

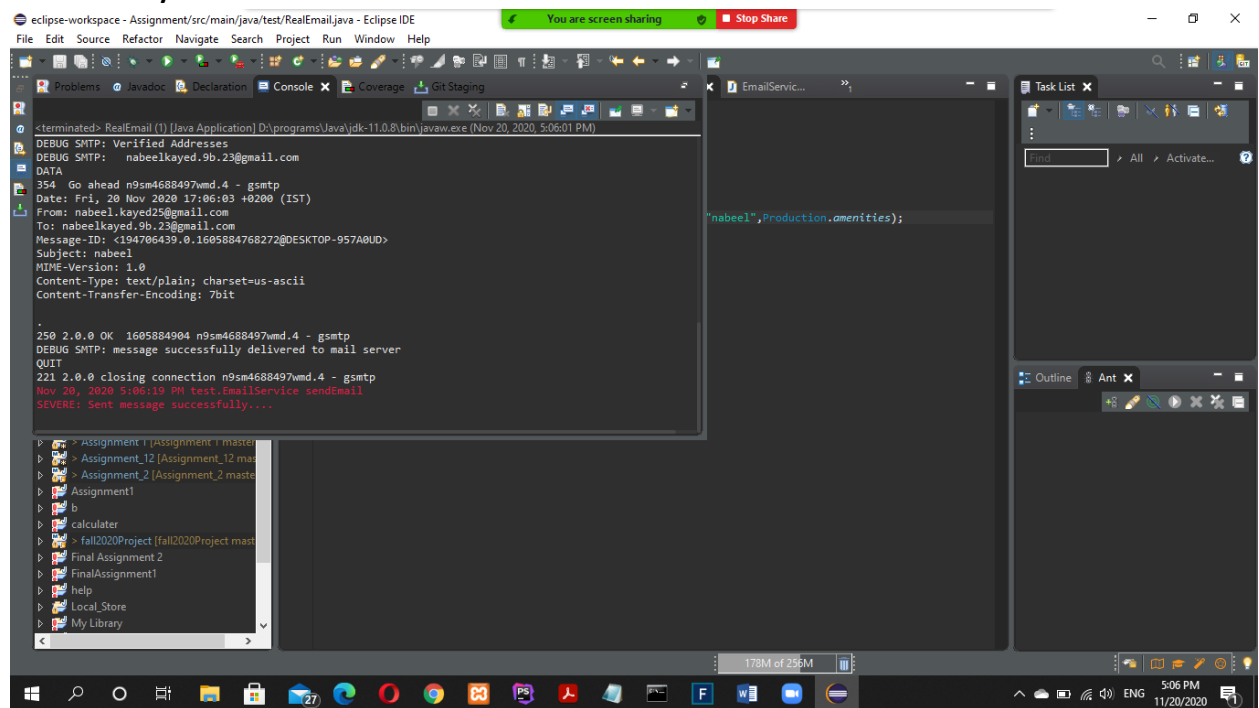
## Project part 2 output

**Github** : <https://github.com/NabeelKayed/project2>

**Trello**: <https://trello.com/b/TxtcUwMu/projectpart2>

### 1- Moking

After we write the mocking class and email servise class we try to send email with out the run the junit and it sends the email succssfully.



The screenshot shows the Eclipse IDE interface. The top toolbar includes a 'You are screen sharing' notification and a 'Stop Share' button. The main editor area displays the 'EmailService.java' file with the following code snippet: `"nabeel", Production.amenities);`. The 'Console' view on the left shows the output of the Java application, including SMTP debug messages and a successful email delivery confirmation. The 'Task List' view on the right is empty. The 'Outline' view at the bottom shows the project structure, including 'Assignment\_1', 'Assignment\_2', 'calculator', 'fall2020Project', 'FinalAssignment1', 'help', 'Local\_Store', and 'My Library'.

```
<terminated> RealEmail (1) [Java Application] D:\programs\Java\jdk-11.0.8\bin\javaw.exe (Nov 20, 2020, 5:06:01 PM)
DEBUG SMTP: Verified Addresses
DEBUG SMTP: nabeelkayed.9b.23@gmail.com
DATA
354 Go ahead n9sm4688497wmd.4 - gsmt
Date: Fri, 20 Nov 2020 17:06:03 +0200 (IST)
From: nabeel.kayed25@gmail.com
To: nabeelkayed.9b.23@gmail.com
Message-ID: <194706439.0.1605884768272@DESKTOP-957A8UD>
Subject: nabeel
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
.
250 2.0.0 OK 1605884904 n9sm4688497wmd.4 - gsmt
DEBUG SMTP: message successfully delivered to mail server
QUIT
221 2.0.0 closing connection n9sm4688497wmd.4 - gsmt
Nov 20, 2020 5:06:19 PM test.EmailService sendEmail
SEVERE: Sent message successfully....
```

But when we run the junit use the mocking to make sure that the email was sent but it doesn't send real email and this the aim from using the mocking.

