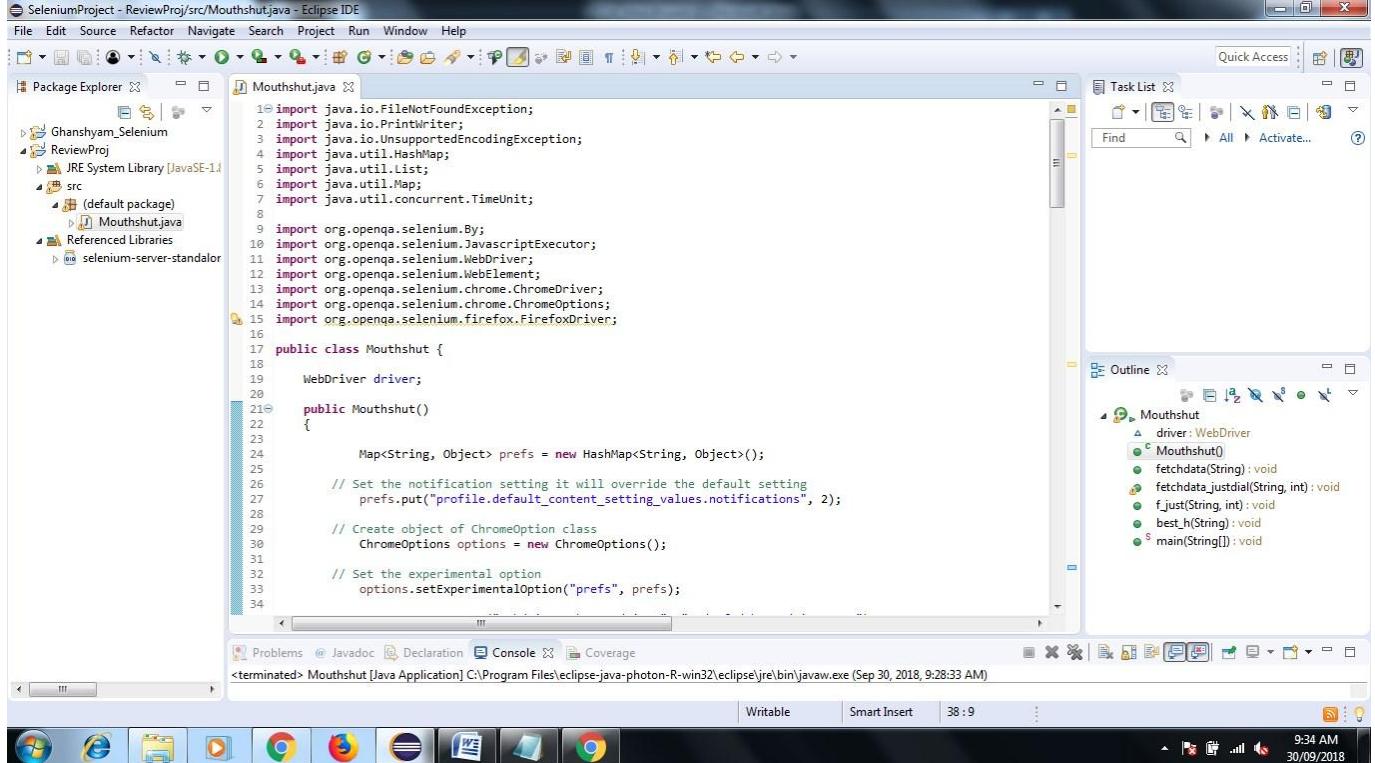
Link of Feedback of All Customer-

https://www.justdial.com/Nashik/SNJB-s-Late-Sau-Kantabai-Bhavarlalji-Jain-College-Of-Engineering-Neminagar-Chandwad/0253PX253-X253-151019113056-B2P9_BZDET/reviews/page-6

5. Now to save Feedback of all pages here I create one text file give name `C:\Users\admin\eclipse-workspace\SeleniumProject\ReviewProj\Snjb.txt`

Now First of All Execute Code here my file name **Mouthshut.java**

Mouthshut.com is website like Justdial.com



The screenshot shows the Eclipse IDE interface with the following details:

- Project Explorer:** Shows the project structure with a package named "Ghanshyam_Selenium" containing a "src" folder which has a "Mouthshut.java" file.
- Middle Area:** The code editor window displays the `Mouthshut.java` file. The code imports various Selenium packages and defines a class `Mouthshut` with a constructor and several methods: `fetchdata`, `fetchdata_justdial`, `f_just`, `best_hString`, and `main`.
- Outline View:** Located on the right side, it shows the class structure and the methods defined in the code.
- Task List:** Also located on the right side, it lists tasks such as "Find" and "All".
- Bottom Status Bar:** Shows the status "terminated <terminated> Mouthshut [Java Application] C:\Program Files\eclipse-java-photon-R-win32\eclipse\jre\bin\javaw.exe (Sep 30, 2018, 9:28:33 AM)".
- Bottom Taskbar:** Shows icons for various applications including the taskbar.

