



Test Automation Made Easy

USER MANUAL OF WEB IDE

**Accelerate, Improve and Plan success with an economical
code**

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INTRODUCTION

A **web integrated development environment** (Web IDE), also known as an Online IDE or Cloud IDE, is a browser-based IDE. **Web testing** is software testing that focuses on web applications. Complete testing of a web-based system before going live can help address issues before the system is revealed to the public.

Issues may include the security of the web application, the basic functionality of the site, its accessibility to handicapped users and fully able users, its ability to adapt to the multitude of desktops, devices, and operating systems, as well as readiness for expected traffic and number of users and the ability to survive a massive spike in user traffic, both of which are related to load testing.

PRE-REQUISITE

1. Knowledge of [XPath](#)
2. Basics of [Testing concepts](#)
3. Access to Nimbal Web IDE i.e., its URL, such as nimbal-webide.getskills.co.nz
4. Before cloning the repository on Web IDE, get ready with the following steps.
 - Create Bitbucket account
 - Clone Repository on Bitbucket
 - Create an App password for your bitbucket account
5. Install 7-Zip
6. Your browser should have the following programs installed
 - a. [Selector Hub](#) : it is a helper browser extension, which gives us prebuilt XPath.
 - b. [ChroPath](#): it is an alternative extension for XPath.

A. Clone the Repository on WEB IDE

Copy the URL cloned from Bitbucket. This URL is used to clone the project in Web IDE.

1. Go to the Web IDE link provided to you through an email and open it in web browser.

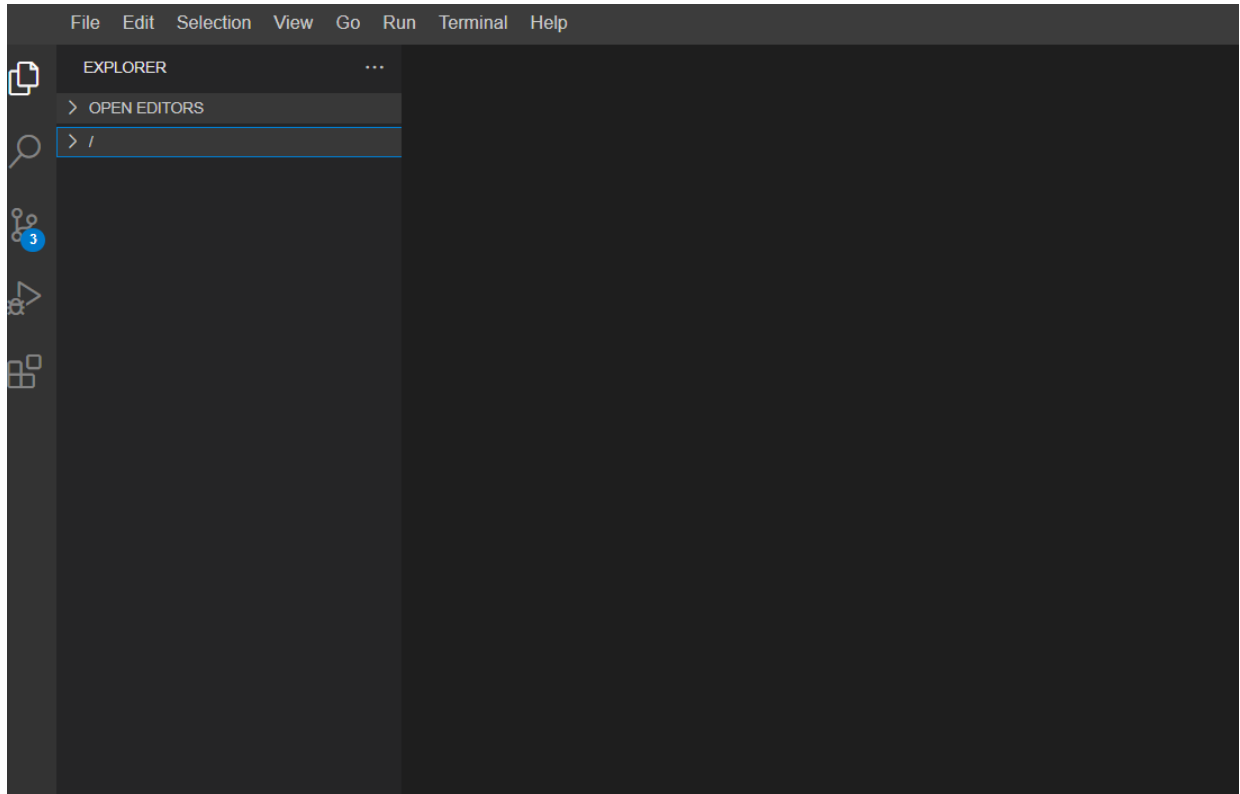


Figure 1: Open web IDE link on web browser

2. Click on Terminal, type below command to change directory from **/home/project** to **/home**.
\$cd ..

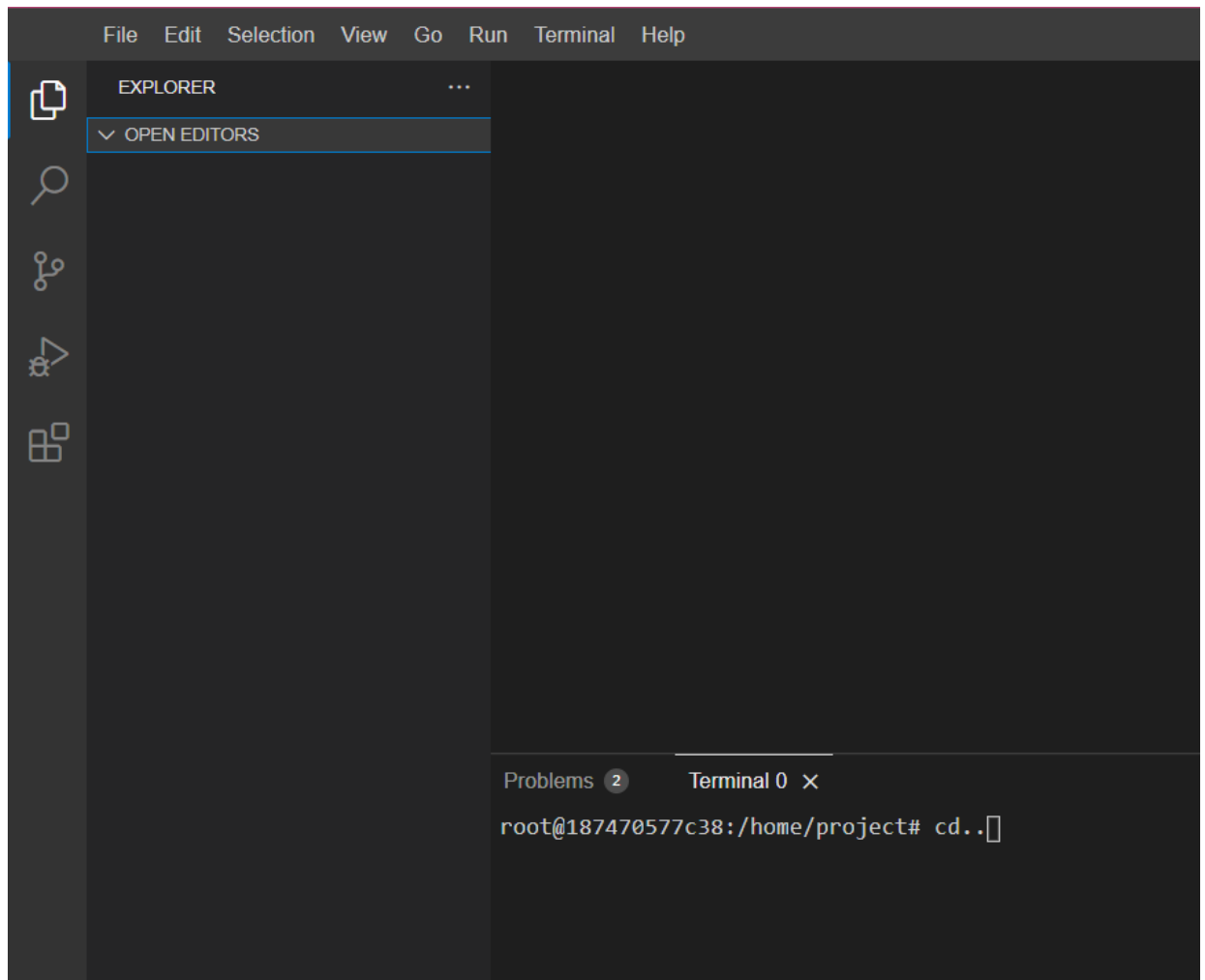


Figure 2: home directory

3. Copy the clone command from bitbucket and enter in terminal as shown below (screenshot)

\$ git clone <https://bitbucket.org/nimbal/nimbal-client-auto.git>.

