AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Faculty of Science and Technology

Assignment Cover Page

Assignment Title:	Assignment on Selenium		
Assignment No:	01 (Final)	Date of Submission:	6 August 2021
Course Title:	Software Quality and Testing		
Course Code:	00397	Section:	C
Semester:	Summer 2020-21	Course Teacher:	Abhijit Bhowmik

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4			**Choose an item.**	
5			**Choose an item.**	
6			**Choose an item.**	
7			**Choose an item.**	
8			**Choose an item.**	
9			**Choose an item.**	
10			**Choose an item.**	

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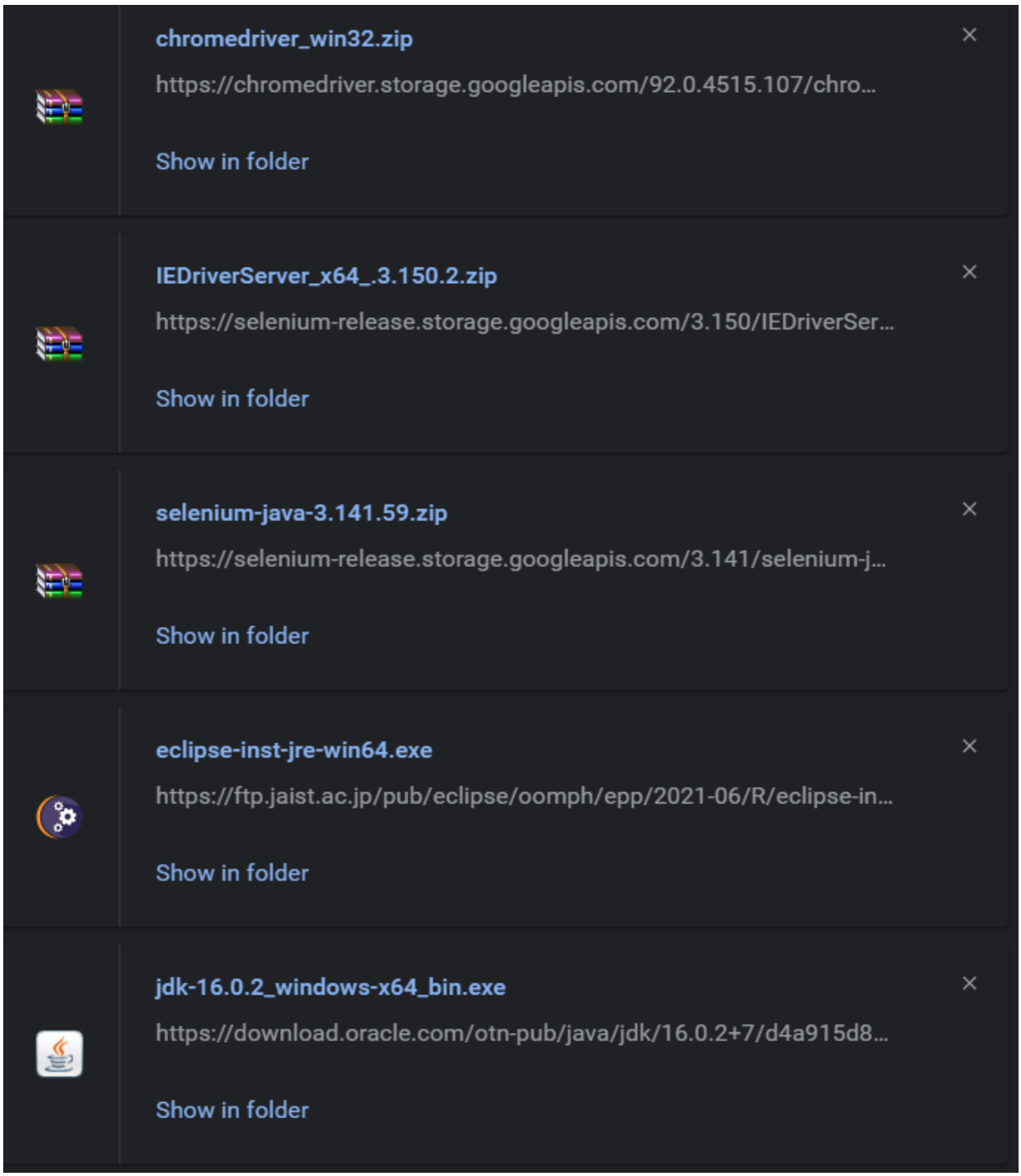
	Total Marks	

1. Put all screenshots of your computer during installing Selenium.

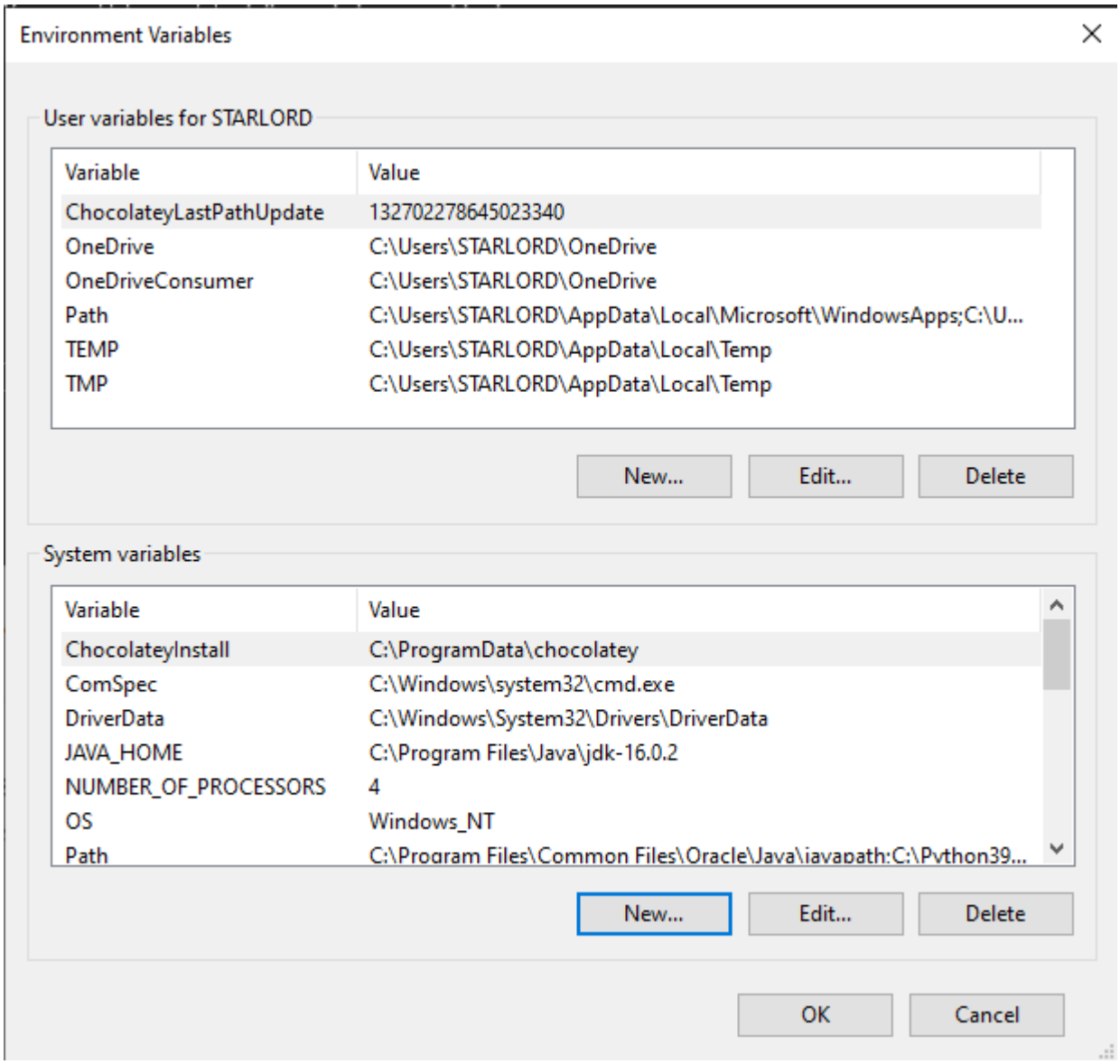
Install selenium in desktop:

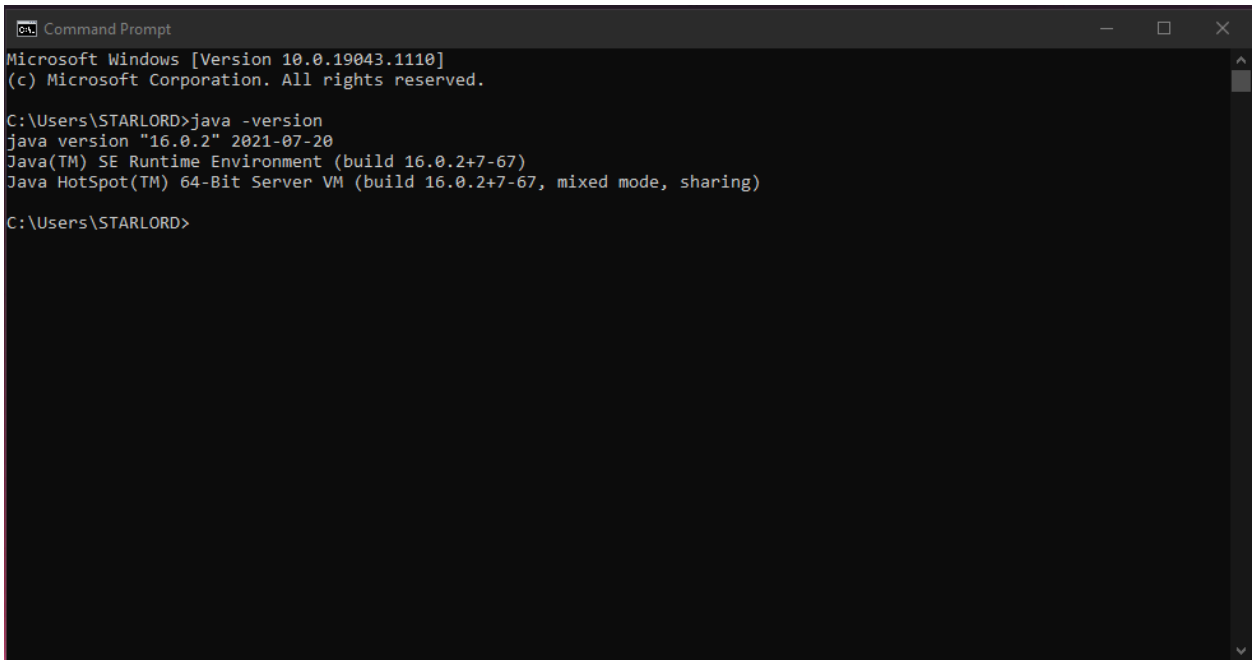
Step 1: Download all necessary files



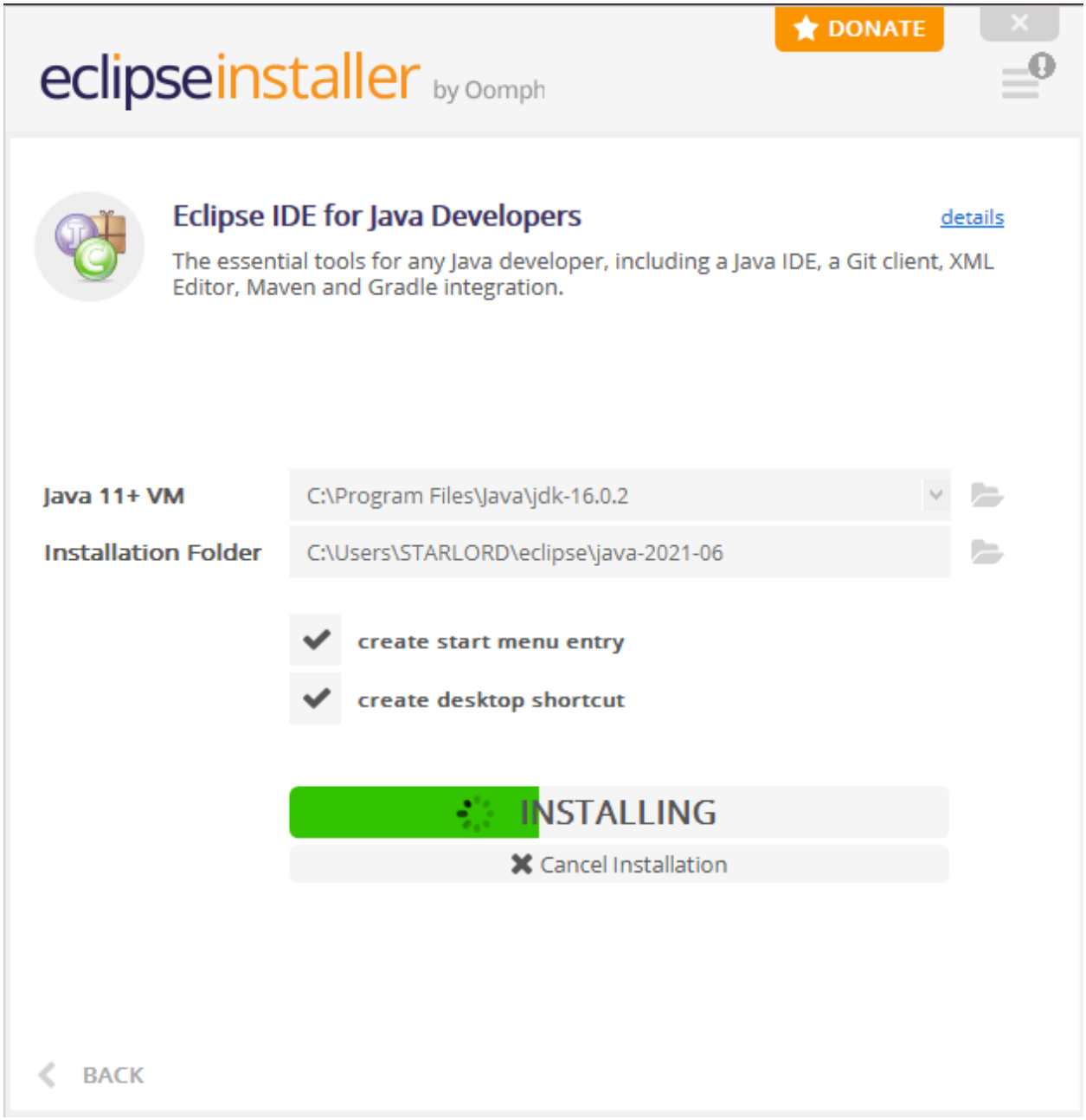
Step 2: Install JDK and setup environment variables