After Execution Code Mouthshut.java Chrome Browser Opened Automatically with Specified website you can also see the output of rating in console as well as file you created.

Engineering

SeleniumProject - ReviewProj/src/Mouthshut.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Package Explorer

Mouthshut.java

```
1 import java.io.FileNotFoundException;
2 import java.io.PrintWriter;
3 import java.io.UnsupportedEncodingException;
```

Problems Declaration Console Coverage

terminated> Mouthshut[Java Application] C:\Program Files\eclipse\java-photon-R-win32\eclipse\jre\bin\javaw.exe (Sep 30, 2018, 9:28:33 AM)

Starting ChromeDriver 2.40.565498 (ea082db3280dd6843ebfb08a625e3eb905c4f5ab) on port 40918

Only local connections are allowed.

Sep 30, 2018 9:28:41 AM org.openqa.selenium.remote.ProtocolHandshake createSession

INFO: Detected dialect: OSS

Name: Mr Ajay
Post :Good

Name: Mr Vaibhav
Post :Excellent

Name: Jayesh Jadhav
Post :Excellent

Name: Mr Yash
Post :Good

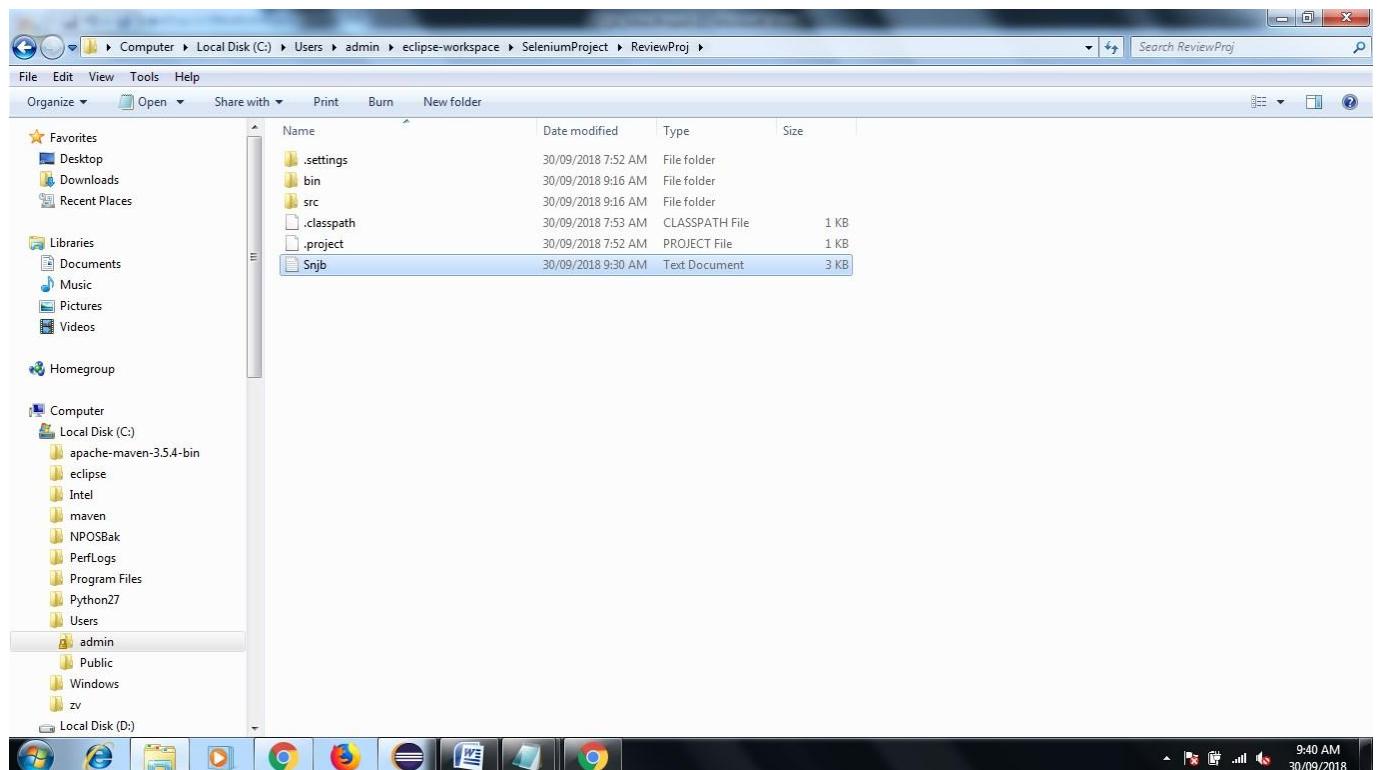
Name: Mr Prathmesh
Post :Very Good

Name: Mr Amit

9:38 AM 30/09/2018

Now Lets Check the Feedback of All Customer go to your Eclipse Workspace Path my path is

C:\Users\admin\eclipse-workspace\SeleniumProject\ReviewProj\Snjb.txt



After Open Txt File See the Output

```
Snjb - Notepad
File Edit Format View Help
url : https://www.justdial.com/Nashik/SNJB-s-Late-Sau-Kantabai-Bhavarlalji-Jain-College-of-Engineering-Neminagar-Chandwad/0253PX253-X253-151019113056-B2P9_BZDET/reviews
Name: Mr Ajay
Post :Good
Name: Mr Vaibhav
Post :Excellent
Name: Jayesh JadHAV
Post :Excellent
Name: Mr Yash
Post :Good
Name: Mr Prathmesh
Post :very Good
Name: Mr Amit
Post :Good
Name: Yash
Post :Poor
Name: Mr Subhash sonvane
Post :very Good
Name: Mr Dhananjay Kakurte
Post :Very Good
Name: Mr Rohit
Post :Average
Name: Mr Sushant
Post :Good
Name: Mr Yash
Post :Excellent
Name: Mr Mohit
Post :Excellent
Name: Mr Tushar
Post :Average
Name: Nikhil shirode
Post :Very Good
Name: Om
Post :Very Good
Name: Sanket Agrawal
Post :Excellent
Name: Deepak
Post :Good
Name: Mr Bhambre vivek
Post :Good
Name: Mr Gautam
Post :Excellent
Name: Mr Mahesh Rathor
Post :Excellent
Name: Parag Achaliya
Post :Excellent
Name: Mr Sandip
Post :Good
Name: Mr Rahul Bachhav
Post :Very Good
Name: Devendra
Post :Poor
```