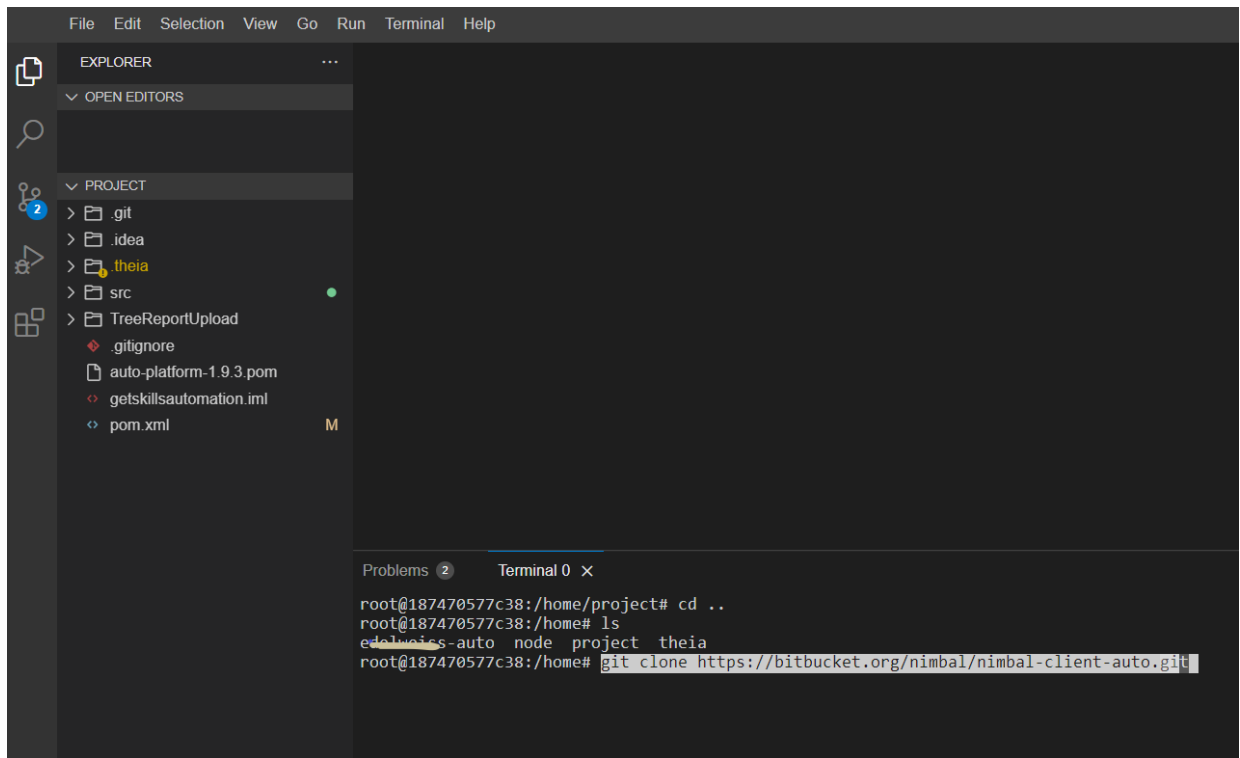


Figure 3: creating clone repository

4. Enter the App Password to clone the Repository in local. (Create an App password for your bitbucket account).

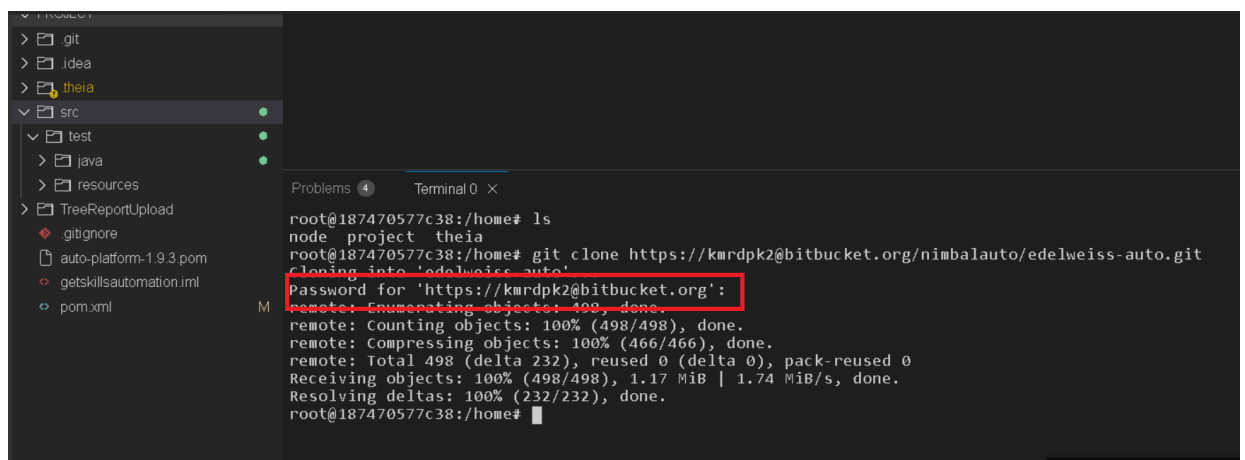


Figure 4: App Password to clone repository

5. Run the command in the terminal to see the list where the project is created

```
$ ls
```

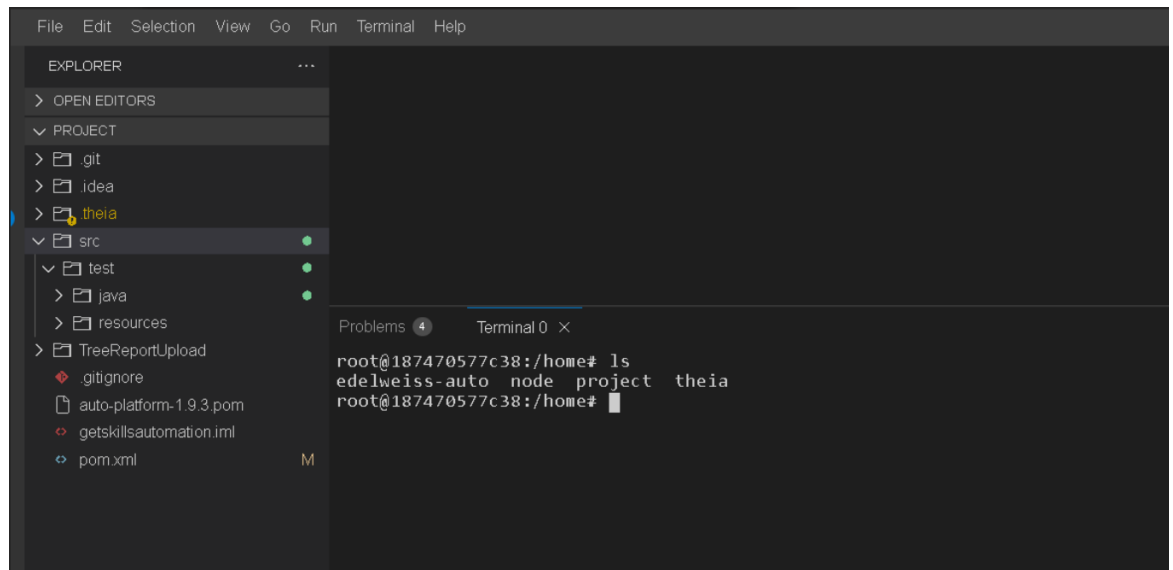


Figure 5: Listing the project

After following the above steps, a project is created.

6. Check if the dependencies being created under **M2** Folder.
 - a. Navigate to your cloned folder by clicking on **File >> Open Workspace**, then choose the project name which you have just cloned as shown below

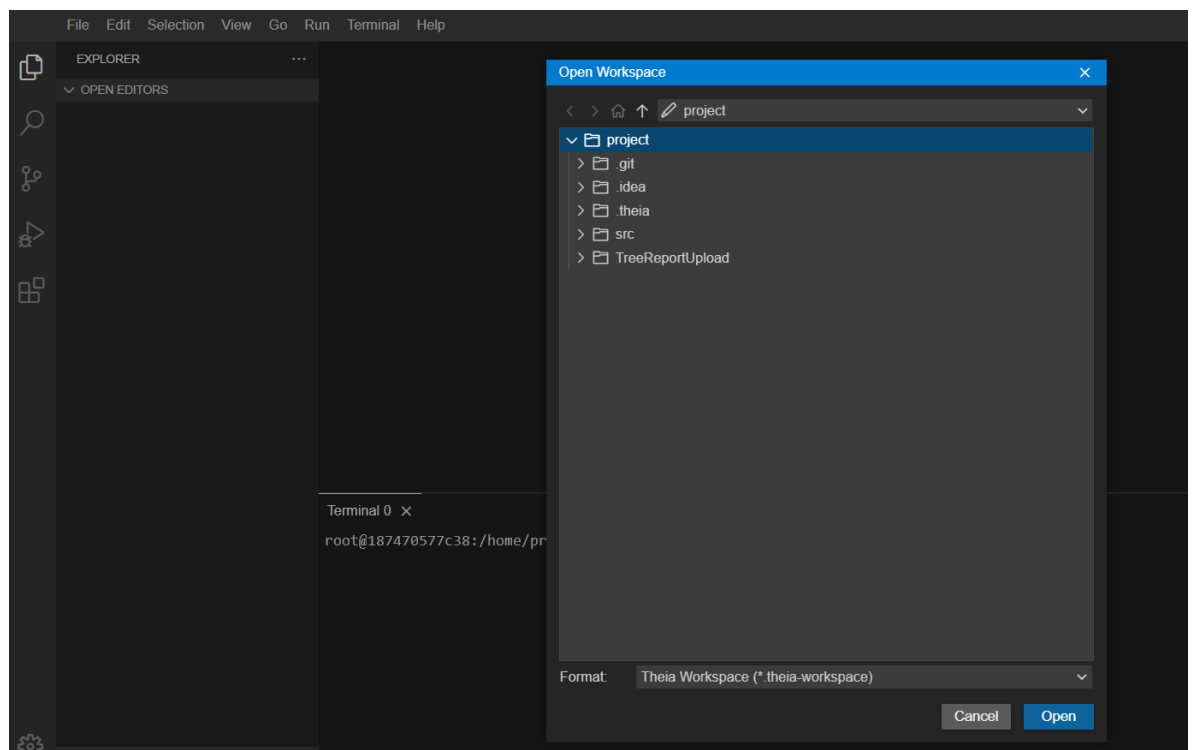


Figure 6: Open Workspace

- b. Go to M2 under root directory to see if Maven Dependencies are available.