The output of junit testing with out send email:

[illegible]

## 2-Refactoring

## We using sonarqube for static analysis

## Before refactoring:

sonarqube Projects Issues Rules Quality Profiles Quality Gates Administration

localhost:9000/projects

Perspective: Overall Status Sort by: Name Search by project name or key 1 projects

My Favorites All

Filters

Quality Gate

Passed 1 Failed 0

Reliability ( Bugs )

A 1 B 0 C 0 D 0 E 0

Security ( Vulnerabilities )

A 1 B 0 C 0 D 0 E 0

Security Review ( Security Hotspots )

A ≥ 80% 1 B 70% - 80% 0

Assignment1 Passed Last analysis: 22 hours ago

Bugs 0 A Vulnerabilities 0 A Hotspots Reviewed - A Code Smells 38 A Coverage 0.0% Duplications 0.0% Lines 294 XS Java, XML

1 of 1 shown

Embedded database should be used for evaluation purposes only

The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.

SonarQube™ technology is powered by SonarSource SA

Community Edition - Version 8.5.1 (build 38104) - LGPL v3 - Community - Documentation - Plugins - Web API - About

25:17 10/11/2020 ENG اكتب هنا للبحث

## After refactoring:

sonarqube Projects Issues Rules Quality Profiles Quality Gates Administration

localhost:9000/projects

Perspective: Overall Status Sort by: Name Search by project name or key 1 projects

My Favorites All

Filters

Quality Gate

Passed 0 Failed 1

Reliability ( Bugs )

A 1 B 0 C 0 D 0 E 0

Security ( Vulnerabilities )

A 1 B 0 C 0 D 0 E 0

Security Review ( Security Hotspots )

A ≥ 80% 1 B 70% - 80% 0

Assignment1 Failed Last analysis: 1 minute ago

Bugs 0 A Vulnerabilities 0 A Hotspots Reviewed - A Code Smells 0 A Coverage 0.0% Duplications 0.0% Lines 131 XS Java, XML

1 of 1 shown

Embedded database should be used for evaluation purposes only

The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine.

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## Before mocking:

The screenshot shows the SonarQube web interface at localhost:9000/projects. The main dashboard for project 'Assignment1' (Failed) displays the following metrics:

Metric	Value	Quality Gate
Bugs	0	A
Vulnerabilities	0	A
Hotspots Reviewed	0.0%	E
Code Smells	31	A
Coverage	0.0%	F
Duplications	0.0%	G
Lines	412	XS

The interface also shows a sidebar with filters for Quality Gate (Passed/Failed), Reliability (Bugs), Security (Vulnerabilities), and Security Review (Hotspots). A yellow warning message at the bottom states: "Embedded database should be used for evaluation purposes only. The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine."

## After mocking:

The screenshot shows the SonarQube web interface at localhost:9000/projects after mocking. The main dashboard for project 'Assignment1' (Failed) displays the following metrics:

Metric	Value	Quality Gate
Bugs	0	A
Vulnerabilities	0	A
Hotspots Reviewed	-	A
Code Smells	0	A
Coverage	0.0%	F
Duplications	0.0%	G
Lines	399	XS

The interface also shows a sidebar with filters for Quality Gate (Passed/Failed), Reliability (Bugs), Security (Vulnerabilities), and Security Review (Hotspots). A yellow warning message at the bottom states: "Embedded database should be used for evaluation purposes only. The embedded database will not scale, it will not support upgrading to newer versions of SonarQube, and there is no support for migrating your data out of it into a different database engine."