In This you can Collect all different kind of colleges, hospital rating and review from various website like mouthshout.com, Justdial.com via Selenium Web driver Tool

Module-3 Now I want Collect Review of Aditya-Birla-Memorial-Hospital-Chinchwad-Pune

Link- <https://www.mouthshout.com/product-reviews/Aditya-Birla-Memorial-Hospital-Chchwad-Pune-reviews-925602748-page-2>

After Execution of Code-

```
Aditya-Birla-Memorial-Hospital-Chinchwad-Pune-reviews - Notepad
File Edit Format View Help
url :https://www.mouthshout.com/product-reviews/Aditya-Birla-Memorial-Hospital-chchwad-Pune-reviews-925602748-page-2
Post :I myself is a healthcare professional and I just want to share my personal amazg experience with Dr Madhulika Sgh. My spouse was admitted to hospital for maternity. My experience with the staff was also good. May almighty bless dr Madhulika Sgh for her service.
All best to the hospital and team.
Regards
Mehboob Hudewala
Flag this review
Post :My younger cous brother hospitalized Aditya birla memorial hospital February 2017.
My experience is so good this hospital. This hospital is very clean nature. It is well mataed by hospital government.
This hospital whole staff is good and well educated and helpg nature. The various department are separated and specialist available for each department. The coastg is
Flag this review
Post :Aditya Birla is one of the best hospitals pune . It has huge and shy frastrucuture. The medical care is quite good . The surgeons are at their best and polite . I
Flag this review
Post :My younger brother hospitalized Aditya Birla Memorial hospital July 2017. My experience is so good this hospital. the whole staff is well educated and helpg n
the various department are separated and specialist available for each department.
the costg is more as compared to the other hospital. But they charge for the service they are offerg. Charges are of their high quality services.
frastrucuture is very good.
Flag this review
Post :They r dacoits. I took my daughter for eye check up. They took ?500. Then they called next week for their own confirmation on the power value her eyes. So next a
Flag this review
Post :worst phone- attendants.
The cident took place on 6th June 2017. I had called for an urgent consultation with the doctor.the followg happened.
Me. Hello, can I talk to dr # it is very urgent.
```