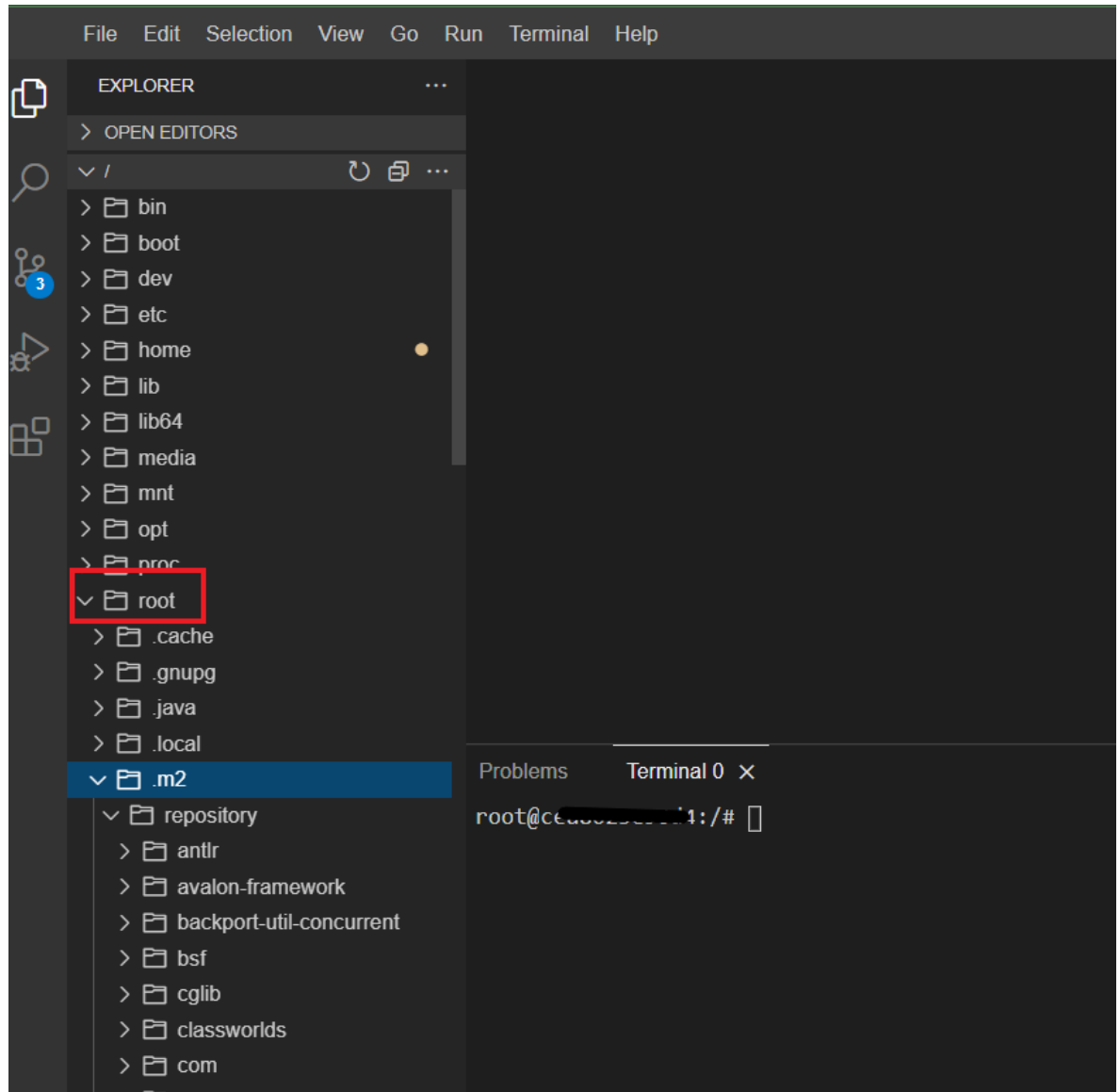


Figure 7: Look for Maven dependencies

- c. Select the path `/home/client-auto/`, run the Command shown below to this install the dependencies related to Maven, Apache etc

```
$ mvn install
```

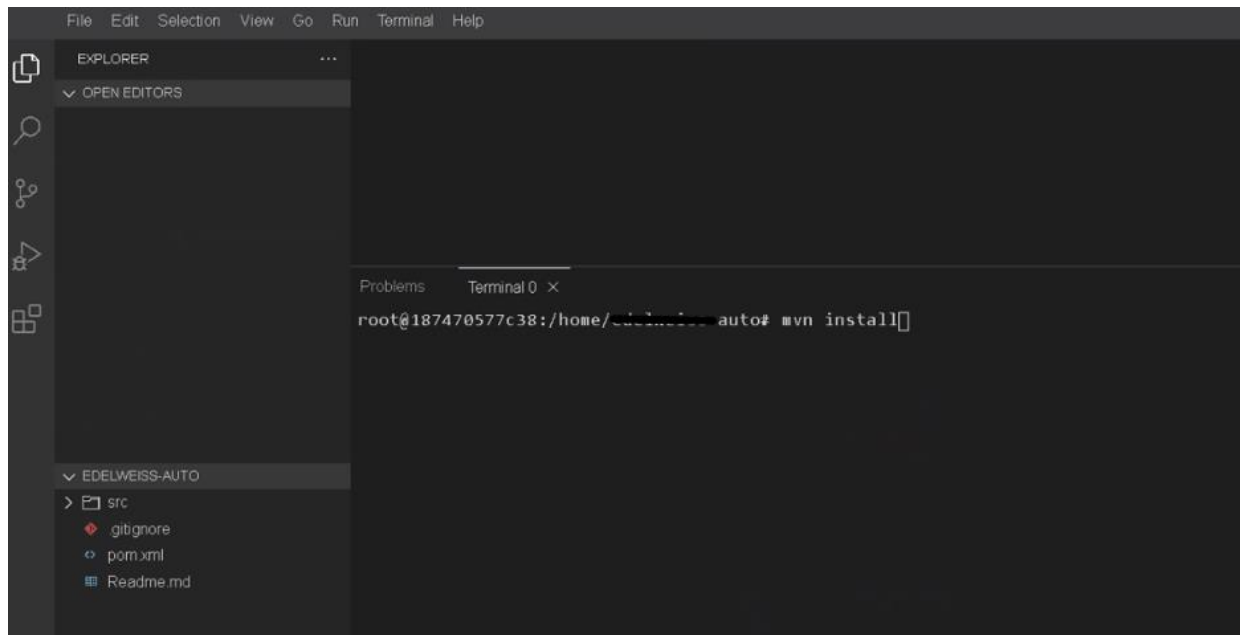



Figure 8: Running Command to install Dependencies

- d. Notice new files are created under **M2** folders which means dependencies has been installed.
7. Install the Cucumber Plugin for **steps** Intellisense.
 - a. Open Web IDE Command Palette using **Ctrl + Shift + P**. You will see input box popup up as shown below



Figure 9: Open Command Palette

- b. Type "**Plugin: Deploy**" as shown below in screenshot

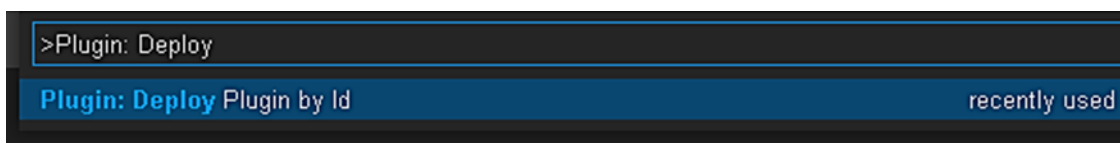


Figure 10: Search Plugin Deploy

- c. Press **Enter**, and you will see input box as shown below in screenshot



Figure 11: Select Plugin ID

- d. Enter below URL in input box and press enter again as shown below in screenshot.

[https://raw.githubusercontent.com/nkshschdv/vsix/master/alexkrechik.cucumberautocomplete-2.15.1%20\(1\).vsix](https://raw.githubusercontent.com/nkshschdv/vsix/master/alexkrechik.cucumberautocomplete-2.15.1%20(1).vsix)

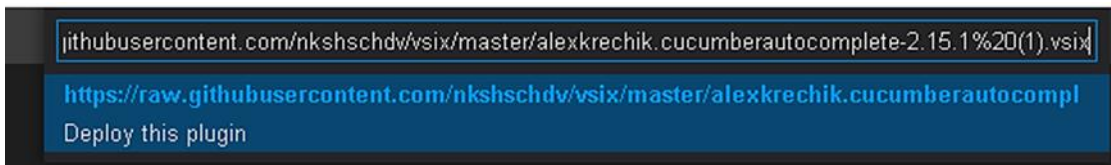


Figure 12: paste URL to deploy

- e. You will see a plugin is installed in Plugin section as shown below in screenshot

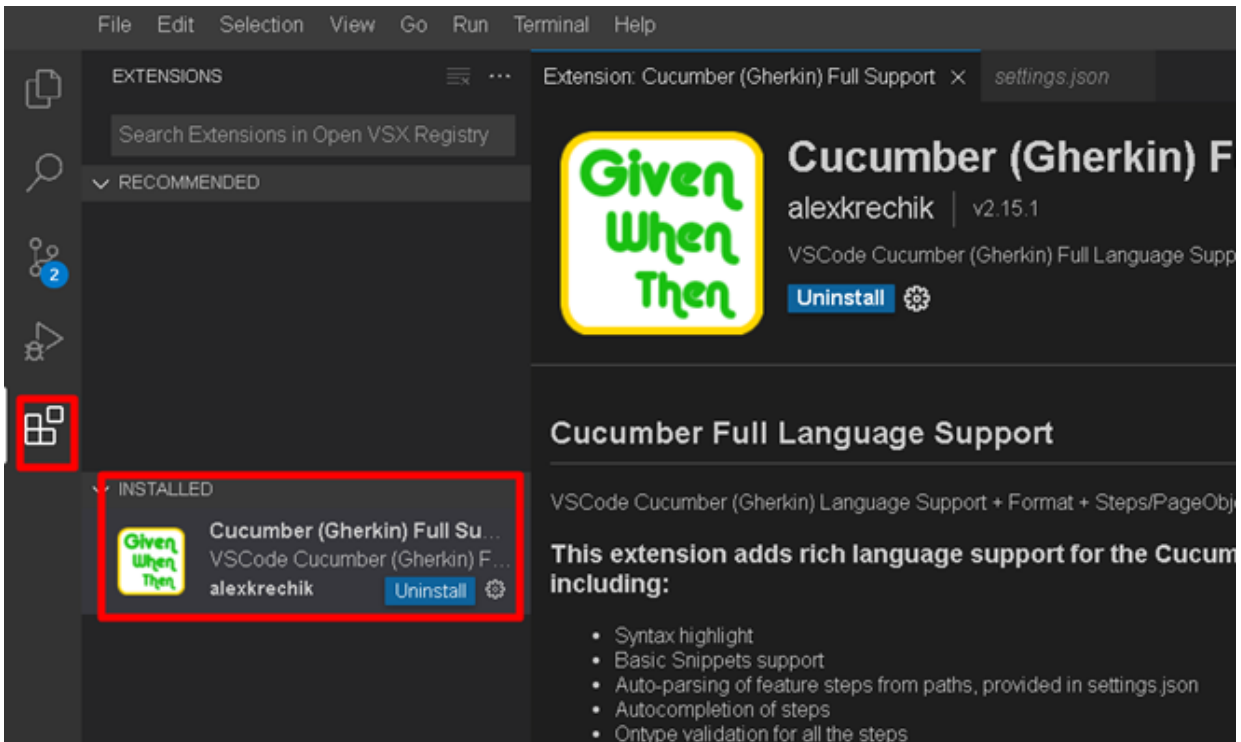


Figure 13: Cucumber Plugin Installed

8. Check if the **auto-platform.jar** file is available. (If not, please contact Nimbal team). Follow the steps to install the auto-platform.jar with version.
 - a. Go to **pom.xml** >> copy the version.

```
<dependencies>
  <dependency>
    <groupId>nz.co.nimbal</groupId>
    <artifactId>auto-platform</artifactId>
    <version>1.9.4</version>
    <type>test-jar</type>
    <scope>test</scope>
  </dependency>
  <dependency>
    <groupId>com.codahenne</groupId>
```