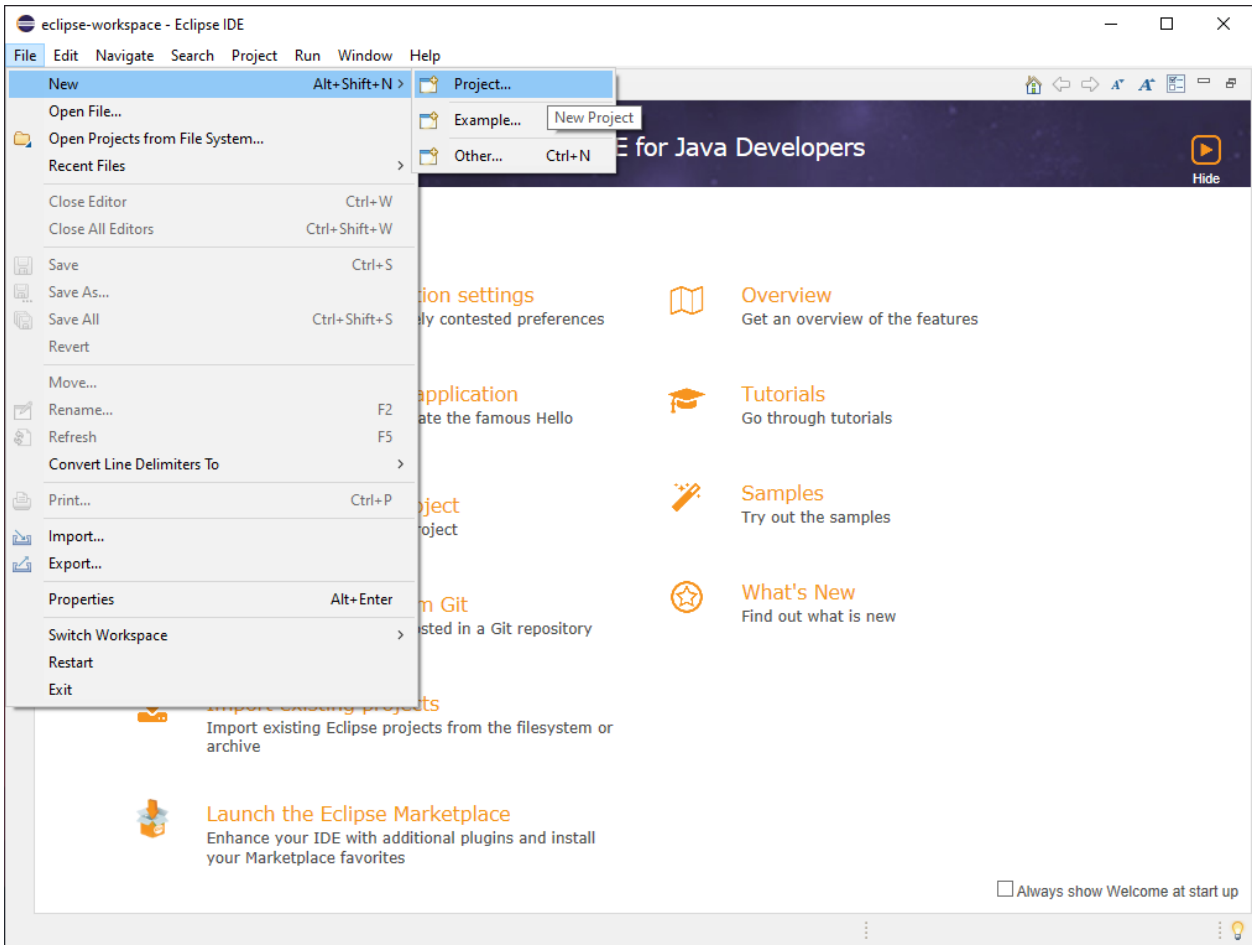
Java(TM) SE Development Kit 16.0.2 (64-bit) - Complete
Java
ORACLE
Java(TM) SE Development Kit 16.0.2 (64-bit) Successfully Installed
Click Next Steps to access tutorials, API documentation, developer guides, release notes and more to help you get started with the JDK.
Next Steps
Close

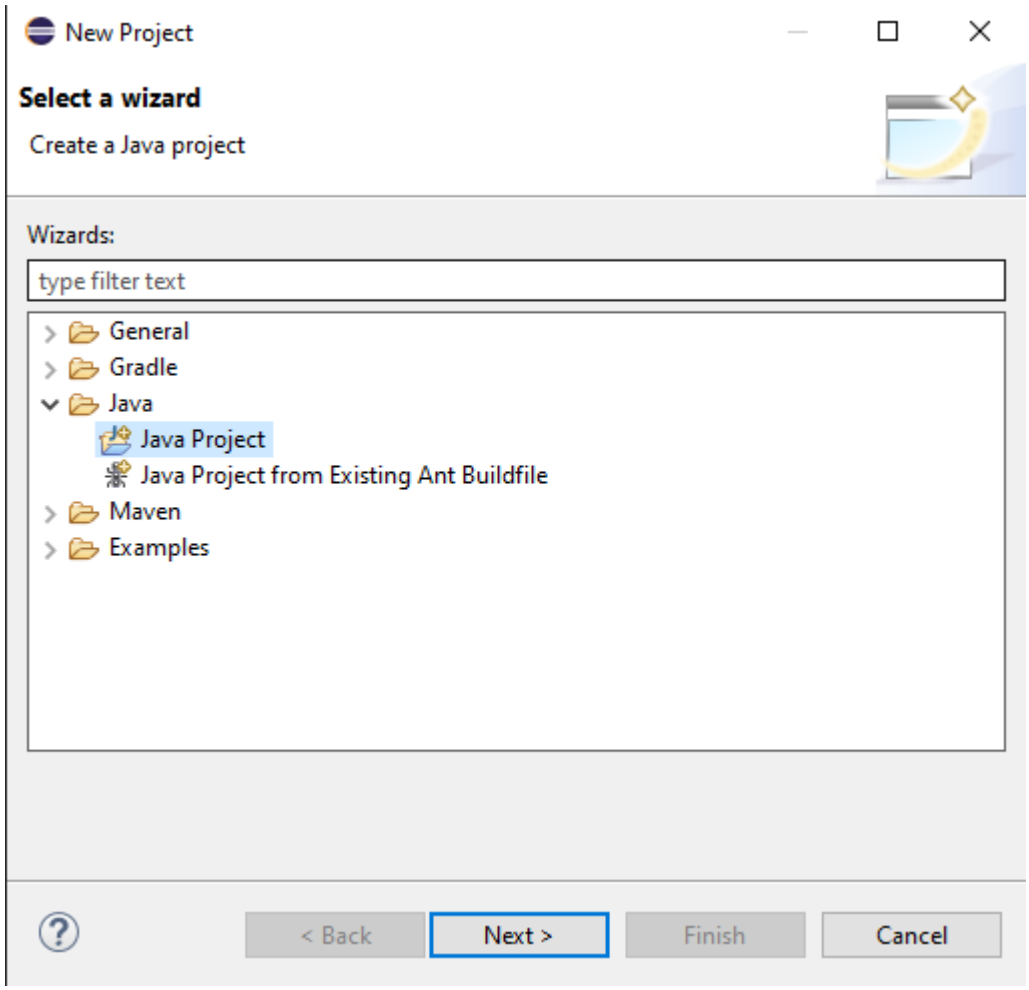

Environment Variables
User variables for STARLORD
Variable
Value
ChocolateyLastPathUpdate
132702278645023340
OneDrive
C:\Users\STARLORD\OneDrive
OneDriveConsumer
C:\Users\STARLORD\OneDrive
Path
C:\Users\STARLORD\AppData\Local\Microsoft\WindowsApps;C:\U...
TEMP
C:\Users\STARLORD\AppData\Local\Temp
TMP
C:\Users\STARLORD\AppData\Local\Temp
New...
Edit...
Delete
System variables
Variable
Value
ChocolateyInstall
C:\ProgramData\chocolatey
ComSpec
C:\Windows\system32\cmd.exe
DriverData
C:\Windows\System32\Drivers\DriverData
JAVA_HOME
C:\Program Files\Java\jdk-16.0.2
NUMBER_OF_PROCESSORS
4
OS
Windows_NT
Path
C:\Program Files\Common Files\Oracle\Java\javapath;C:\Python39...
New...
Edit...
Delete
OK
Cancel

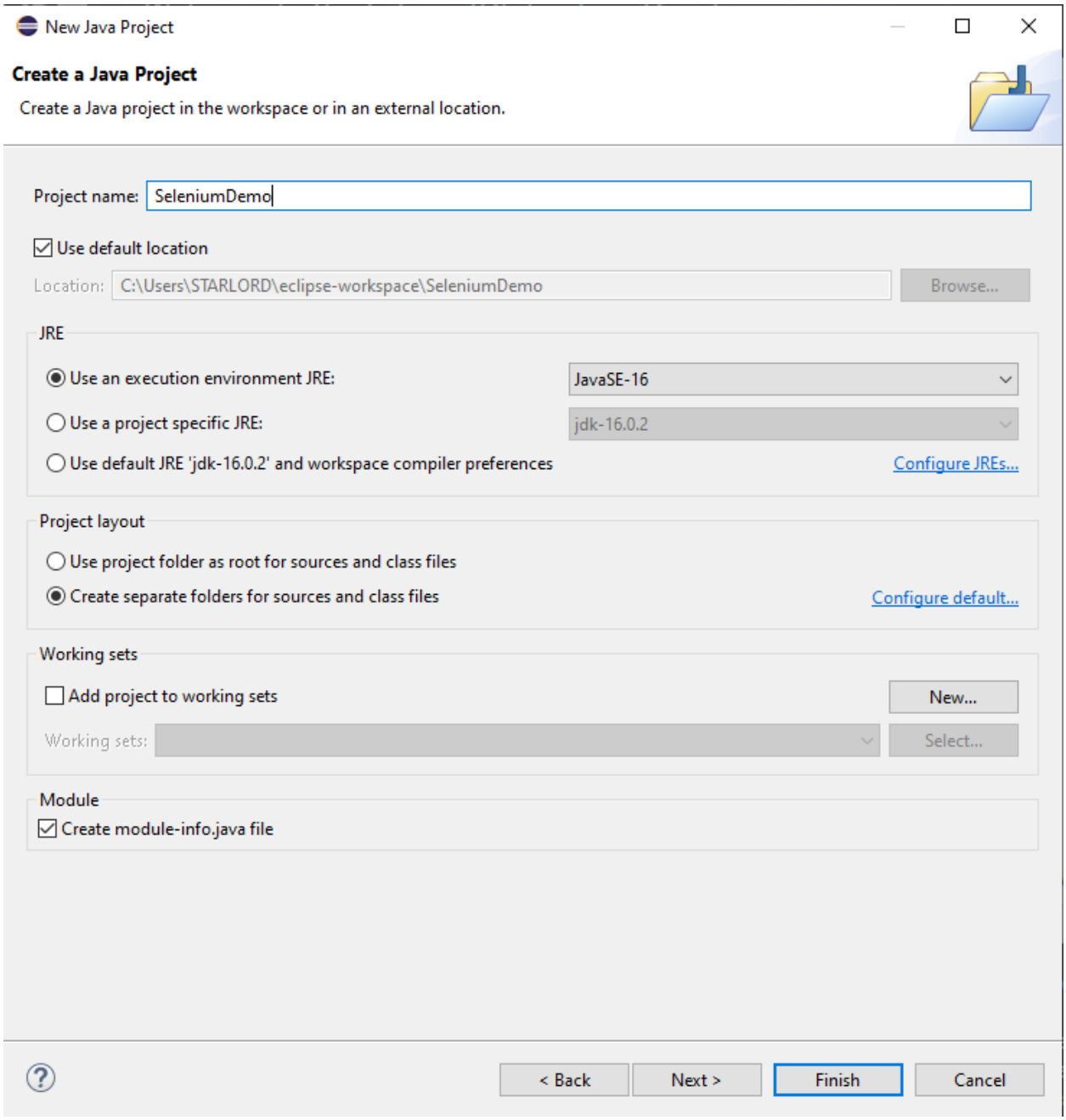

Command Prompt
Microsoft Windows [Version 10.0.19043.1110]
(c) Microsoft Corporation. All rights reserved.
C:\Users\STARLORD>java -version
java version "16.0.2" 2021-07-20
Java(TM) SE Runtime Environment (build 16.0.2+7-67)
Java HotSpot(TM) 64-Bit Server VM (build 16.0.2+7-67, mixed mode, sharing)
C:\Users\STARLORD>