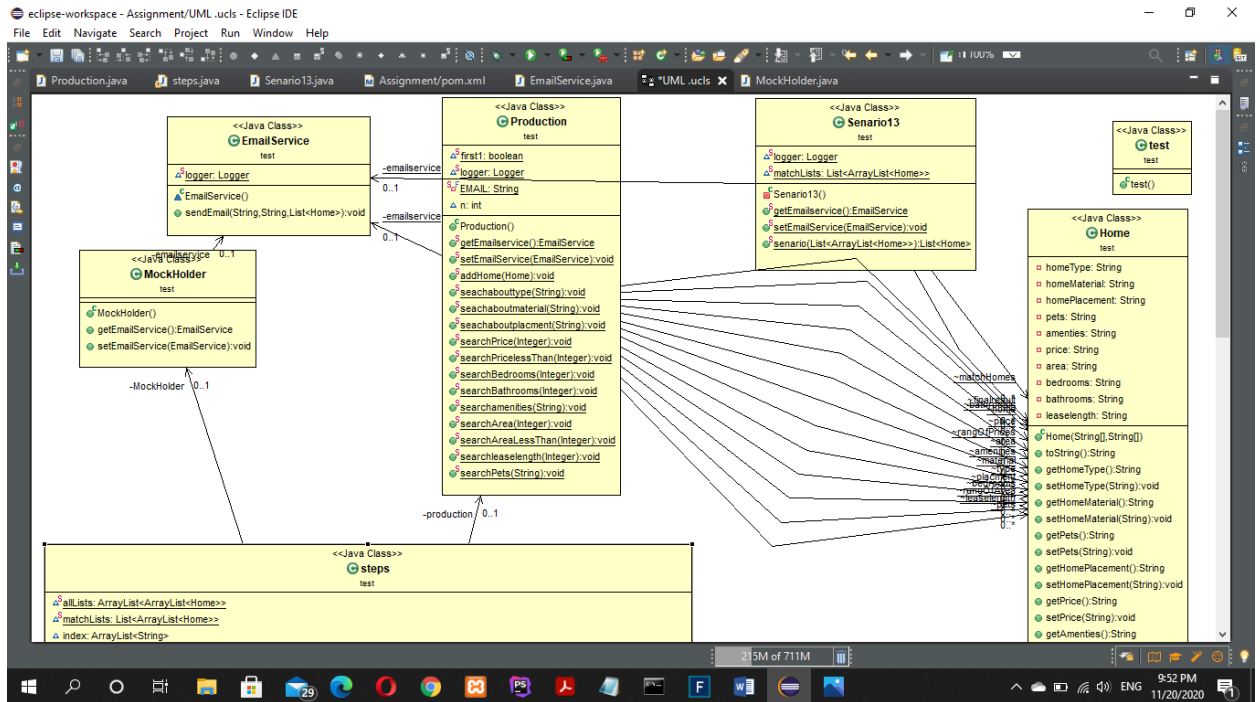
### 3-Code coverage using EclEmma

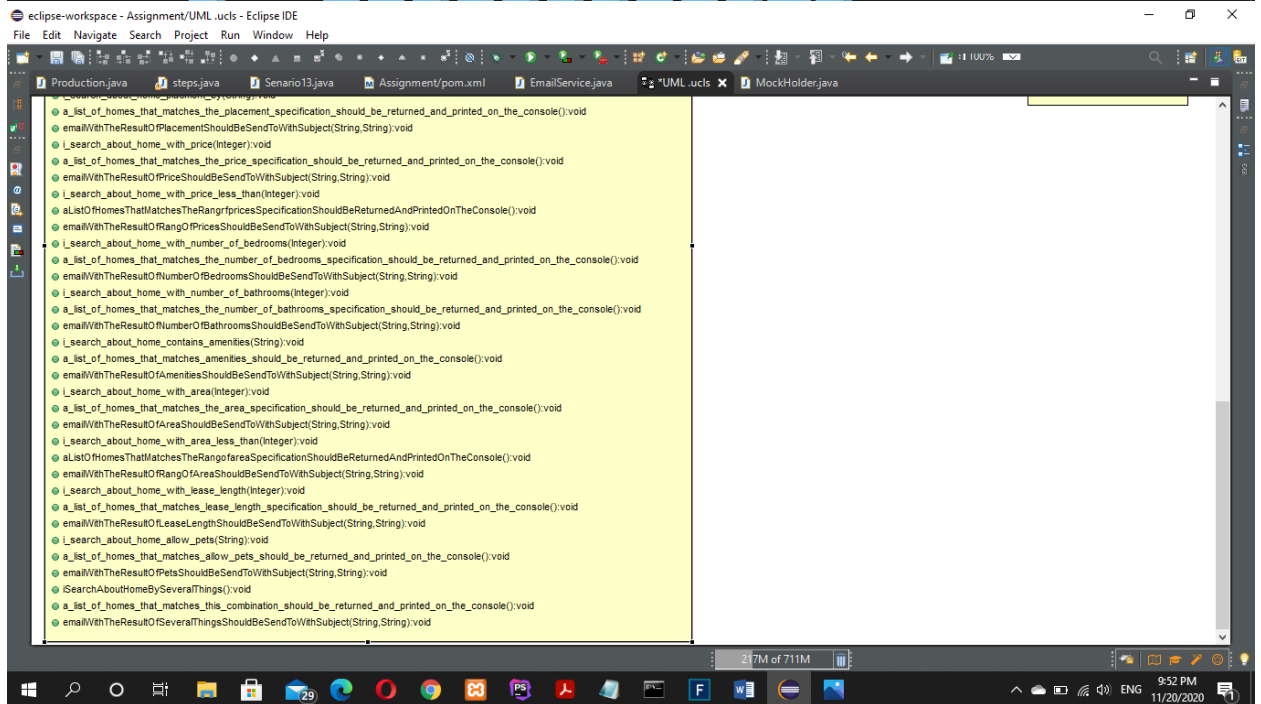
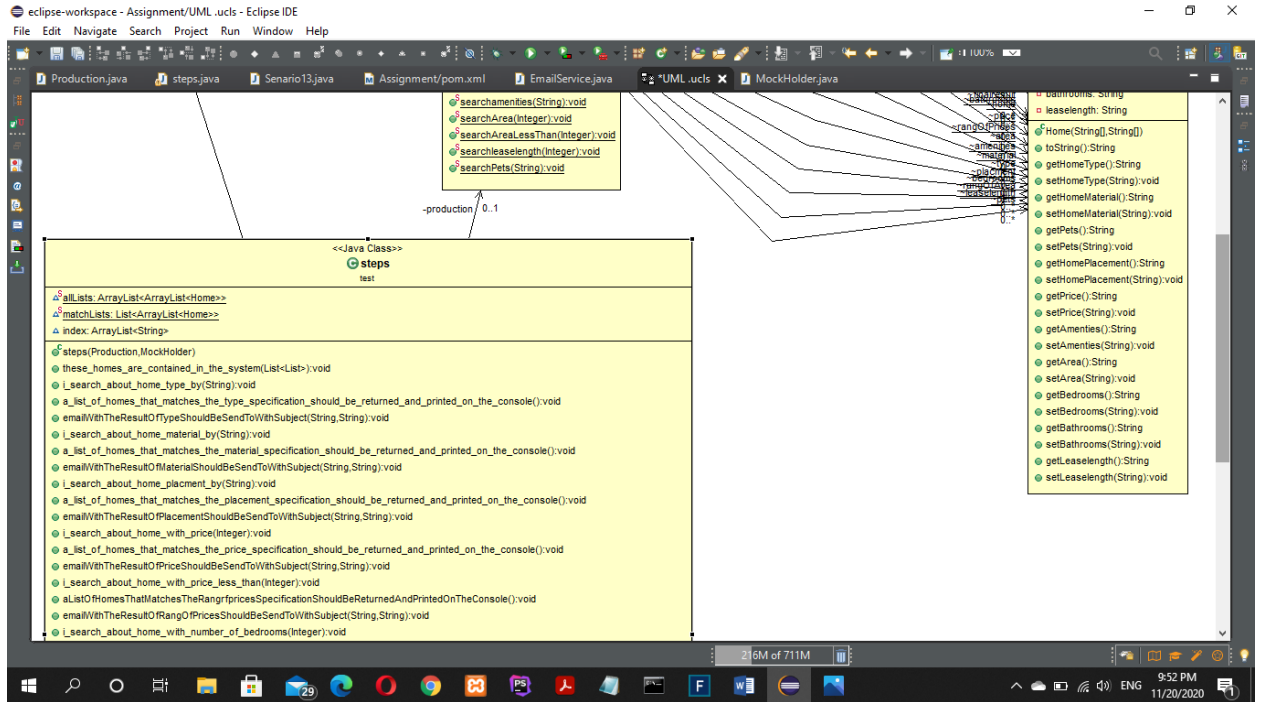
The coverage in our project is almost 100% in every class but the total coverage was 93.1% because the class that send email the compiler does not inter it because we use the mocking.