Figure 14: Copy the auto-platform version 1.9.4

- b. Run the command
\$ mvn install:install-file -Dfile=mvn install:install-file -Dfile='/home/project/src/test/resources/1.9.3/auto-platform-1.9.3-tests.jar' -DgroupId='nz.co.nimbal' -DartifactId='auto-platform' -Dversion='1.9.3' -Dpackaging='test-jar'

*Note: You can also find this command in **Readme***

- c. Run the command to delete the Target folder created from running **mvn install** for changing the version for auto-platform jar file as shown above.
\$ mvn clear

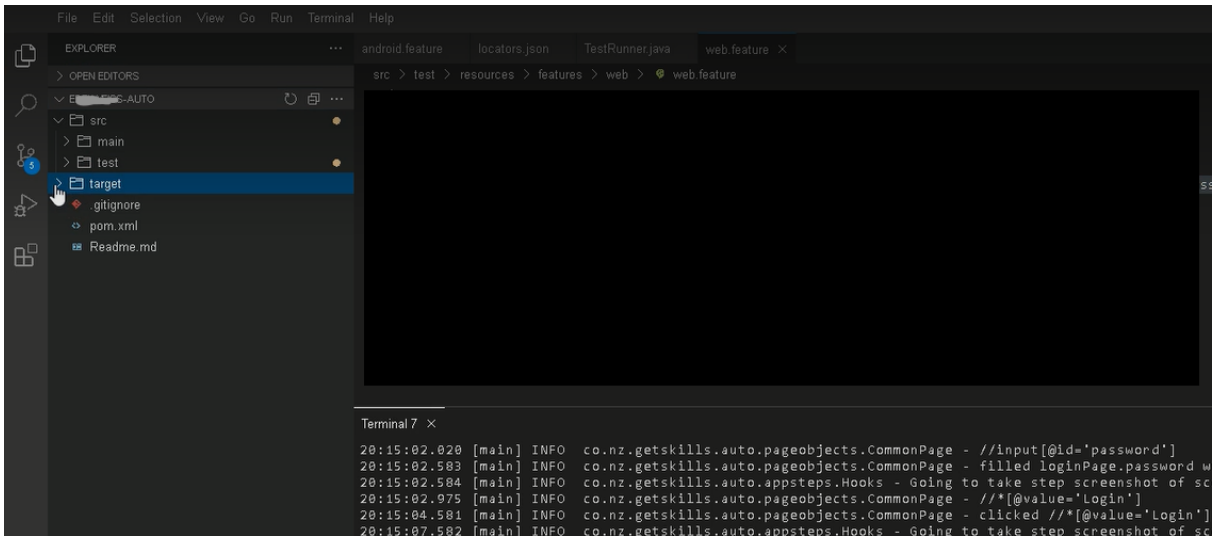


Figure 15: Delete Target Folder

B. CODES AND TEST CASES

In WEB IDE testing, user create/update 4 major files to automate testing. The files are mentioned below:

1. **config.dev.properties**
2. **.feature File.**
3. **locators.json**
4. **TestRunner.java**

1. **config.dev.properties** : **properties** file is used to store the configurable parameters of an application. Config file defines the parameters, options, settings and preferences applied to operating systems (OSes), infrastructure devices and applications used to run the test.

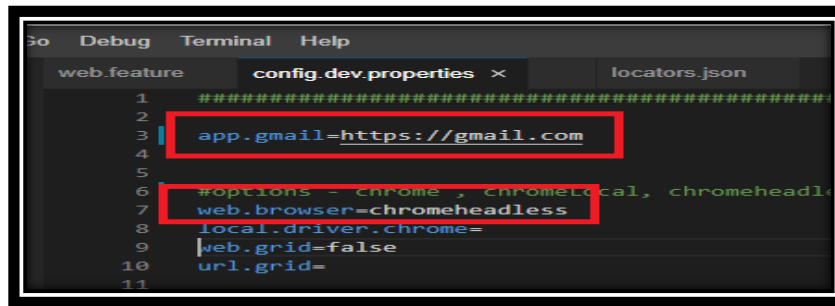
Located at **/home/project/src/test/resources/env/config.dev.properties**. Add the following values as shown below in Figure 4

- a. **app.gmail = gmail.com**

instead of gmail, you can replace it with any constant value of your concern. For example, **app.website = www.website.com**

- b. **web.browser=chromeheadless**

Specified which browser to the user for running the test. other values possible are firefox



```
1 #####
2
3 app.gmail=https://gmail.com
4
5
6 #options = chrome , chromelocal, chromeheadless
7 web.browser=chromeheadless
8 local.driver.chrome=
9 web.grid=false
10 url.grid=
11
```

Figure 16: config.dev.properties

2. locators.json

Located at `/home/project/src/test/resources/locators.json` . This file is used to add XPath key pair values, while key will be user understandable keyword and value will be an XPath, which is used to locate an HTML element within a webpage. For example, XPath for inputting email id in gmail.com page will be `//input[@id='identifierId']` as shown below in Figure

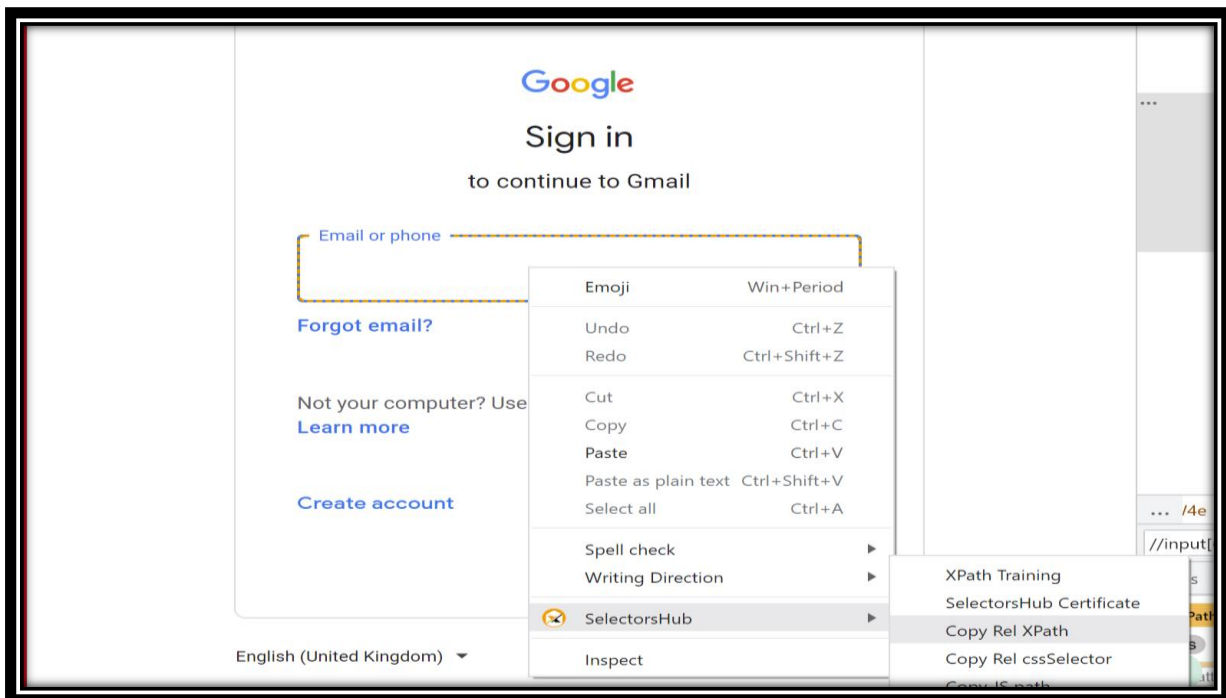


Figure 17: illustrates how to choose the XPath through Selectors Hub

Therefore, the locators.json file will look something like the below after making changes

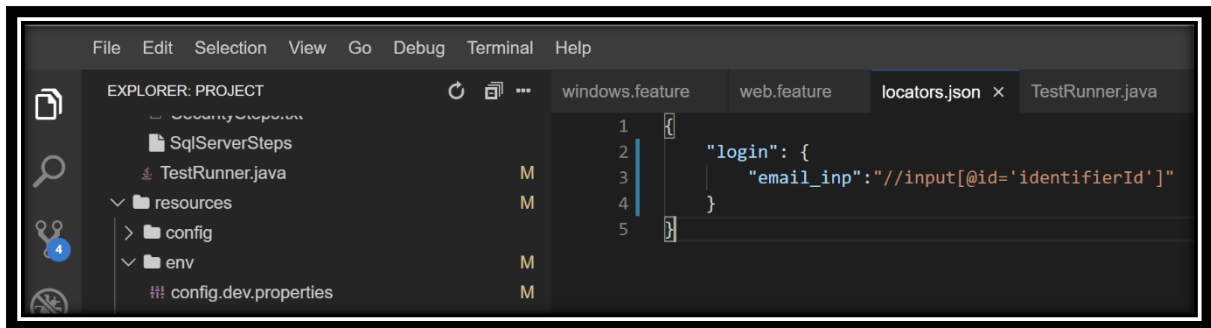


Figure 18: locator.json file after adding XPath for Gmail input location from Gmail.com

3. .feature File

New feature file is created to test the steps in scenarios. Follow the steps below to create a new file.