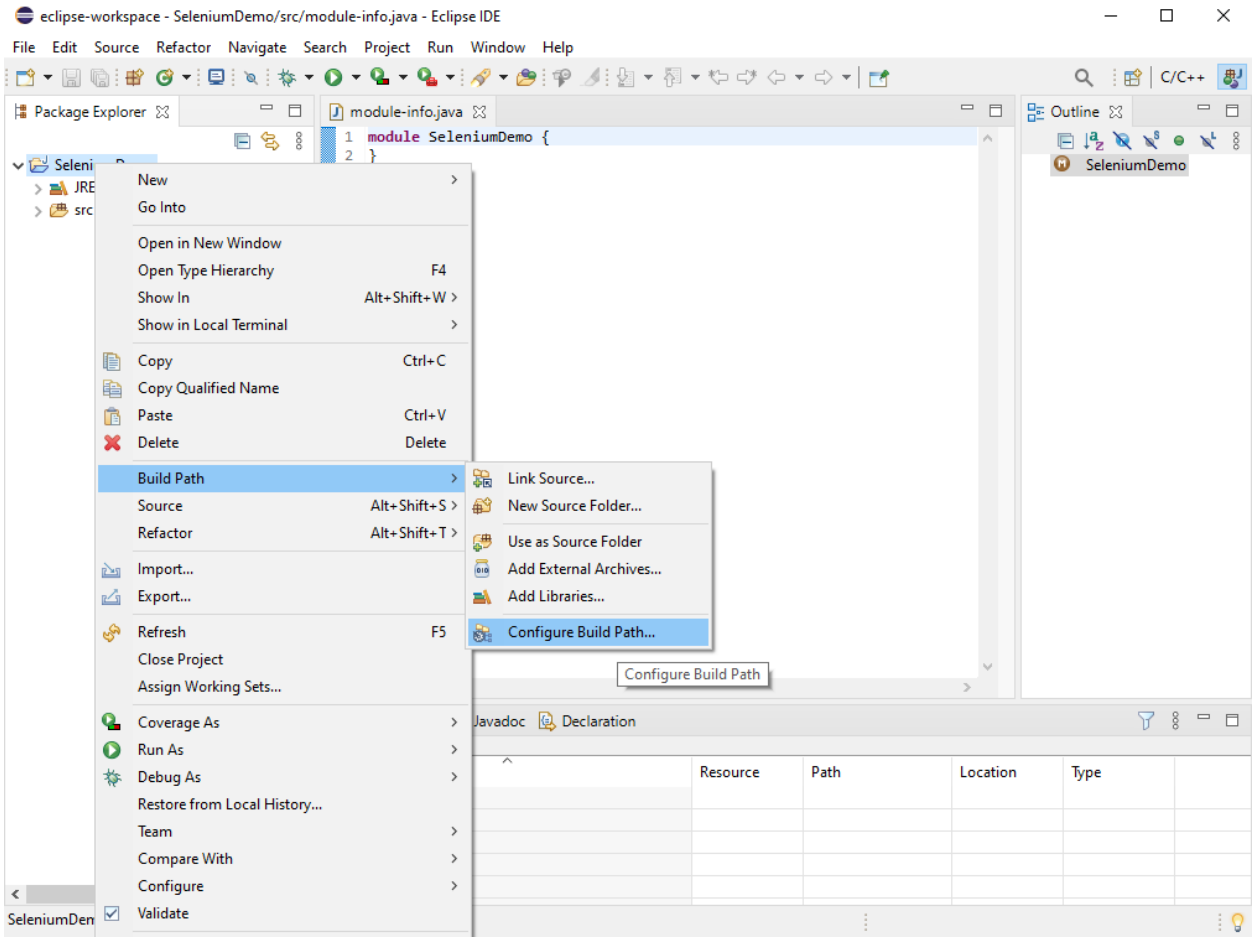
Step 3: Install and set everything up in eclipse

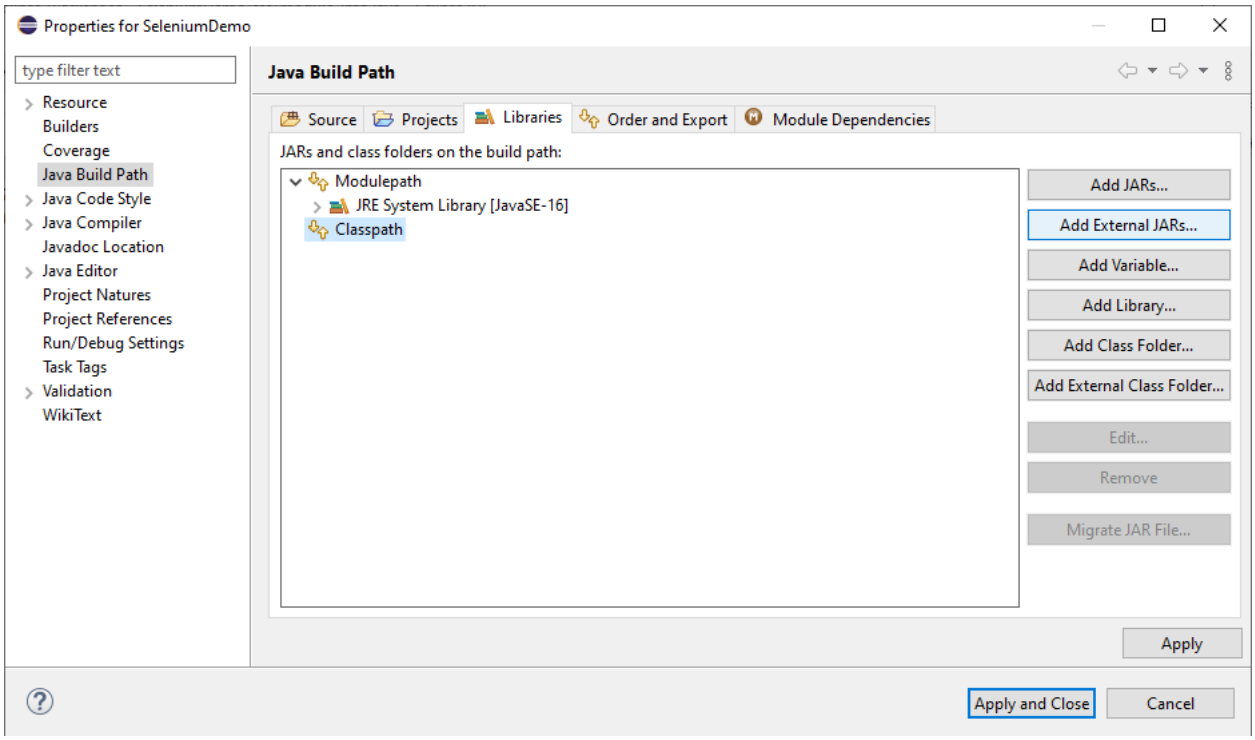


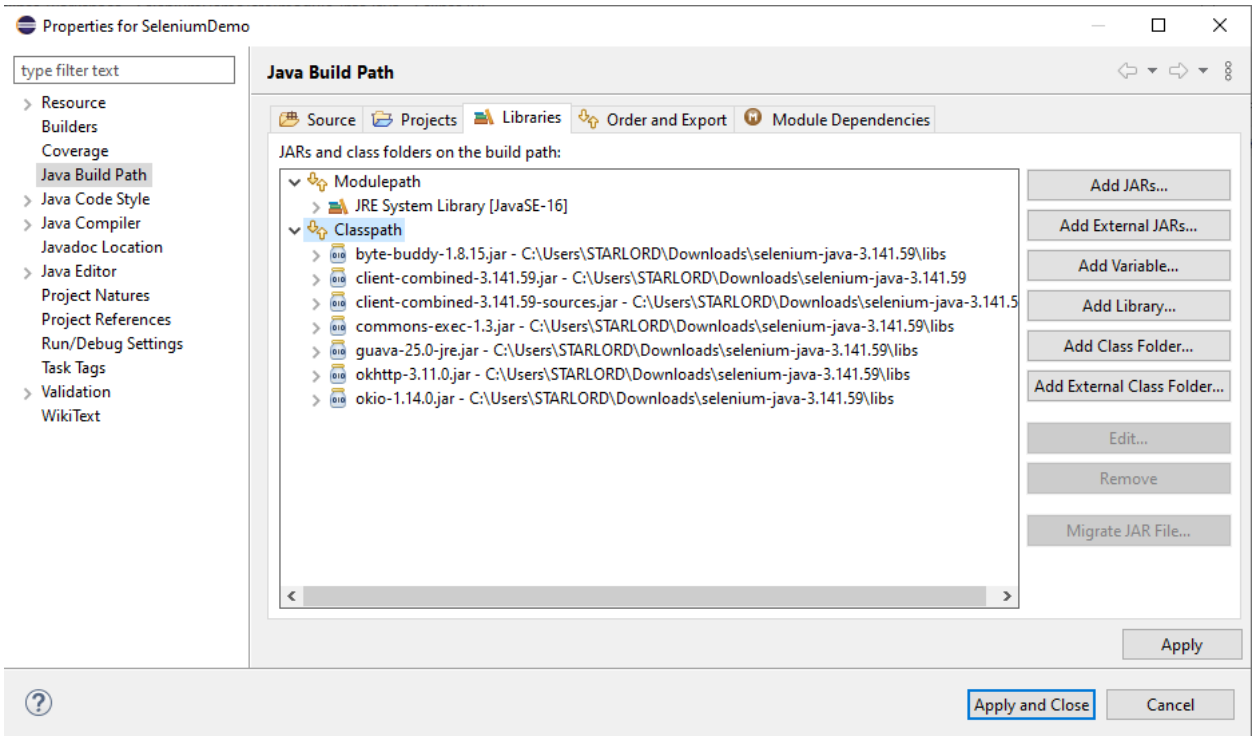

eclipse-workspace - Eclipse IDE
File Edit Navigate Search Project Run Window Help
New Alt+Shift+N
Open File...
Open Projects from File System...
Recent Files
Close Editor Ctrl+W
Close All Editors Ctrl+Shift+W
Save Ctrl+S
Save As...
Save All Ctrl+Shift+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Import...
Export...
Properties Alt+Enter
Switch Workspace
Restart
Exit
Project...
Example...
Other... Ctrl+N
New Project
for Java Developers
Hide
Overview
Get an overview of the features
Tutorials
Go through tutorials
Samples
Try out the samples
What's New
Find out what is new
Import existing Eclipse projects from the filesystem or archive
Launch the Eclipse Marketplace
Enhance your IDE with additional plugins and install your Marketplace favorites
Always show Welcome at start up


New Project
Select a wizard
Create a Java project
Wizards:
type filter text
General
Gradle
Java
Java Project
Java Project from Existing Ant Buildfile
Maven
Examples
< Back
Next >
Finish
Cancel


New Java Project
Create a Java Project
Create a Java project in the workspace or in an external location.
Project name: SeleniumDemo
Use default location
Location: C:\Users\STARLORD\eclipse-workspace\SeleniumDemo
Browse...
JRE
Use an execution environment JRE:
JavaSE-16
Use a project specific JRE:
jdk-16.0.2
Use default JRE 'jdk-16.0.2' and workspace compiler preferences
Configure JREs...
Project layout
Use project folder as root for sources and class files
Create separate folders for sources and class files
Configure default...
Working sets
Add project to working sets
New...
Working sets:
Select...
Module
Create module-info.java file
< Back
Next >
Finish
Cancel


eclipse-workspace - SeleniumDemo/src/module-info.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
module-info.java
1 module SeleniumDemo {
2 }
Outline
SeleniumDemo
New
Go Into
Open in New Window
Open Type Hierarchy F4
Show In Alt+Shift+W
Show in Local Terminal
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Delete Delete
Build Path
Source Alt+Shift+S
Refactor Alt+Shift+T
Import...
Export...
Refresh F5
Close Project
Assign Working Sets...
Coverage As
Run As
Debug As
Restore from Local History...
Team
Compare With
Configure
Validate
Link Source...
New Source Folder...
Use as Source Folder
Add External Archives...
Add Libraries...
Configure Build Path...
Configure Build Path
Javadoc Declaration
Resource Path Location Type


Properties for SeleniumDemo
type filter text
Resource
Builders
Coverage
Java Build Path
Java Code Style
Java Compiler
Javadoc Location
Java Editor
Project Natures
Project References
Run/Debug Settings
Task Tags
Validation
WikiText
Java Build Path
Source Projects Libraries Order and Export Module Dependencies
JARs and class folders on the build path:
Modulepath
JRE System Library [JavaSE-16]
Classpath
Add JARs...
Add External JARs...
Add Variable...
Add Library...
Add Class Folder...
Add External Class Folder...
Edit...
Remove
Migrate JAR File...
Apply
Apply and Close
Cancel



Install Selenium as a Browser extension (An alternative approach):

For Mozilla Firefox browsers:

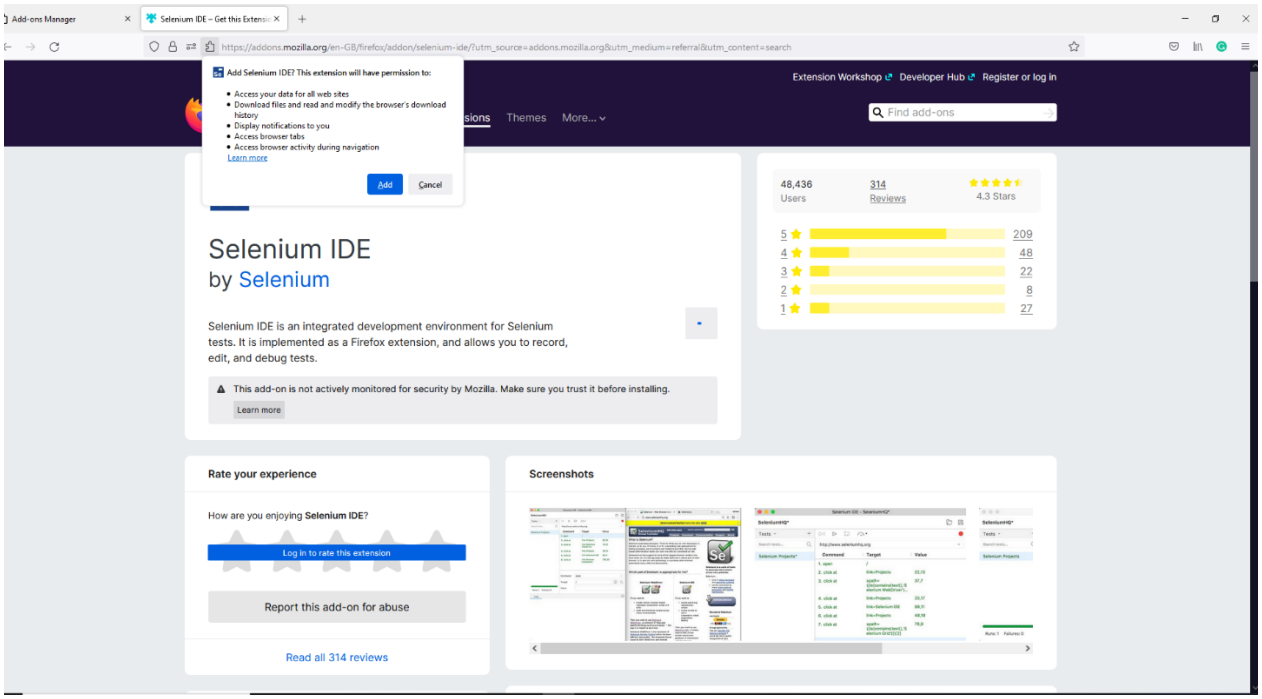


Figure 1: go to Extensions and search selenium IDE

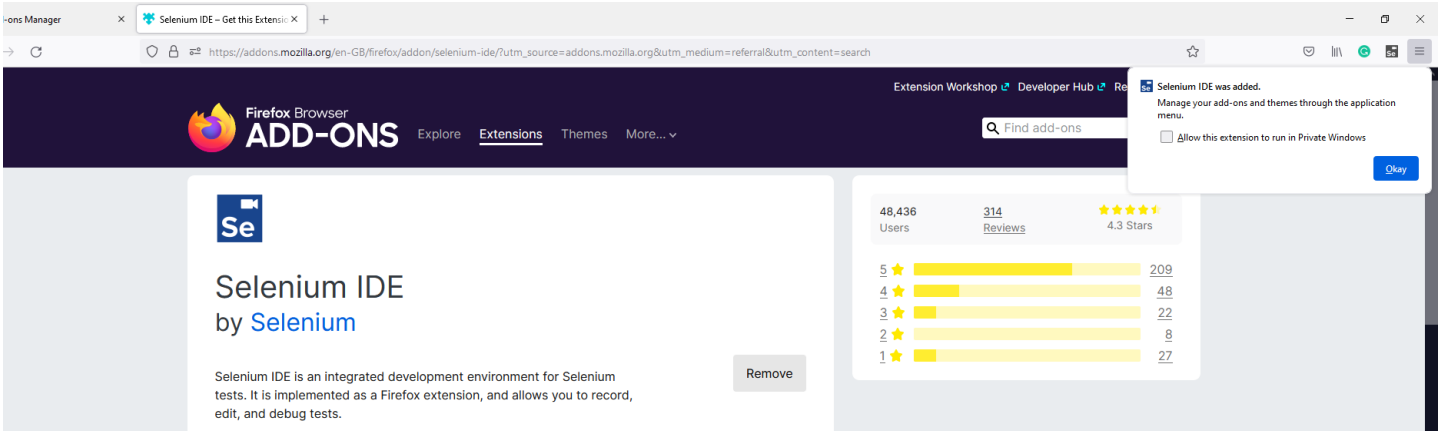


Figure 2: ADD ON FIREFOX BROWSER

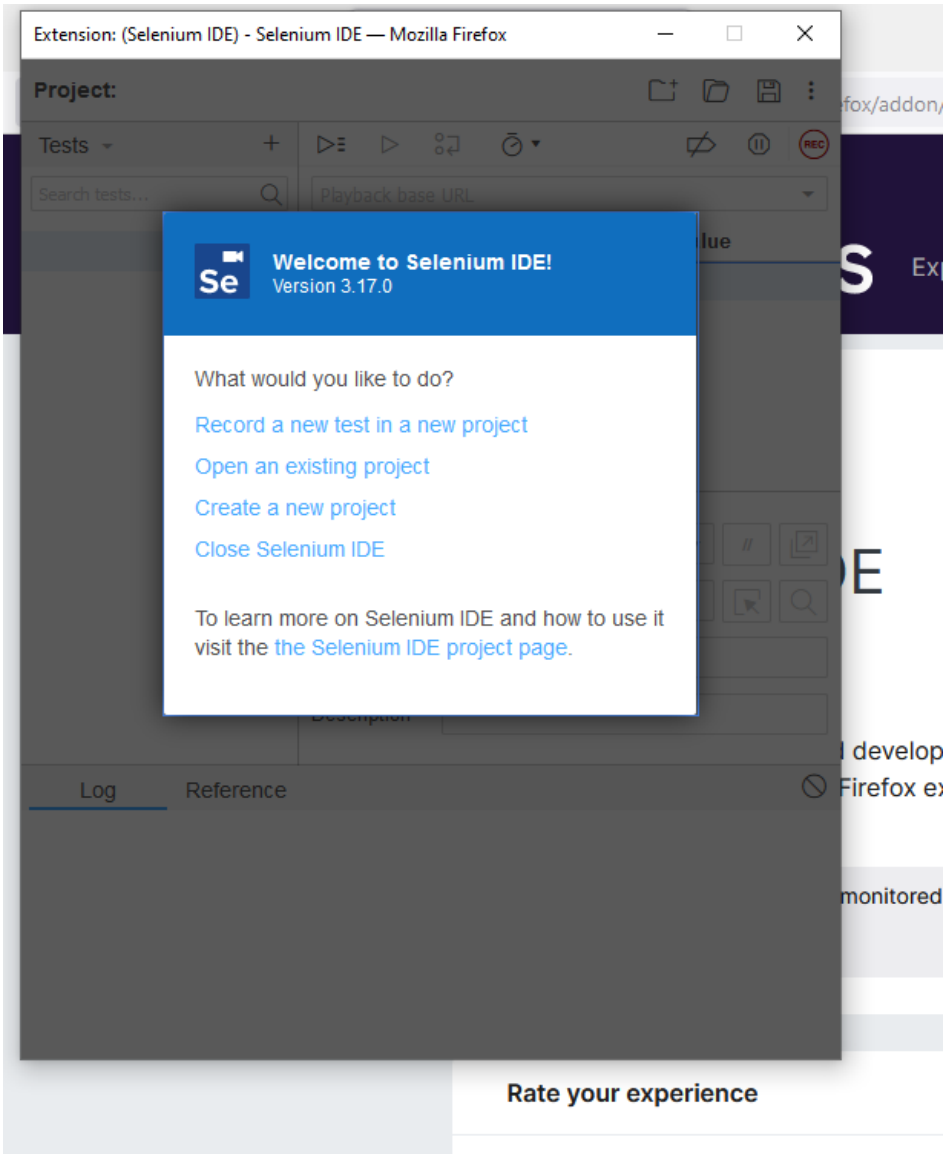


Figure 3: NOW IT WILL AUTO GENERATE TO BROWSER

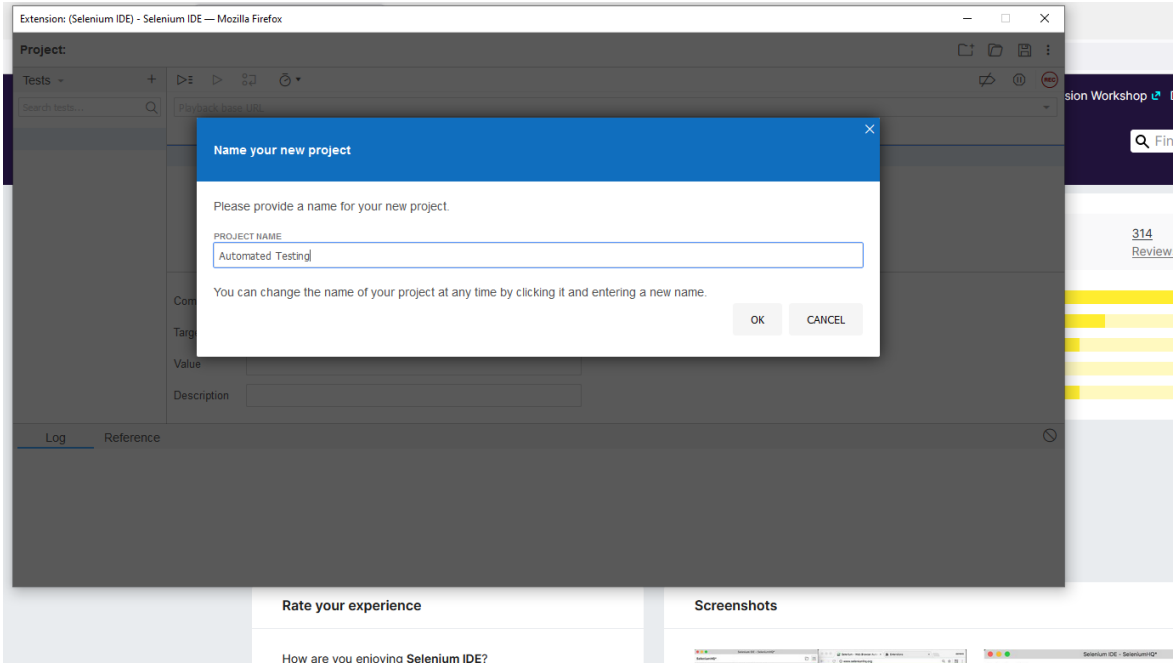


Figure 4

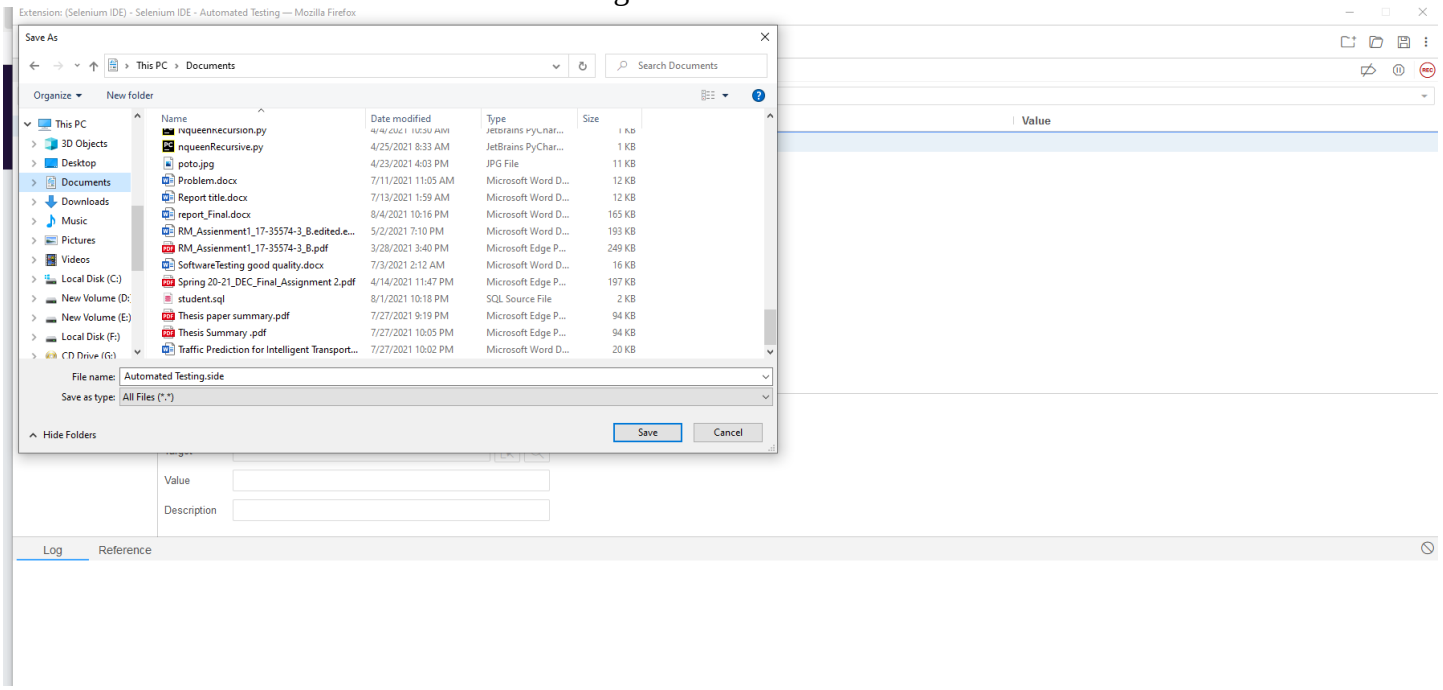


Figure 5: Work process

2. Describe the benefit of automated testing and specialty of Selenium.

Answer:

There are two types of software testing process.

A. Manuel Testing:

Manual software testing is performed by a person who carefully looks at the screen of an application sitting in front of a computer, tries different combinations of uses and inputs, compares the results to expected behavior, and records what is observed. To do.

B. Automated Testing:

For software testing, test automation is the use of software that is separate from the software being tested to control the execution of the test and the comparison of actual and predicted results.