Element	Coverage	Covered Instructions	Missed Instructions	Total Instructions
Assignment	93.1 %	1,795	132	1,927
src/main/java	86.0 %	779	127	906
test	86.0 %	779	127	906
EmailService.java	3.8 %	5	127	132
Home.java	100.0 %	179	0	179
MockHolder.java	100.0 %	17	0	17
Production.java	100.0 %	458	0	458
Senario13.java	100.0 %	120	0	120
src/test/java	99.5 %	1,016	5	1,021
test	99.5 %	1,016	5	1,021
test.java	0.0 %	0	3	3
steps.java	99.8 %	1,016	2	1,018

```
29     for (int i = 0; i < u.size(); i++) {
30         Home k = u.get(i);
31         matchHomes.add(k);
32     }
33
34
35     int count = 0;
36     for (int i = 0; i < matchHomes.size(); i++) {
37         count = 0;
38         Home k = matchHomes.get(i);
39         for (int f = 0; f < matchHomes.size(); f++) {
40             if (k.equals(matchHomes.get(f)))
41                 count++;
42         }
43         if (count == matchLists.size() && !finalresult.contains(k))
```

## 4-Uml digrame





## 5-Jenkins

We do the configuration for jenkins and use it for continuous integration and continuous delivery.

And this is the dashboard:

The screenshot displays the Jenkins web interface in a browser window. The address bar shows the URL `localhost:8080/job/Project2/175/console`. The Jenkins logo and name are at the top left, with a search bar and user information (Nabeel Kayed) on the top right. The left sidebar contains navigation links: Back to Project, Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Delete build '#175', Git Build Data, No Tags, and Previous Build. The main content area is titled 'Console Output' and shows the build log for build #175. The log text includes:

```
Started by user Nabeel Kayed
Running as SYSTEM
Building in workspace C:\WINDOWS\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2
The recommended git tool is: NONE
using credential 2d323b37-06eb-4d06-9332-c126bf96ff40
> git.exe rev-parse --is-inside-work-tree # timeout=10
Fetching changes from the remote Git repository
> git.exe config remote.origin.url https://github.com/NabeelKayed/project2.git # timeout=10
Fetching upstream changes from https://github.com/NabeelKayed/project2.git
> git.exe --version # timeout=10
> git --version # 'git version 2.23.0.windows.1'
using GIT_ASKPASS to set credentials
> git.exe fetch --tags --force --progress -- https://github.com/NabeelKayed/project2.git +refs/heads/*:refs/remotes/origin/* #
timeout=10
> git.exe rev-parse 'refs/remotes/origin/master^{commit}' # timeout=10
Checking out Revision e48ea22a19de87cc0ffe1a85837ba59c7fc8b802 (refs/remotes/origin/master)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f e48ea22a19de87cc0ffe1a85837ba59c7fc8b802 # timeout=10
Commit message: "project part 2 final commit"
> git.exe rev-list --no-walk 0b4ad18a92e664a3d77ba35e409385d0c9136e02 # timeout=10
[Project2] $ cmd.exe /C "D:\programs\apache-maven-3.6.3\bin\mvn.cmd clean compile package install sonar:sonar -
Dsonar.host.url=http://localhost:9000 -Dsonar.login=96aaad91112aa475dc01e8cbe2cde23dc96a89d0 && exit %ERRORLEVEL%"
[INFO] Scanning for projects...
[INFO]
[INFO] -----< Apartment_Search_App:Assignment1 >-----
[INFO] Building Assignment1 0.0.1-SNAPSHOT
[INFO] -----[ jar ]-----
Downloading from central: https://repo.maven.apache.org/maven2/io/cucumber/messages/maven-metadata.xml
Progress (1): 1.7 kB

Downloaded from central: https://repo.maven.apache.org/maven2/io/cucumber/messages/maven-metadata.xml (1.7 kB at 1.3 kB/s)
Downloading from central: https://repo.maven.apache.org/maven2/io/cucumber/messages/13.2.1/messages-13.2.1.pom
Progress (1): 2.7/4.9 kB
Progress (1): 4.9 kB