Selenium IDE:

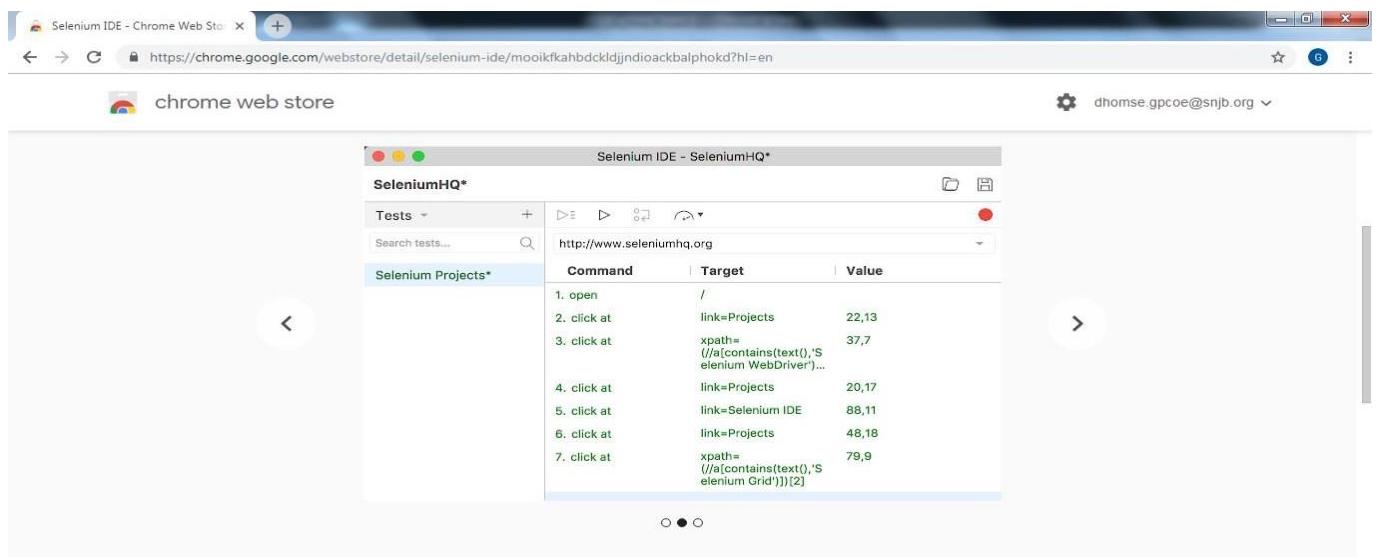
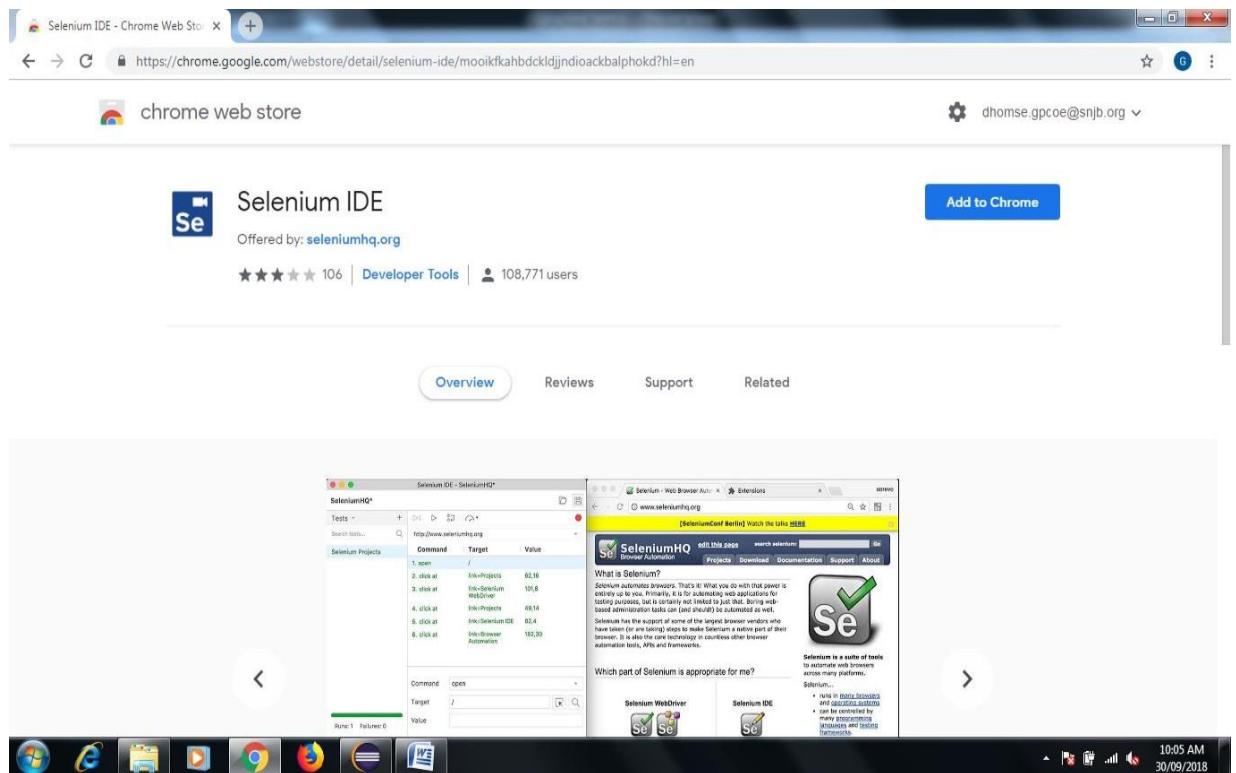
1. Download Selenium IDE Chrome Extension from following Link