Now we are going describe the benefits of automated testing:

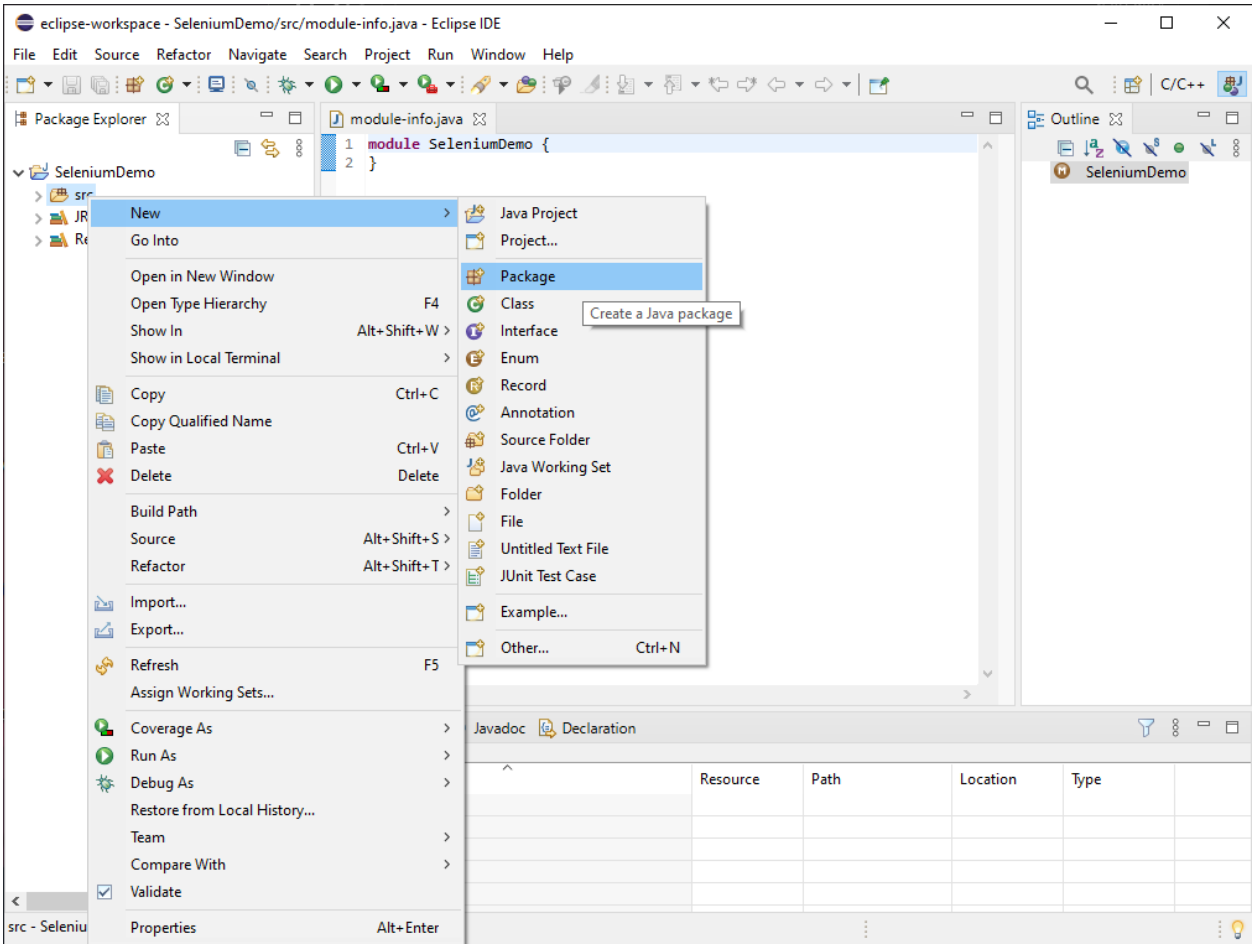
a. It saves more time than Manuel testing because the test is executed by the system.
b. It is also cost efficient because it needs a system to run.
c. Even the most conscientious testers make mistakes during monotonous manual testing. Automated tests do exactly the same procedure each time they are performed and don't forget to record detailed results
d. By implementing an automated testing strategy, you allow your QA team to spend time on tasks other than manual testing.

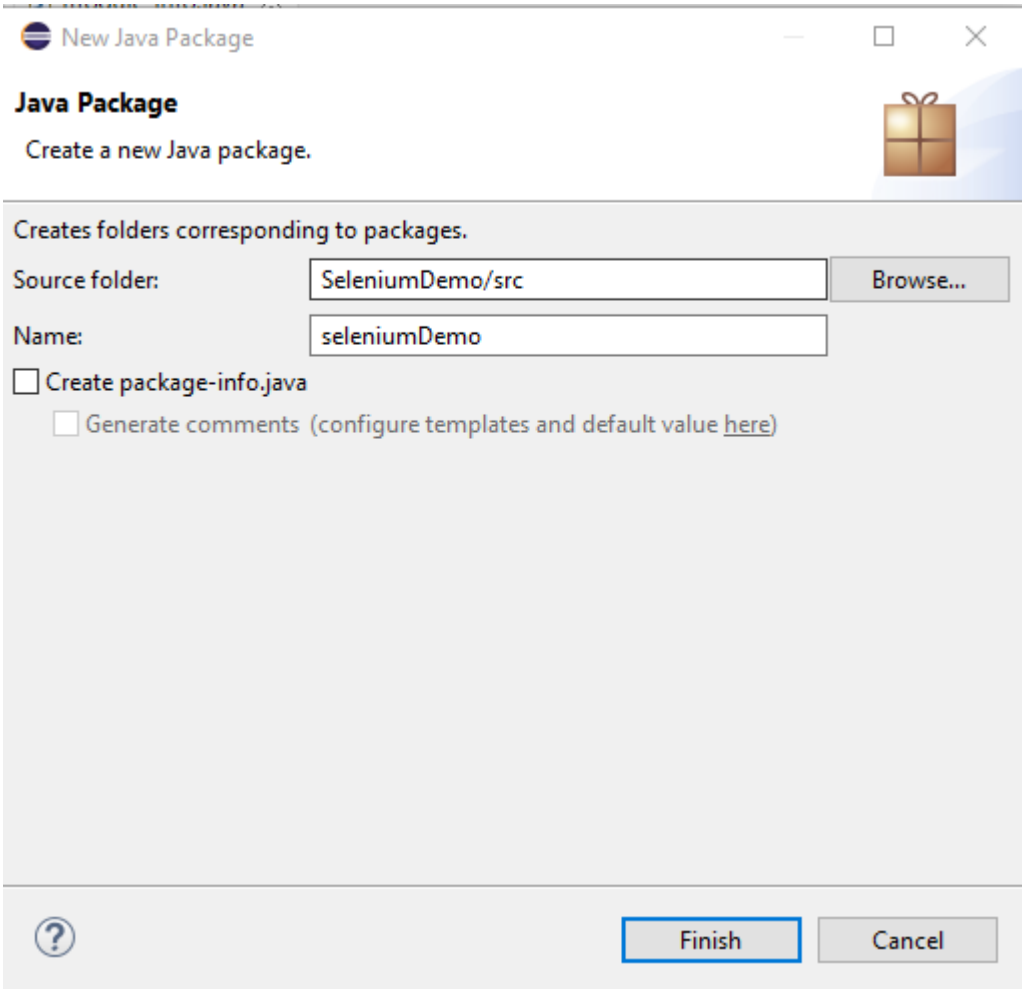
Selenium:

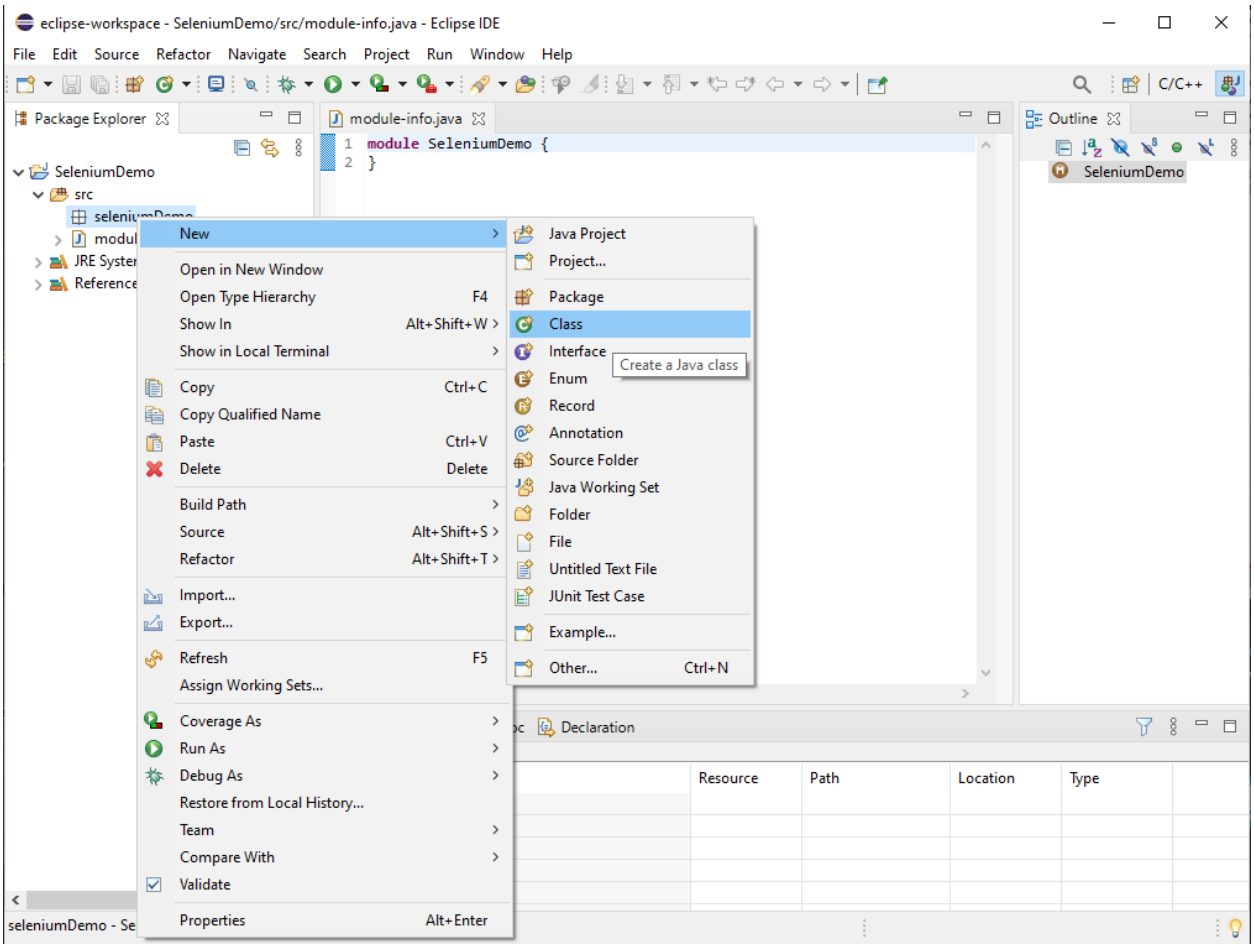
Selenium is an open-source tool that automates web browsers. It provides a single interface that allows us to write test scripts in programming languages such as Ruby, Java, NodeJS, PHP, Perl, Python, and C #. Selenium is a test automation framework that allows us to automate web app testing. The Selenium test tool is used to automate cross-browser testing of web applications. Selenium is an open-source tool. And Selenium is released regularly. Testers use Selenium. This is because you can easily generate test scripts to verify functionality.

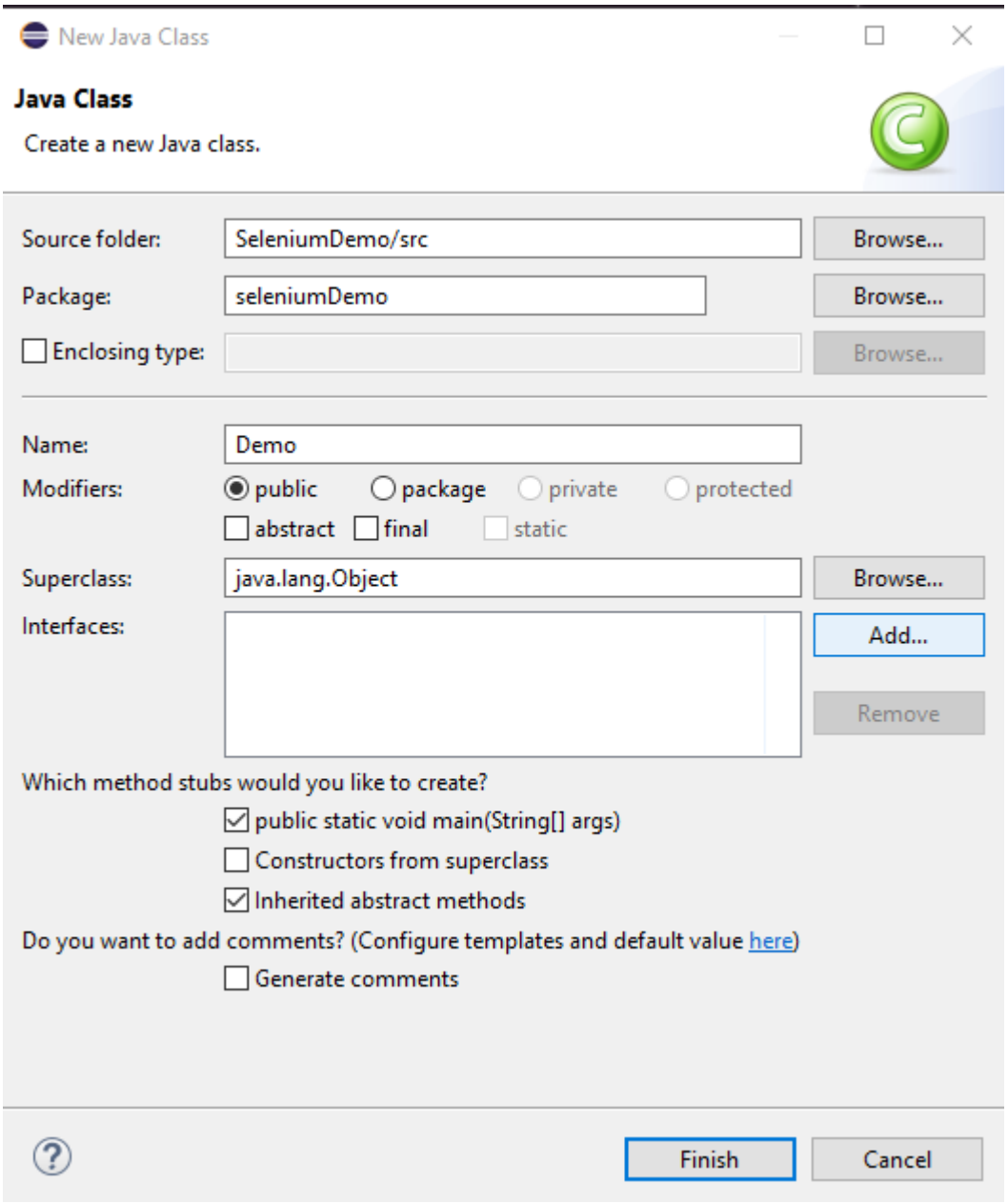
3. Practice a dummy project testing in Selenium and put all screenshots from your computer during practicing it.