Downloaded from central: https://repo.maven.apache.org/maven2/io/cucumber/messages/13.2.1/messages-13.2.1.pom (4.9 kB at 21 kB/s)
[INFO] --- maven-clean-plugin:2.5:clean (default-clean) @ Assignment1 ---
[INFO] Deleting C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\target
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Assignment1 ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\src\main\resources
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Assignment1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding Cp1252, i.e. build is platform dependent!
[INFO] Compiling 5 source files to
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\target\classes
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Assignment1 ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
```



```
localhost:8080/job/Project2/175/console

Jenkins > Project2 > #175

[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Assignment1 ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Assignment1 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Assignment1 ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ Assignment1 ---
[INFO] Changes detected - recompiling the module!
[WARNING] File encoding has not been set, using platform encoding Cp1252, i.e. build is platform dependent!
[INFO] Compiling 2 source files to
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\target\test-classes
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Assignment1 ---
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Assignment1 ---
[INFO] Building jar: C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\target\Assignment1-0.0.1-SNAPSHOT.jar
[INFO]
[INFO] --- maven-resources-plugin:2.6:resources (default-resources) @ Assignment1 ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Assignment1 ---
[INFO] Nothing to compile - all classes are up to date
```

```
localhost:8080/job/Project2/175/console

Jenkins > Project2 > #175

[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\src\main\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:compile (default-compile) @ Assignment1 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-resources-plugin:2.6:testResources (default-testResources) @ Assignment1 ---
[WARNING] Using platform encoding (Cp1252 actually) to copy filtered resources, i.e. build is platform dependent!
[INFO] skip non existing resourceDirectory
C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\src\test\resources
[INFO]
[INFO] --- maven-compiler-plugin:3.8.0:testCompile (default-testCompile) @ Assignment1 ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- maven-surefire-plugin:2.12.4:test (default-test) @ Assignment1 ---
[INFO] Skipping execution of surefire because it has already been run for this configuration
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Assignment1 ---
[INFO]
[INFO] --- maven-install-plugin:2.4:install (default-install) @ Assignment1 ---
[INFO] Installing C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\target\Assignment1-0.0.1-SNAPSHOT.jar to C:\WINDOWS\system32\config\systemprofile\.m2\repository\Apartment_Search_App\Assignment1\0.0.1-SNAPSHOT\Assignment1-0.0.1-SNAPSHOT.jar
[INFO] Installing C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\pom.xml to C:\WINDOWS\system32\config\systemprofile\.m2\repository\Apartment_Search_App\Assignment1\0.0.1-SNAPSHOT\Assignment1-0.0.1-SNAPSHOT.pom
[INFO]
[INFO] -----< Apartment_Search_App:Assignment1 >-----
[INFO] Building Assignment1 0.0.1-SNAPSHOT
[INFO] -----[ jar ]-----
[INFO]
[INFO] --- maven-jar-plugin:2.4:jar (default-jar) @ Assignment1 ---
```