- a. Click on the file's icon.
- b. Navigate to src > java > feature.
- c. A dialog box will appear and will ask for the name of the new file enter any name for example, login.feature extension

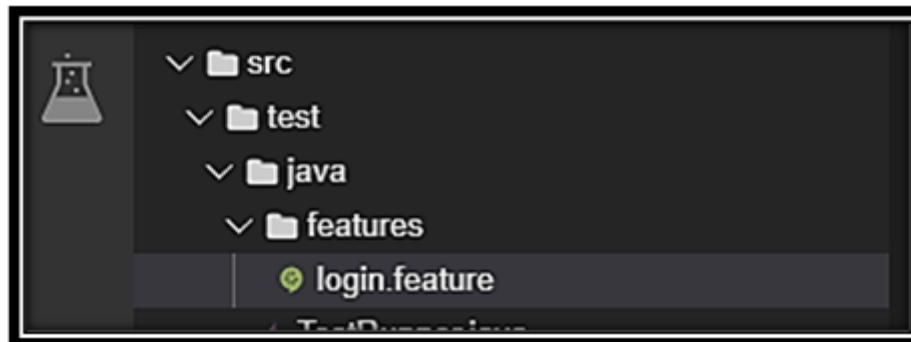


Figure 19: Path to the file

- d. login.feature for login related feature test scenarios as shown in the below screenshot

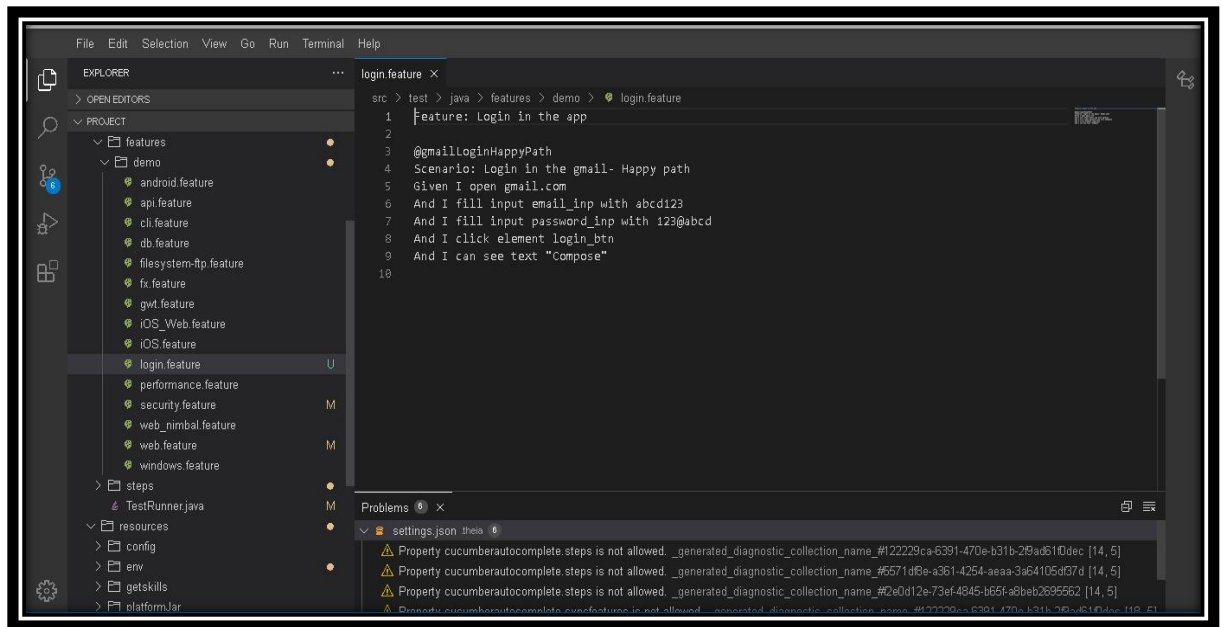


Figure 20: feature file with test Cases for login

4. TestRunner.java:

TestRunner.java file is located at `/home/project/src/test/java/TestRunner.java`. This file indicates which tests need to be run using tags. A tag can be placed on a scenario/test or a feature in a .feature file. It usually starts “@” keyword.

For example,

- a. Figure 6 depicts the functioning of the **TestRunner.java** file and the tag provided in the tags section written at line number 14 as

```
tags={"@gmailLoginNegativePath"}
```

Later we will replace this tag to run the tests we want to execute.

- b. If tags are empty then the TestRunner.java file will run all the feature files present in the project as shown below

```
tags={" "}
```

```

1  import cucumber.api.CucumberOptions;
2  import cucumber.api.junit.Cucumber;
3  import org.junit.AfterClass;
4  import org.junit.runner.RunWith;
5
6  @RunWith(Cucumber.class)
7  @CucumberOptions(
8      features = {"src/"},
9      glue = {"co.nz.getskills.auto.appsteps"},
10     dryRun = false,
11     plugin = { "json:target/json-cucumber-reports/cukejson.json",
12              "junit:target/junit-cucumber-reports/cukejunit.xml",
13              "html:target/junit-cucumber-reports/cukejunit.html"},
14     tags = {"@gmailloginNegativePath"}
15 )
16
17 public class TestRunner
18 {
19     @AfterClass
20     public static void tearDown()
21     {
22
23     }

```

Figure 21: TestRunner.java file

C. Run Test Case in WEB IDE

Follow the steps involved in running the test cases:

In the terminal, enter **mvn install** command and it will show the results in the terminal.

```

1  import cucumber.api.CucumberOptions;
2  import cucumber.api.junit.Cucumber;
3  import org.junit.AfterClass;
4  import org.junit.runner.RunWith;
5
6  @RunWith(Cucumber.class)
7  @CucumberOptions(
8      features = {"src/"},
9      glue = {"co.nz.getskills.auto.appsteps"},
10     dryRun = false,
11     plugin = { "json:target/json-cucumber-reports/cukejson.json",
12              "junit:target/junit-cucumber-reports/cukejunit.xml",
13              "html:target/junit-cucumber-reports/cukejunit.html"},
14     tags = {"@gmaillogin"}
15 )
16
17
18 public class TestRunner

```

Terminal 0 x

```

root@ip-10-121-85-83:/home/project# mvn install

```

Figure 22: TestRunner.java

Run 1: Running Happy Path Scenario

Following is the code is written for the Happy path as shown in code snippet 1. Happy path test is a well-defined test case using known input, which executes without exception and produces an expected output.

```
Feature: Login in the app

@gmailLoginHappyPath
Scenario: Login in the Gmail- Happy path
Given I open gmail.com
And I fill input email_inp with abcd123
And I fill input password_inp with 123@abcd
And I click element login_btn
And I can see the text "Compose"
```

Code Snippet 1: Happy Path for Gmail Login

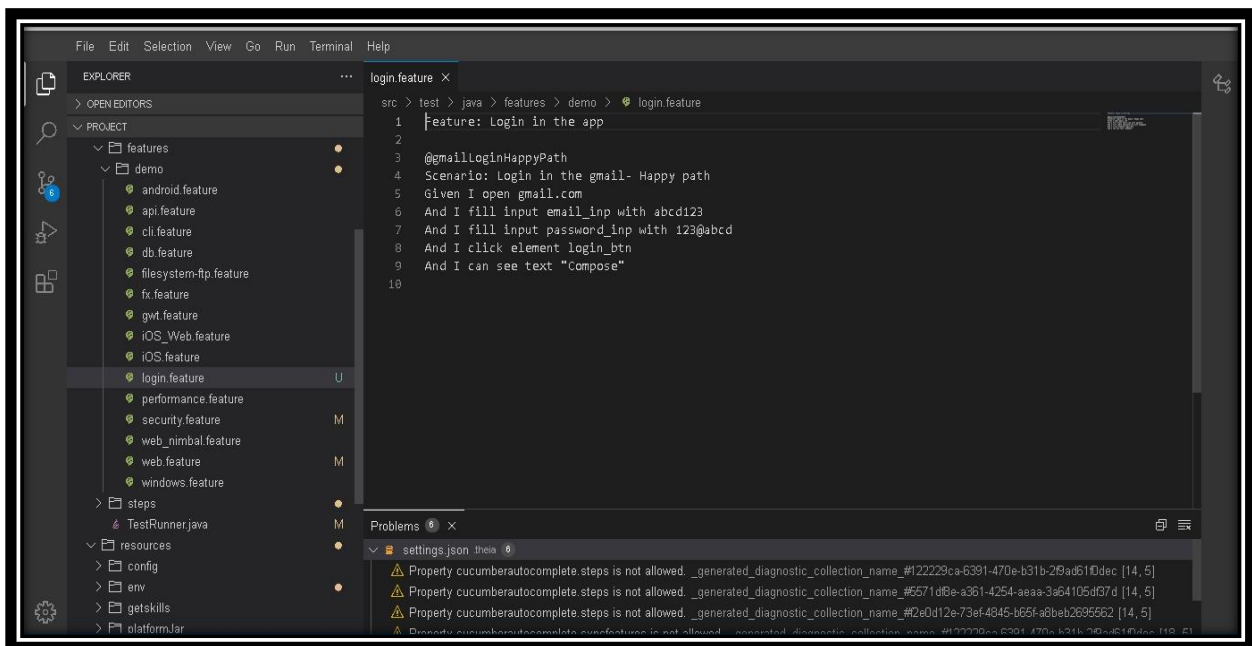


Figure 23: Reference image in Web IDE Happy Path

Explanation of the Code

1. Title of the Feature, always start with Feature Keyword
2. The keyword of the whole case (No need to write the complete code for testing just enter the keyword)
3. Description of the code
4. The user opens the URL gmail.com
5. Then users enter the data as `abcd123` in the email field (fill input is a keyword for giving input)
6. Then users enter the data as `123@abcd` in the password field (fill input is a keyword for giving input)
7. Then by clicking the `login_btn` (Button named Login)
8. User login successful can view the compose button