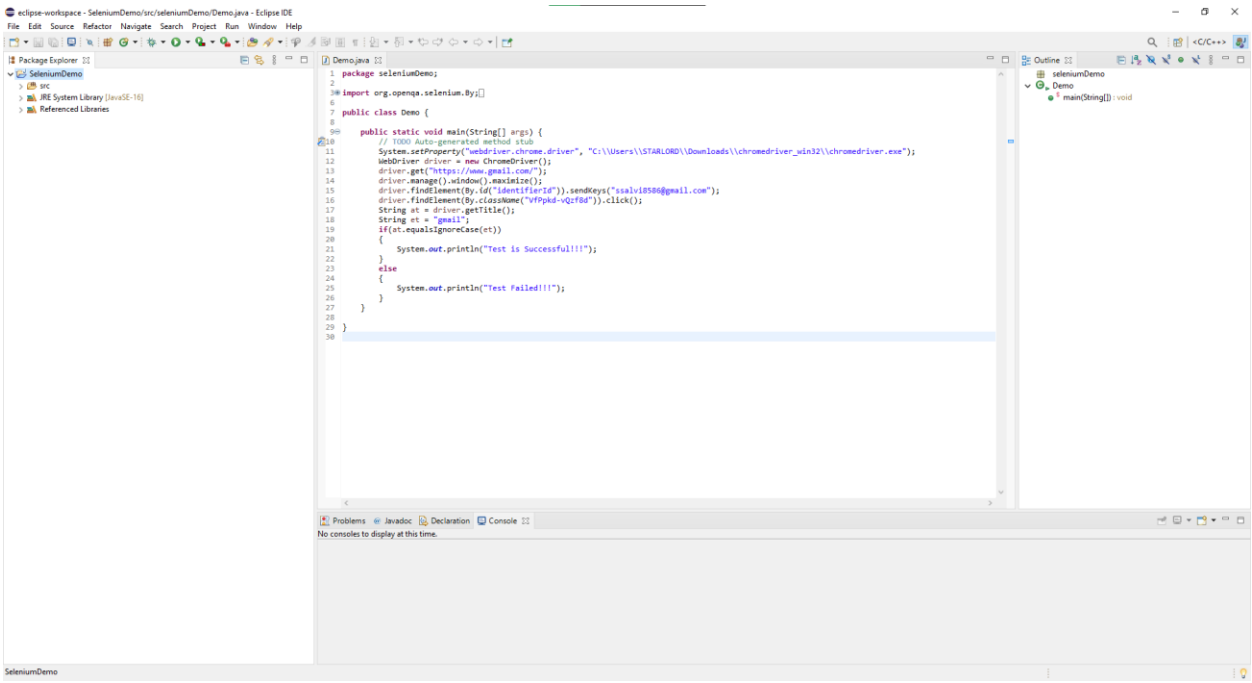
<u>The all practicing picture: (For first process: Using selenium in Eclipse IDE using JAVA)</u>:




New Java Package
Java Package
Create a new Java package.
Creates folders corresponding to packages.
Source folder:
SeleniumDemo/src
Browse...
Name:
seleniumDemo
Create package-info.java
Generate comments (configure templates and default value here)
Finish
Cancel

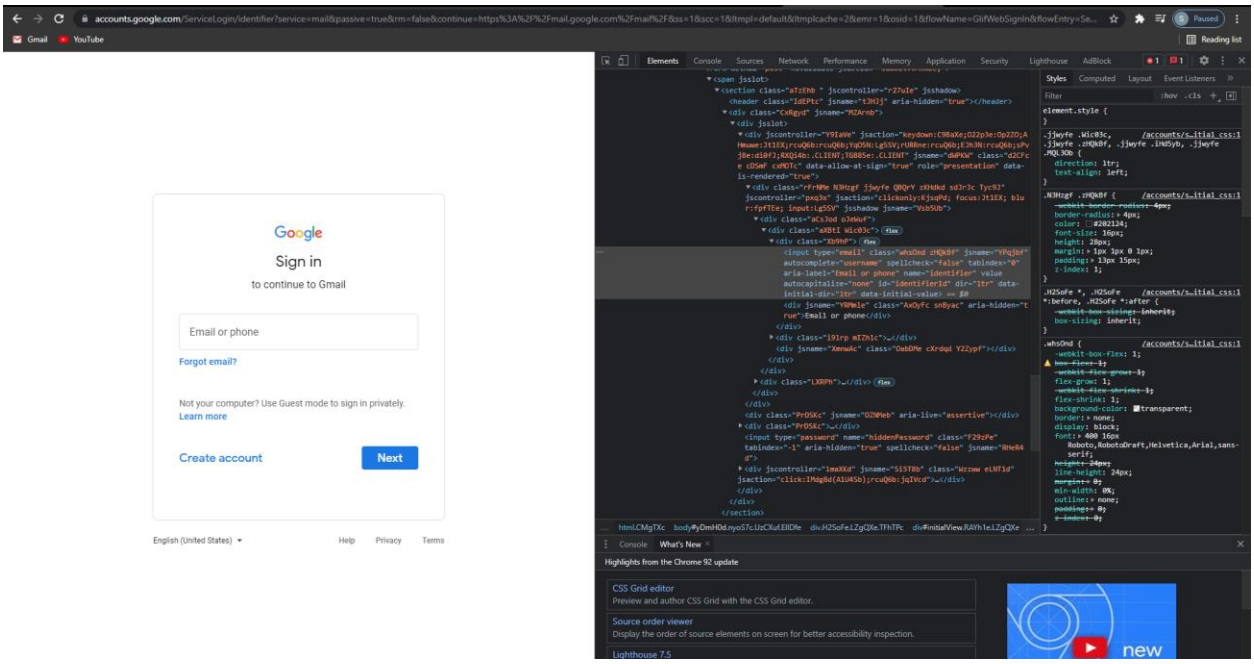

eclipse-workspace - SeleniumDemo/src/module-info.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
C/C++
Package Explorer
SeleniumDemo
src
module-info.java
1 module SeleniumDemo {
2 }
Outline
SeleniumDemo
New
Open in New Window
Open Type Hierarchy F4
Show In Alt+Shift+W
Show in Local Terminal
Copy Ctrl+C
Copy Qualified Name
Paste Ctrl+V
Delete Delete
Build Path
Source Alt+Shift+S
Refactor Alt+Shift+T
Import...
Export...
Refresh F5
Assign Working Sets...
Coverage As
Run As
Debug As
Restore from Local History...
Team
Compare With
Validate
Properties Alt+Enter
Java Project
Project...
Package
Class
Interface
Enum
Record
Annotation
Source Folder
Java Working Set
Folder
File
Untitled Text File
JUnit Test Case
Example...
Other... Ctrl+N
Create a Java class
Declaration
Resource
Path
Location
Type

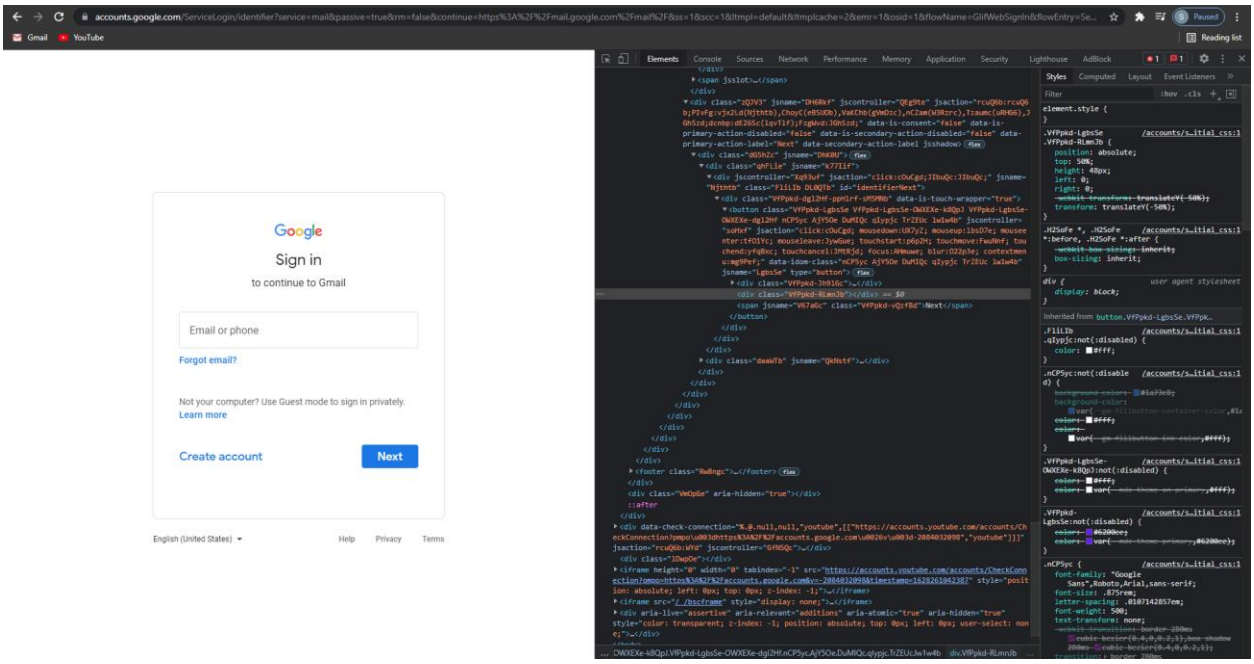

New Java Class
Java Class
Create a new Java class.
Source folder:
SeleniumDemo/src
Browse...
Package:
seleniumDemo
Browse...
Enclosing type:
Browse...
Name:
Demo
Modifiers:
public
package
private
protected
abstract
final
static
Superclass:
java.lang.Object
Browse...
Interfaces:
Add...
Remove
Which method stubs would you like to create?
public static void main(String[] args)
Constructors from superclass
Inherited abstract methods
Do you want to add comments? (Configure templates and default value here)
Generate comments
Finish
Cancel



Demo.java

```java
package seleniumDemo;

import org.openqa.selenium.By;

public class Demo {

    public static void main(String[] args) {
        // TODO Auto-generated method stub
        System.setProperty("webdriver.chrome.driver", "C:\\Users\\STARLORD\\Downloads\\chromedriver_win32\\chromedriver.exe");
        WebDriver driver = new ChromeDriver();
        driver.get("https://www.gmail.com/");
        driver.manage().window().maximize();
        driver.findElement(By.id("identifierId")).sendKeys("ssalvi8586@gmail.com");
        driver.findElement(By.className("VfPpkd-vQzf8d")).click();
        String at = driver.getTitle();
        String et = "gmail";
        if(at.equalsIgnoreCase(et))
        {
            System.out.println("Test is Successful!!!");
        }
        else
        {
            System.out.println("Test Failed!!!");
        }
    }

}
```





The all practicing picture: (For second process: Using selenium as a Firefox browser extension.):