localhost:8080/job/Project2/175/console

Jenkins > Project2 > #175

```
[INFO] Java Main Files AST scan (done) | time=4040ms
[INFO] Java Test Files AST scan
[INFO] 2 source files to be analyzed
[INFO] Java Test Files AST scan (done) | time=348ms
[INFO] 2/2 source files have been analyzed
[INFO] Java Generated Files AST scan
[INFO] 0 source files to be analyzed
[INFO] Java Generated Files AST scan (done) | time=1ms
[INFO] 0/0 source files have been analyzed
[INFO] Sensor JavaSquidSensor [java] (done) | time=5291ms
[INFO] Sensor CSS Rules [cssfamily]
[INFO] No CSS, PHP, HTML or VueJS files are found in the project. CSS analysis is skipped.
[INFO] Sensor CSS Rules [cssfamily] (done) | time=1ms
[INFO] Sensor JaCoCo XML Report Importer [jacoco]
[INFO] 'sonar.coverage.jacoco.xmlReportPaths' is not defined. Using default locations:
target/site/jacoco/jacoco.xml,target/site/jacoco-it/jacoco.xml,build/reports/jacoco/test/jacocoTestReport.xml
[INFO] No report imported, no coverage information will be imported by JaCoCo XML Report Importer
[INFO] Sensor JaCoCo XML Report Importer [jacoco] (done) | time=5ms
[INFO] Sensor C# Properties [csharp]
[INFO] Sensor C# Properties [csharp] (done) | time=1ms
[INFO] Sensor SurefireSensor [java]
[INFO] parsing [C:\Windows\System32\config\systemprofile\AppData\Local\Jenkins\.jenkins\workspace\Project2\target\surefire-reports]
[INFO] Sensor SurefireSensor [java] (done) | time=2ms
[INFO] Sensor JavaXmlSensor [java]
[INFO] 1 source files to be analyzed
[INFO] Sensor JavaXmlSensor [java] (done) | time=462ms
[INFO] 1/1 source files have been analyzed
[INFO] Sensor HTML [web]
[INFO] Sensor HTML [web] (done) | time=6ms
[INFO] Sensor XML Sensor [xml]
[INFO] 1 source files to be analyzed
[INFO] Sensor XML Sensor [xml] (done) | time=237ms
[INFO] 1/1 source files have been analyzed
```

```
[INFO] 1 source files to be analyzed
[INFO] Sensor XML Sensor [xml] (done) | time=237ms
[INFO] 1/1 source files have been analyzed
[INFO] Sensor VB.NET Properties [vbnet]
[INFO] Sensor VB.NET Properties [vbnet] (done) | time=1ms
[INFO] ----- Run sensors on project
[INFO] Sensor Zero Coverage Sensor
[INFO] Sensor Zero Coverage Sensor (done) | time=19ms
[INFO] Sensor Java CPD Block Indexer
[INFO] Sensor Java CPD Block Indexer (done) | time=41ms
[INFO] SCM Publisher SCM provider for this project is: git
[INFO] SCM Publisher 1 source file to be analyzed
[INFO] SCM Publisher 1/1 source file have been analyzed (done) | time=840ms
[INFO] CPD Executor 1 file had no CPD blocks
[INFO] CPD Executor Calculating CPD for 4 files
[INFO] CPD Executor CPD calculation finished (done) | time=14ms
[INFO] Analysis report generated in 119ms, dir size=138 KB
[INFO] Analysis report compressed in 602ms, zip size=33 KB
[INFO] Analysis report uploaded in 231ms
[INFO] ANALYSIS SUCCESSFUL, you can browse http://localhost:9000/dashboard?id=Apartment\_Search\_App%3AAssignment1
[INFO] Note that you will be able to access the updated dashboard once the server has processed the submitted analysis report
[INFO] More about the report processing at http://localhost:9000/api/ce/task?id=AXXm51SSIwZq20bgwRa
[INFO] Analysis total time: 14.516 s
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 40.262 s
[INFO] Finished at: 2020-11-20T20:24:16+02:00
[INFO] -----
Finished: SUCCESS
```

9:27 PM 11/20/2020

## 6-Senario 13

After the refactoring, we implement the Scenario 13 in different class also we use the mocking for it:

```
1 package test;
2 import java.util.logging.Level;
3
4
5
6
7 public class Senario13 {
8     private Senario13() {
9         //system.out
10     }
11
12     private static EmailService emailService;
13     public static EmailService getEmailService() {
14         return emailService;
15     }
16
17     public static void setEmailService(EmailService emailService) {
18         Senario13.emailService = emailService;
19     }
20
21     static Logger Logger = Logger.getLogger(Senario13.class.getName());
22     static List<Home> finalresult = new ArrayList<Home>();
23     static List<ArrayList<Home>> matchLists;
24     static ArrayList<Home> matchHomes = new ArrayList<Home>();
25
26     public static List<Home> senario(List<ArrayList<Home>> matchLists) {
27         Senario13.matchLists=matchLists;
28
29         for (ArrayList<Home> u : matchLists) {
30             for (int i = 0; i < u.size(); i++) {
31                 Home k = u.get(i);
32                 matchHomes.add(k);
33             }
34
35             int count = 0;
36             for (int i = 0; i < matchHomes.size(); i++) {
37                 count = 0;
38                 Home k = matchHomes.get(i);
39                 for (int f = 0; f < matchHomes.size(); f++) {
40                     if (k.equals(matchHomes.get(f))) {
41                         count++;
42                     }
43                 }
44                 if (count == matchLists.size() && !finalresult.contains(k))
45                     finalresult.add(k);
46             }
47
48             Logger.info("list of houses");
49             for (Home h : finalresult) {
50                 String str = (h.toString());
51                 logger.log(Level.SEVERE, str);
52             }
53             getEmailService().sendEmail("nabeelkayed.9b.23@gmail.com", "By Several Things", finalresult);
54             return finalresult;
55         }
56     }
57 }
```