Run 2: Running Negative Path Scenario

Following is the code is written for the Negative path as shown in code snippet 2. Negative testing ensures that your application can gracefully handle invalid input or unexpected user behaviour.

```
@gmailLoginFeature
Feature: Login in the app

@gmailLoginNegativePath
Scenario: Login in the Gmail- Negative path
Given I open gmail.com
And I fill input email_inp with abcd123
And I fill input password_inp with 123@abcd
And I click element login_btn
And I check the message "Wrong password. Try again or click 'Forgot password' to
reset it."
```

Code Snippet 2: Negative Path for Gmail Login

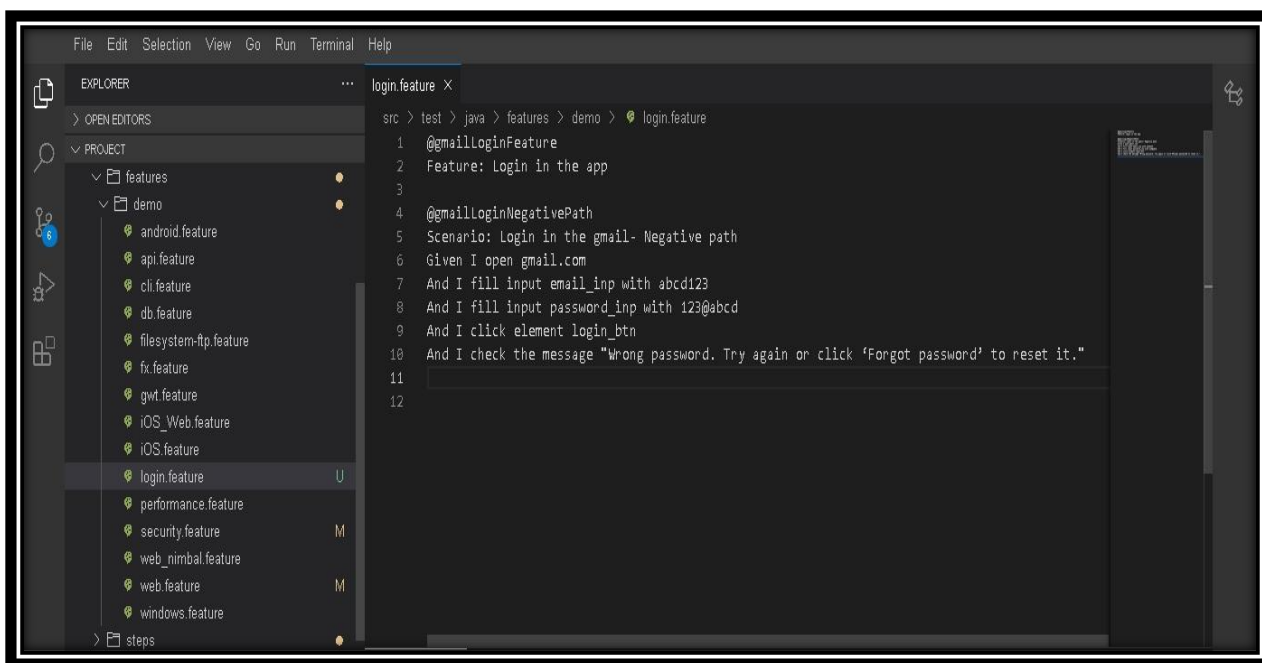


Figure 24: Reference image in Web IDE for Negative path

Explanation of the Code

1. The keyword of the whole case (No need to write the complete code for testing just enter the keyword)
2. Title
3. The keyword of case 2(No need to write the complete code for testing just enter the keyword)
4. Description of the code
5. The user opens the URL gmail.com
6. Then users enter the data as `abcd123` in the email field (fill input is a keyword for giving input)
7. Then users enter the data as `123@abcd` in the password field (fill input is a keyword for giving input)
8. Then by clicking the `login_btn` (Button named Login) User login successful, can view the message "**Wrong password. Try again or click 'Forgot password' to reset it.**"

Run 3: Running the whole feature

Following is the complete code for our feature. Which can be executed by the adding tag **@gmailLoginFeature** in the **TestRunner.java** file.

```
@gmailLoginFeature

Feature: Login in the app

@gmailLoginHappyPath
Scenario: Login in the Gmail- Happy path
Given I open gmail.com
And I fill input email_inp with abcd123
And I fill the input password with 123@abcd
And I click element login_btn
And I can see the text "Compose"

@gmailLoginNegativePath
Scenario: Login in the Gmail- Negative path
Given I open gmail.com
And I fill input email_inp with abcd123
And I fill input password_inp with 123@abcd
And I click element login_btn
And I check the message "Wrong password. Try again or click 'Forgot password' to
reset it."
```

Code Snippet 3: complete feature file code

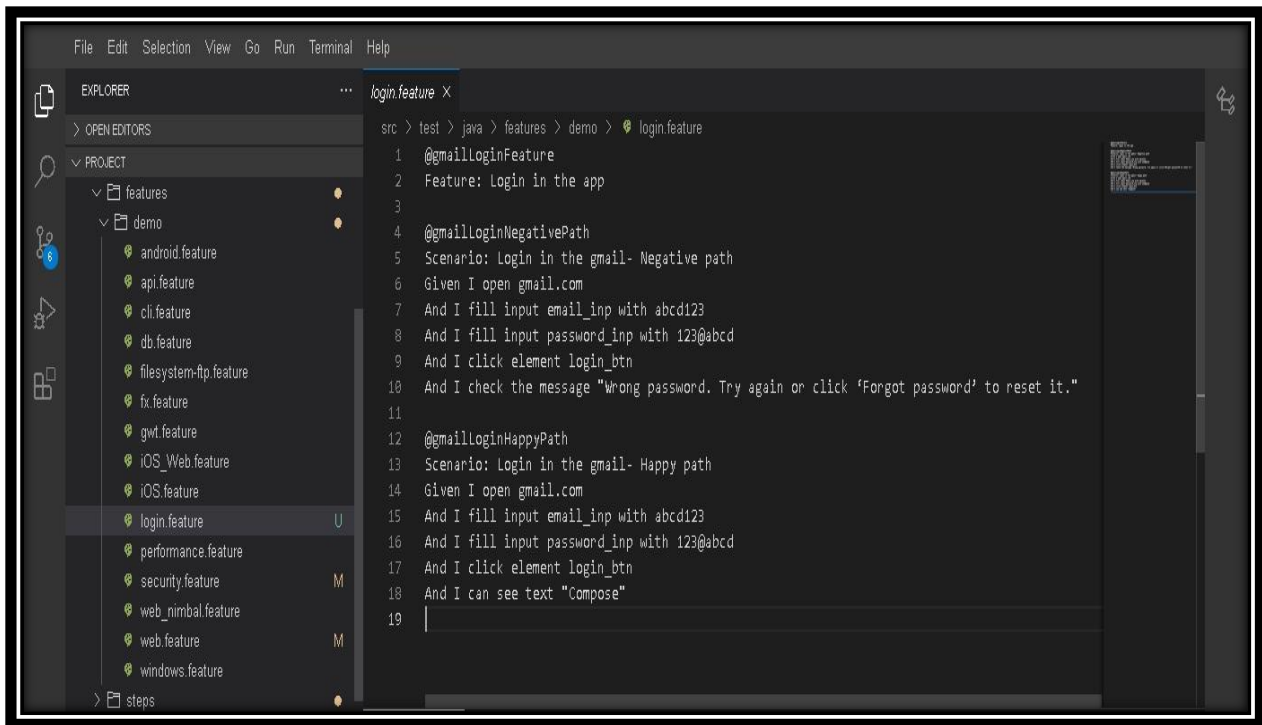


Figure 25: Reference image in Web IDE for complete code

D. RUNNING TEST USING TAGS

There are two components to understand how to run tests (features/scenarios) by tags

1. Tags:

Various tags are used in feature files. We can identify a tag as a group of features or a group of scenarios or a group of both features and tags. Depending on a tester.


For example, in login.feature file above files we have used the following tags

- **@gmailLoginFeature** – To execute complete feature
- **@gmailLoginHappyPath** – To execute the happy path scenario
- **@gmailLoginNegativePath** – To execute the negative path scenario

2. TestRunner.java file:

It is used for running the test with the help of tags. Every feature and scenario have a tag associated with it. We will insert this tag in the TestRunner.java file and run the program to get the desired outcome of the test using reports.

Following is the way to utilize the TestRunner.java file to run the tests.

1. Click on the file's  icon. Navigate to src > java > TestRunner.java

```
TestRunner.java x
1  import cucumber.api.CucumberOptions;
2  import cucumber.api.junit.Cucumber;
3  import org.junit.AfterClass;
4  import org.junit.runner.RunWith;
5
6  @RunWith(Cucumber.class)
7  @CucumberOptions(
8      features = {"src/"},
9      glue = {"co.nz.getskills.auto.appsteps"},
10     dryRun = false,
11     plugin = { "json:target/json-cucumber-reports/cukejson.json",
12               "junit:target/junit-cucumber-reports/cukejunit.xml",
13               "html:target/junit-cucumber-reports/cukejunit.html"},
14     tags = {"@AddYourTagHere"}
15 )
16
17 public class TestRunner
18 {
19     @AfterClass
20     public static void tearDown()
21     {
22     }
23 }
24 }
```

Figure 26: Add the tag

2. In any pre-created tag can be used for the test by taking any Tag from an existing code then writing it in the place of **"@AddYourTagHere"**

For example tags = {"@gmailLoginFeature"}

Here the tag @gmailLoginFeature is used.

```
TestRunner.java ×
1  import cucumber.api.CucumberOptions;
2  import cucumber.api.junit.Cucumber;
3  import org.junit.AfterClass;
4  import org.junit.runner.RunWith;
5
6  @RunWith(Cucumber.class)
7  @CucumberOptions(
8      features = {"src/"},
9      glue = {"co.nz.getskills.auto.appsteps"},
10     dryRun = false,
11     plugin = { "json:target/json-cucumber-reports/cukejson.json",
12               "junit:target/junit-cucumber-reports/cukejunit.xml",
13               "html:target/junit-cucumber-reports/cukejunit.html"},
14     tags = {"@AddYourTagHere"}
15 )
16
17 public class TestRunner
18 {
19     @AfterClass
20     public static void tearDown()
21     {
22     }
23 }
24 }
```

Figure 27: Enter the tag to run the test case

3. Run the command to execute the test case with the specific scenario with tag.
4. Target Folder gets generated where reports are created with passed or failed status.