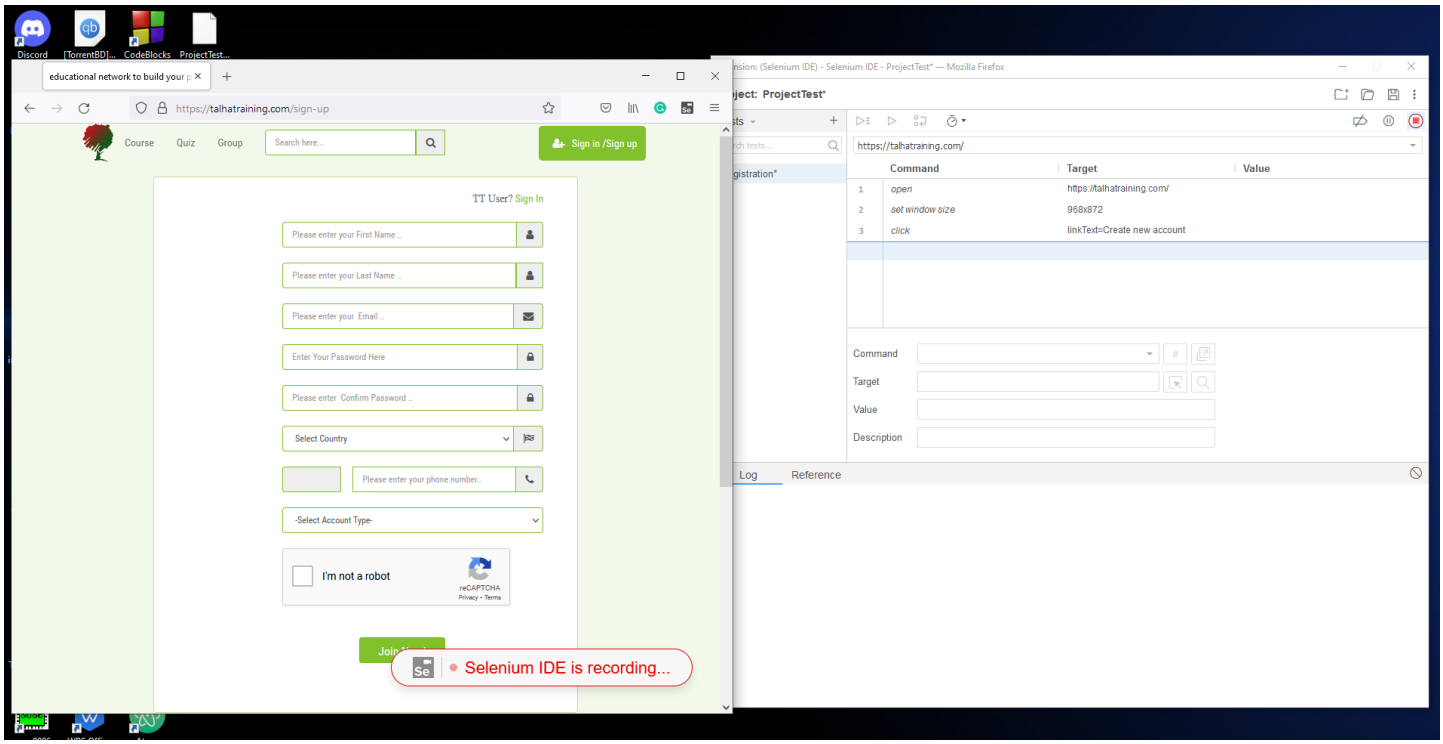


Figure 1: starting with a project

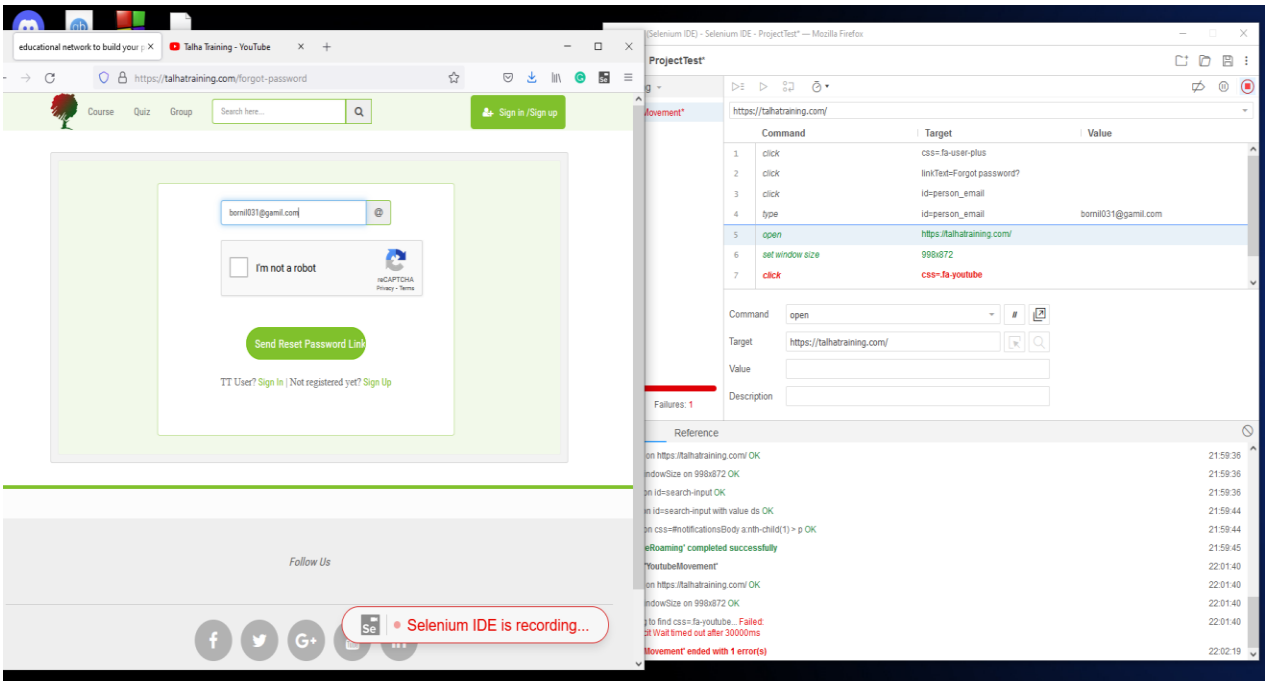


Figure: 2: Testing Forget Password Option

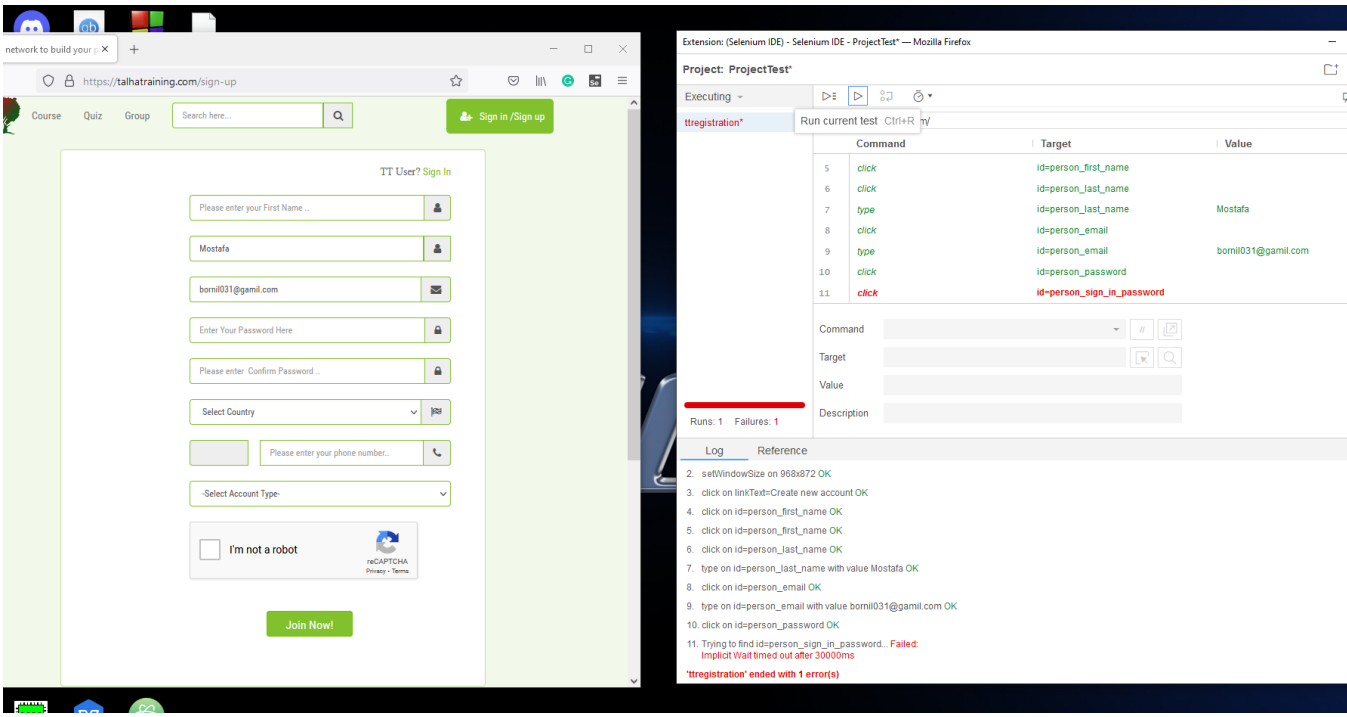


Figure 3: Testing Registration of website

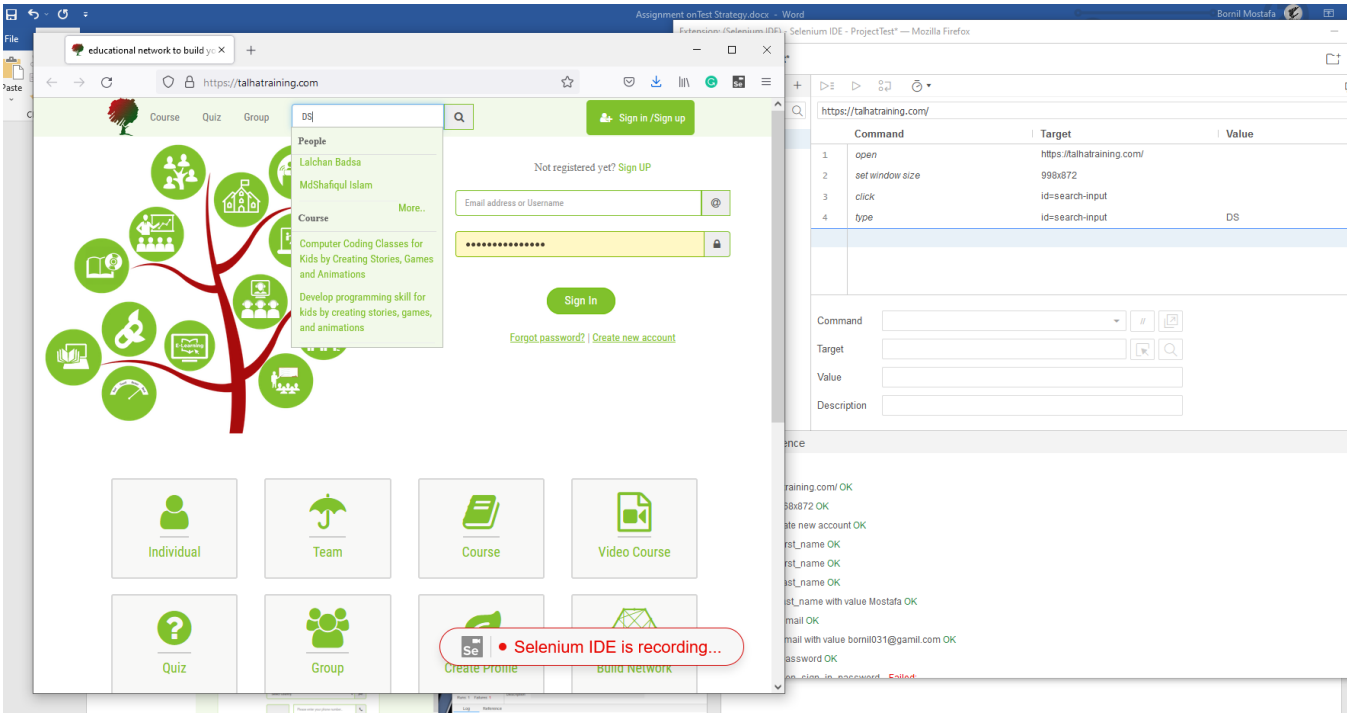


Figure 4: Testing the search bar

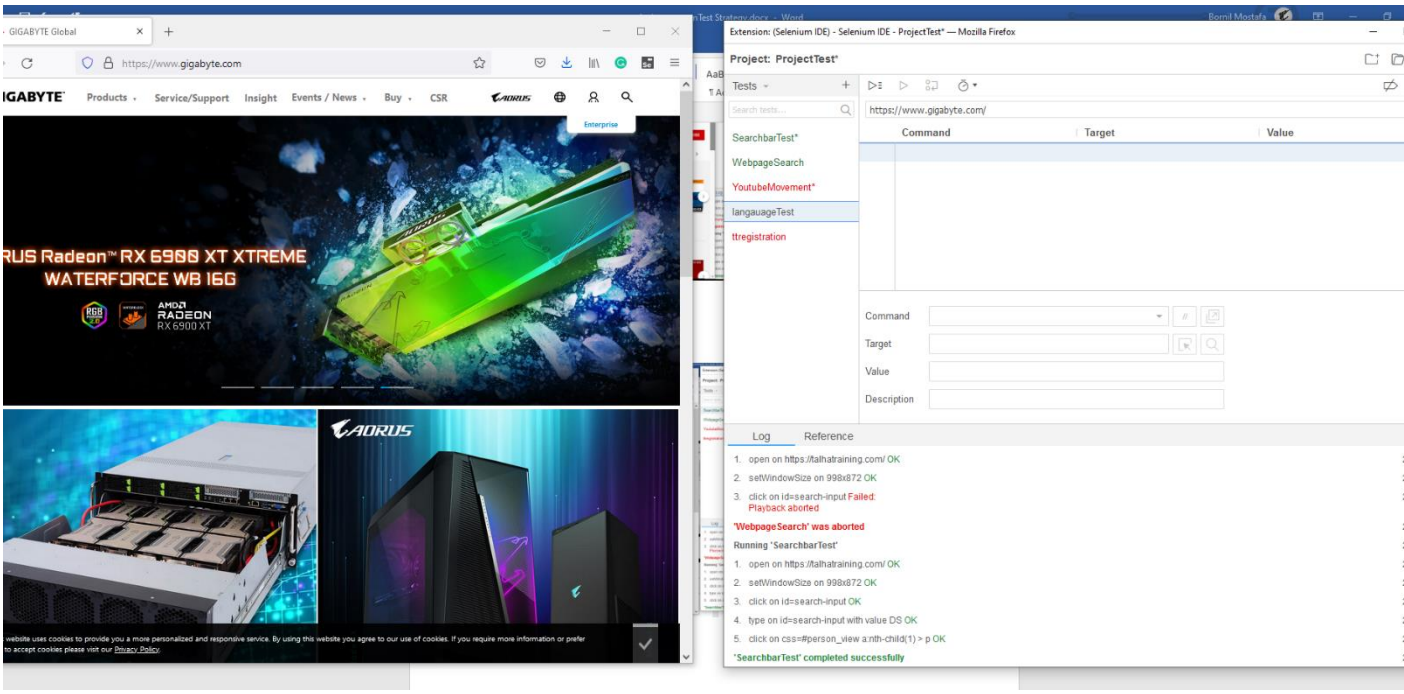


Figure 5: Language Testing

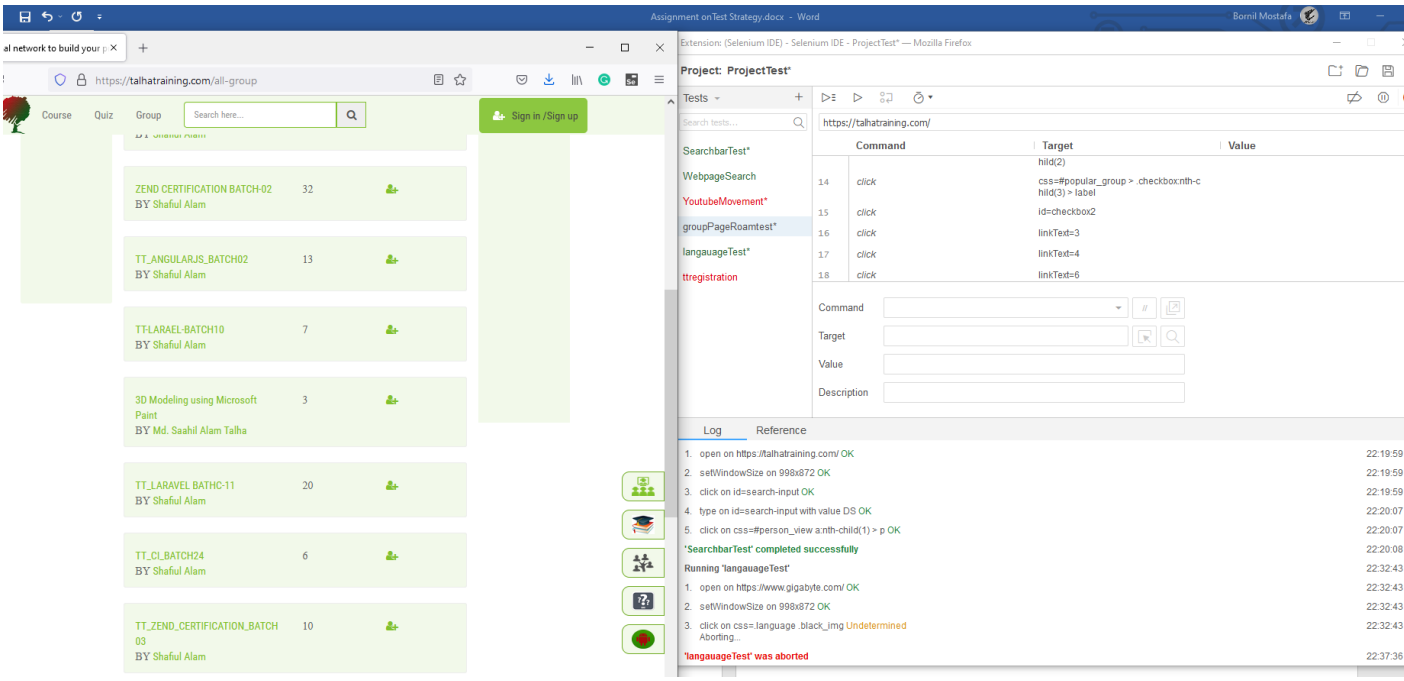
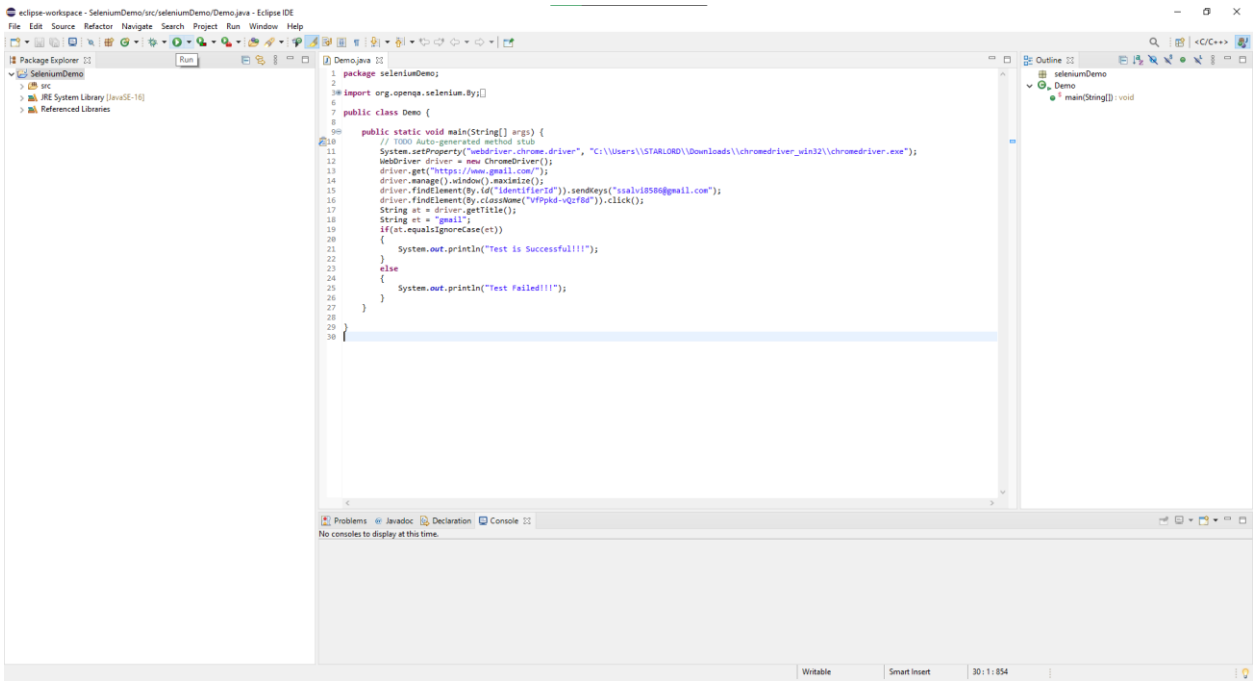
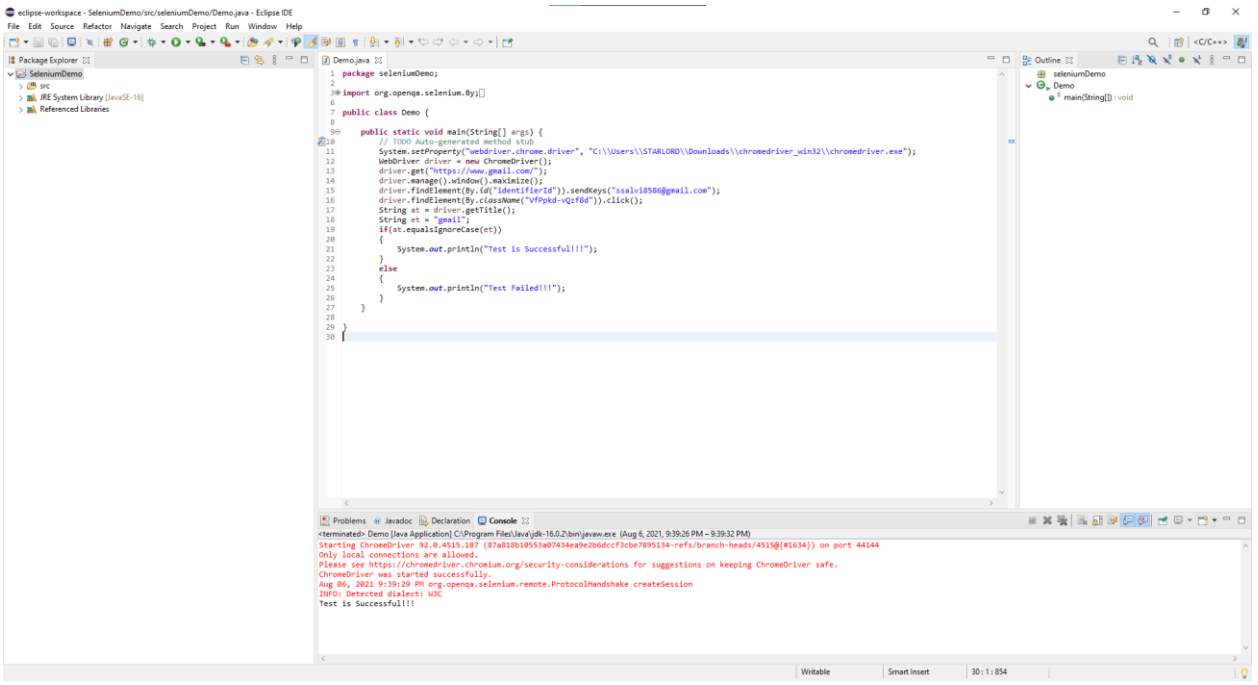


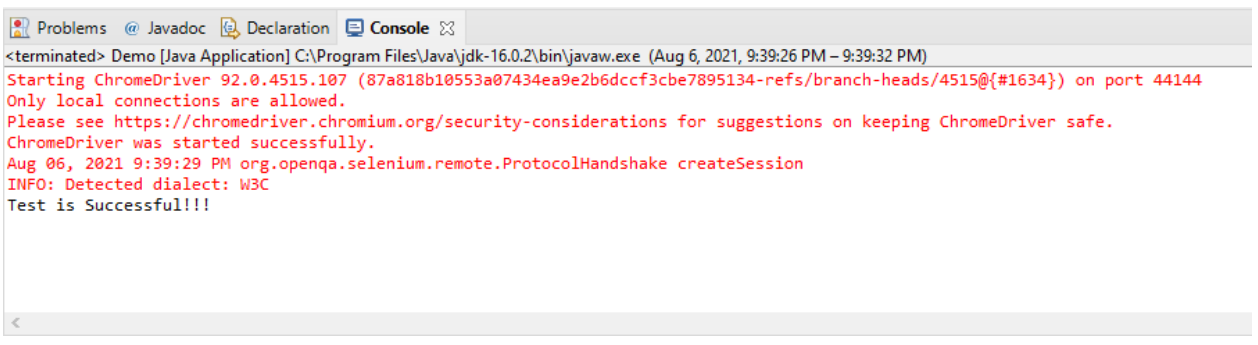
Figure: Page Roaming Test

4. Show all the test results of your practice in the report

In eclipse IDE:


eclipse-workspace - SeleniumDemo/src/seleniumDemo/Demo.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
SeleniumDemo
src
JRE System Library [JavaSE-16]
Referenced Libraries
Run
Demo.java
package seleniumDemo;
import org.openqa.selenium.By;
public class Demo {
public static void main(String[] args) {
// TODO Auto-generated method stub
System.setProperty("webdriver.chrome.driver", "C:\\Users\\STARLORD\\Downloads\\chromedriver_win32\\chromedriver.exe");
WebDriver driver = new ChromeDriver();
driver.get("https://www.gmail.com/");
driver.manage().window().maximize();
driver.findElement(By.id("identifierId")).sendKeys("ssalvi8586@gmail.com");
driver.findElement(By.className("VfPpkd-vQzf8d")).click();
String at = driver.getTitle();
String et = "gmail";
if(at.equalsIgnoreCase(et))
{
System.out.println("Test is Successful!!!");
}
else
{
System.out.println("Test Failed!!!");
}
}
}
Outline
seleniumDemo
Demo
main(String[]) : void
Problems Javadoc Declaration Console
No consoles to display at this time.
Writable
Smart Insert
30 : 1 : 854


eclipse-workspace - SeleniumDemo/src/seleniumDemo/Demo.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