<https://chrome.google.com/webstore/detail/selenium-ide/mooikfahbdckldjjndioackbalphokd?hl=en>

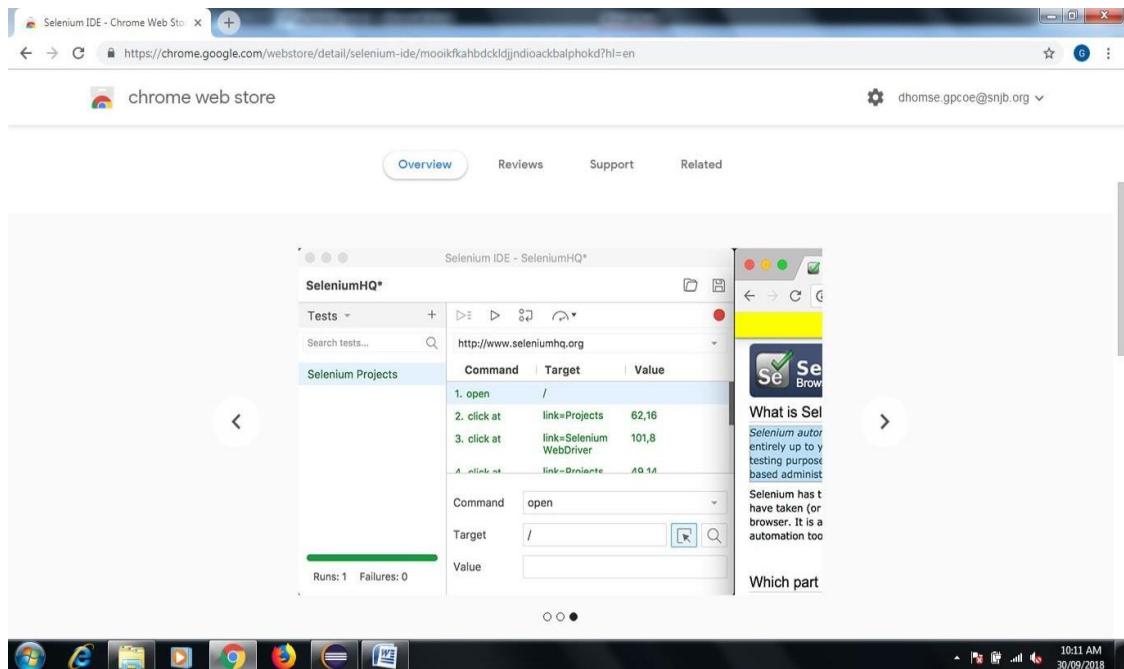
2. Click on Add to Chrome

3. Check the icon on of IDE Square in right side after browser after successfully installation to chrome

4. Now Click on record button do some operation on website...see the report in console of IDE command target and value....in this way you also find out xpath etc information.



You can also check the Automated Test Case Pass or Fails see the following figure



2.9 Oral Question

1. What is the difference between Selenium and QTP?
2. What is mean by Bug taxonomy?
3. How to verify error and message in selenium webdriver?
4. What are the different types of drivers available in WebDriver?
5. What are the different types of locators in selenium?

2.10 Conclusion

In this way you learn how to use Selenium Open Source Tool for perform Automation Testing on web based application.