E. REPORTS

The report is generated each time when the user runs a tag using the maven command or by running right click on the TestRunner.java file.

1. The report generated can be seen under the targets folder that is located at /home/project/target.

- The json reports are found at `/home/project/target/json-cucumber-reports`.

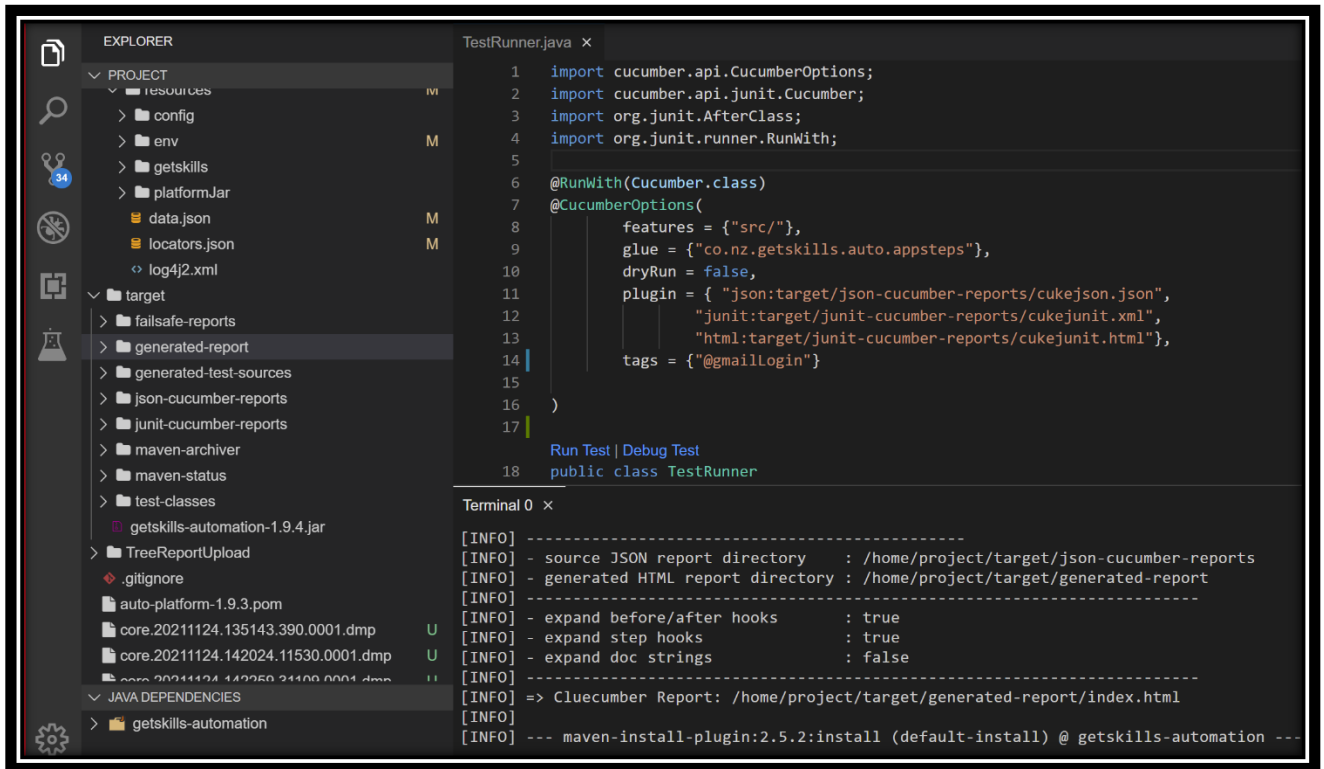


Figure 28: Generated Report -JSON

- The generated HTML report is found at `/home/project/target/generated-report`.
- If any test fails the auto-generated report then render's clarity where it is failing, one can see the captured screenshots at `/home/project/target/generated-report/attachments`

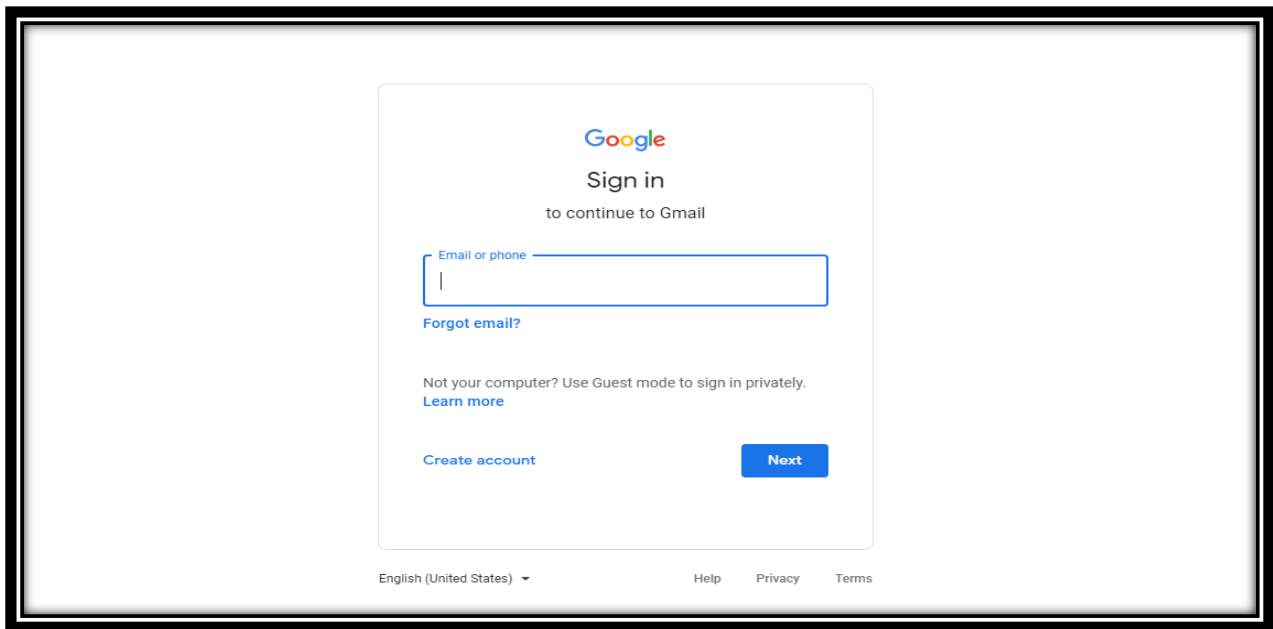


Figure 29: Screenshots in auto-generated report

It shows the page that we are getting on login.

Reviewing Report

To review the reports please follow the following steps:

1. Right-click on target/generated-report as shown below

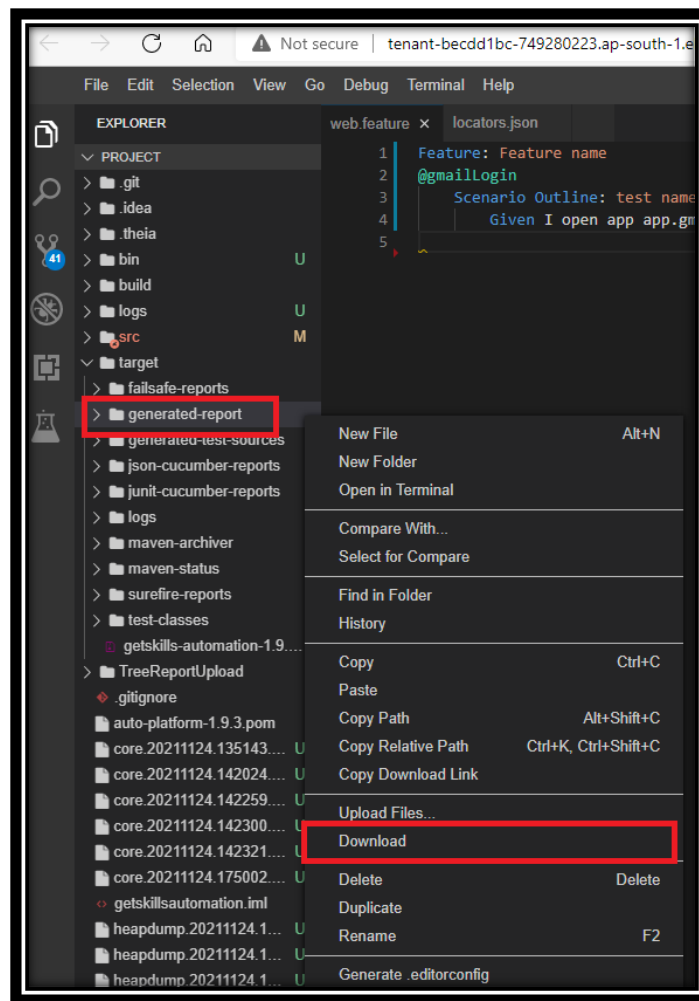


Figure30: Download Auto-generated report

2. Open generated report.tar and Save file and then Click on ok button

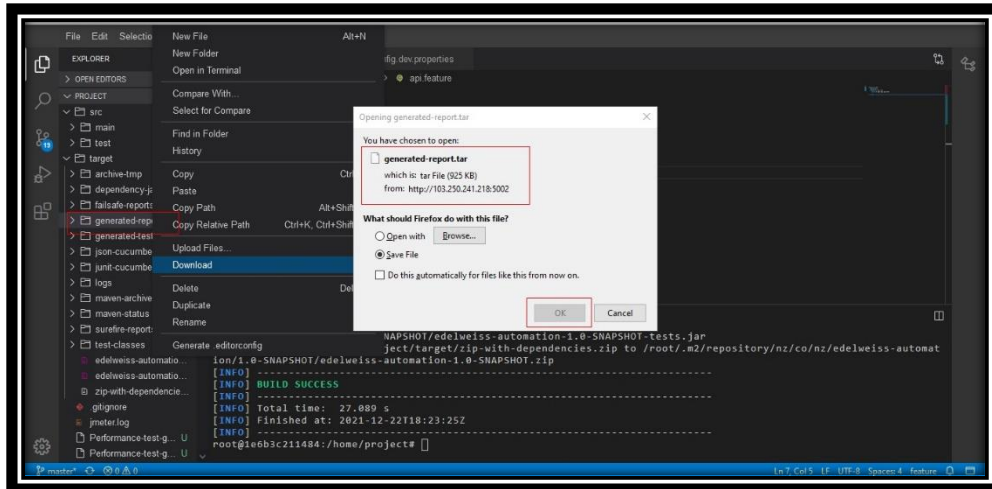


Figure31: Auto-generated report

3. A file will be downloaded as shown below

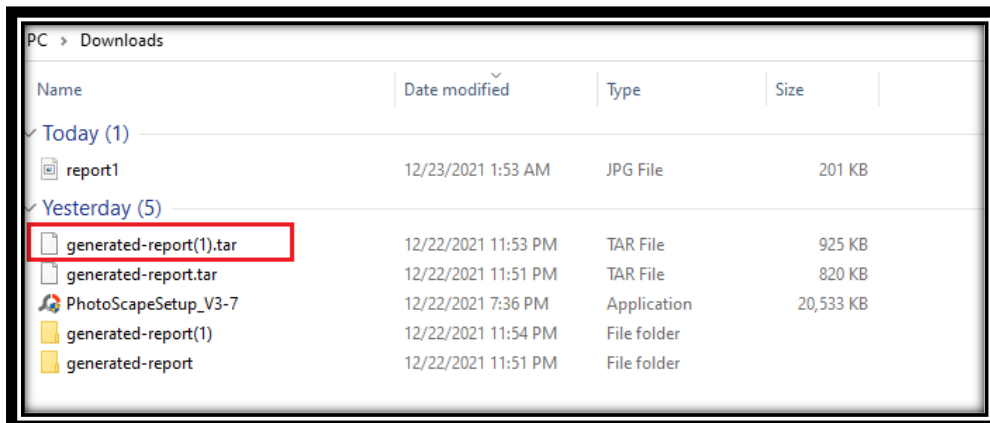


Figure32: Downloaded auto-generated report

4. Extract this file in your folder as shown below

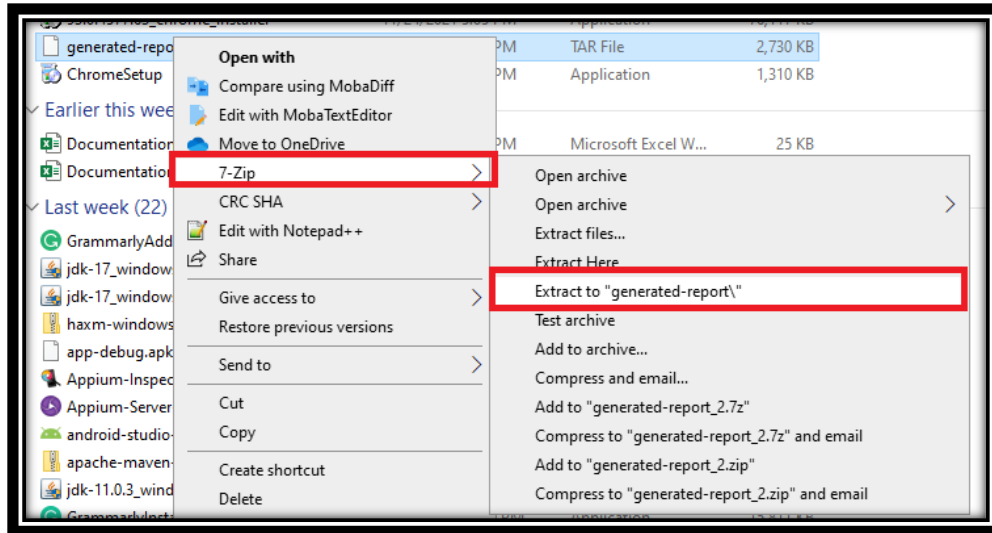


Figure33: Extract to auto-generated report

5. After the extraction, a folder name **generated-report** will appear in the same directory as shown below,

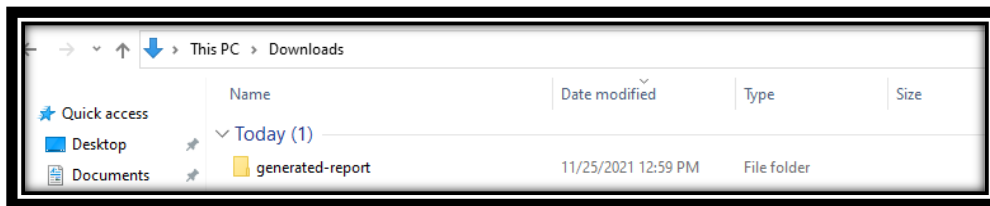


Figure 34: Downloaded file

6. Inside this folder open the index file in the browser to see the report.

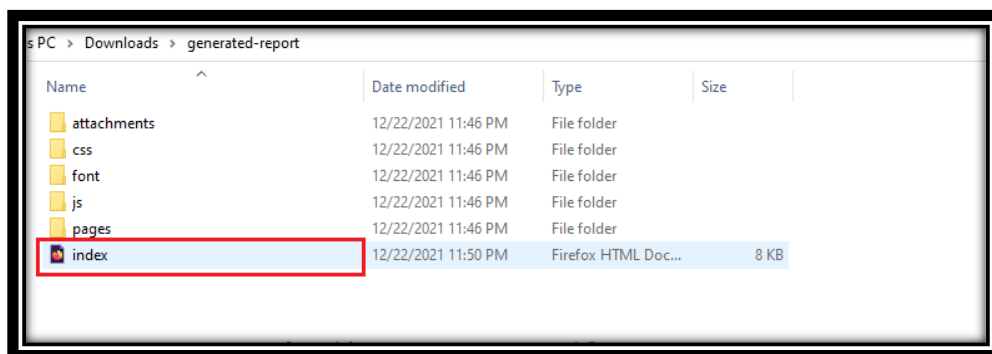


Figure 35: Screenshots in auto-generated report

7. Here is example of the report shown below

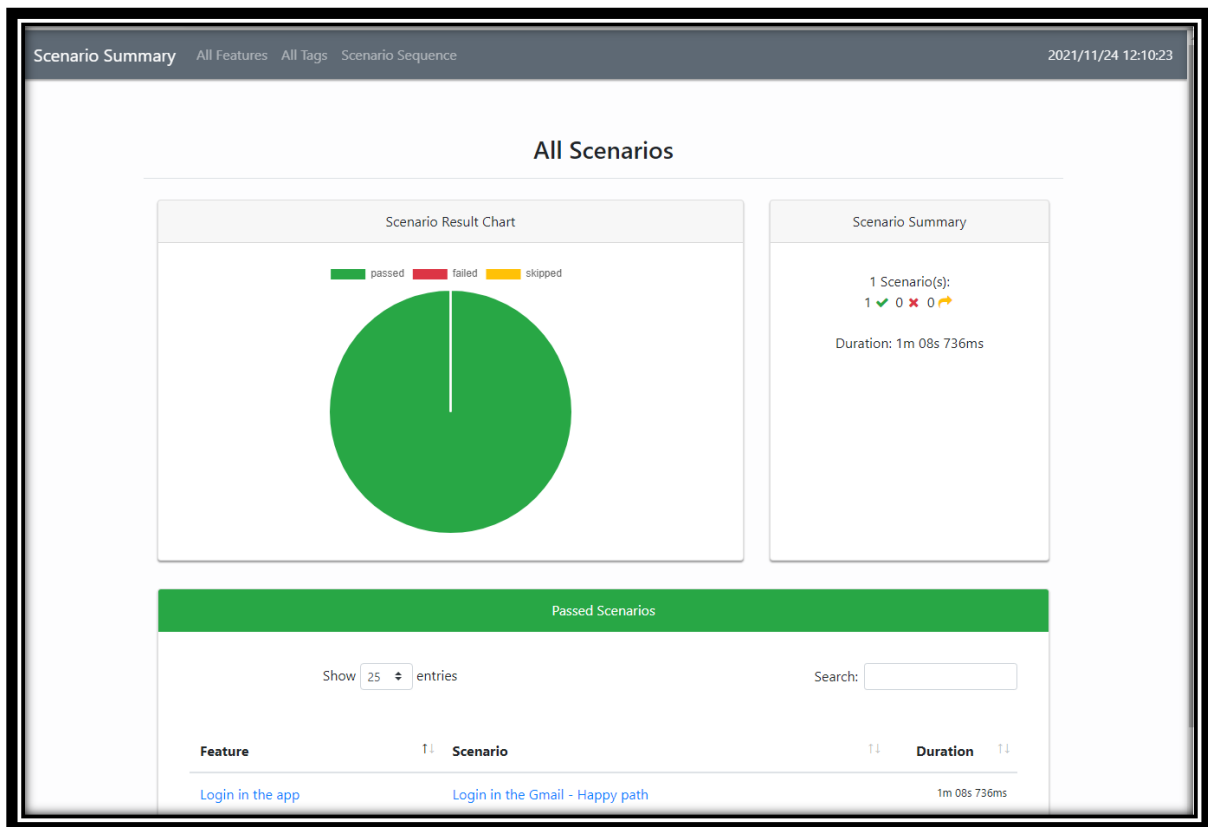


Figure 36: Scenario Report

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www.geeksforgeeks.com