SeleniumDemo
src
JRE System Library [JavaSE-16]
Referenced Libraries
Demo.java
package seleniumDemo;
import org.openqa.selenium.By;
public class Demo {
public static void main(String[] args) {
// TODO Auto-generated method stub
System.setProperty("webdriver.chrome.driver", "C:\\Users\\STARLORD\\Downloads\\chromedriver_win32\\chromedriver.exe");
WebDriver driver = new ChromeDriver();
driver.get("https://www.gmail.com/");
driver.manage().window().maximize();
driver.findElement(By.id("identifierId")).sendKeys("ssalvi8586@gmail.com");
driver.findElement(By.className("VfPpkd-vQzf8d")).click();
String at = driver.getTitle();
String et = "gmail";
if(at.equalsIgnoreCase(et))
{
System.out.println("Test is Successful!!!");
}
else
{
System.out.println("Test Failed!!!");
}
}
}
Outline
seleniumDemo
Demo
main(String[]) : void
Problems Javadoc Declaration Console
<terminated> Demo [Java Application] C:\Program Files\Java\jdk-16.0.2\bin\javaw.exe (Aug 6, 2021, 9:39:26 PM – 9:39:32 PM)
Starting ChromeDriver 92.0.4515.107 (87a818b10553a07434ea9e2b6dccf3cbe7895134-refs/branch-heads/4515@{#1634}) on port 44144
Only local connections are allowed.
Please see https://chromedriver.chromium.org/security-considerations for suggestions on keeping ChromeDriver safe.
ChromeDriver was started successfully.
Aug 06, 2021 9:39:29 PM org.openqa.selenium.remote.ProtocolHandshake createSession
INFO: Detected dialect: W3C
Test is Successful!!!
Writable
Smart Insert
30 : 1 : 854


Problems Javadoc Declaration Console
<terminated> Demo [Java Application] C:\Program Files\Java\jdk-16.0.2\bin\javaw.exe (Aug 6, 2021, 9:39:26 PM – 9:39:32 PM)
Starting ChromeDriver 92.0.4515.107 (87a818b10553a07434ea9e2b6dccf3cbe7895134-refs/branch-heads/4515@{#1634}) on port 44144
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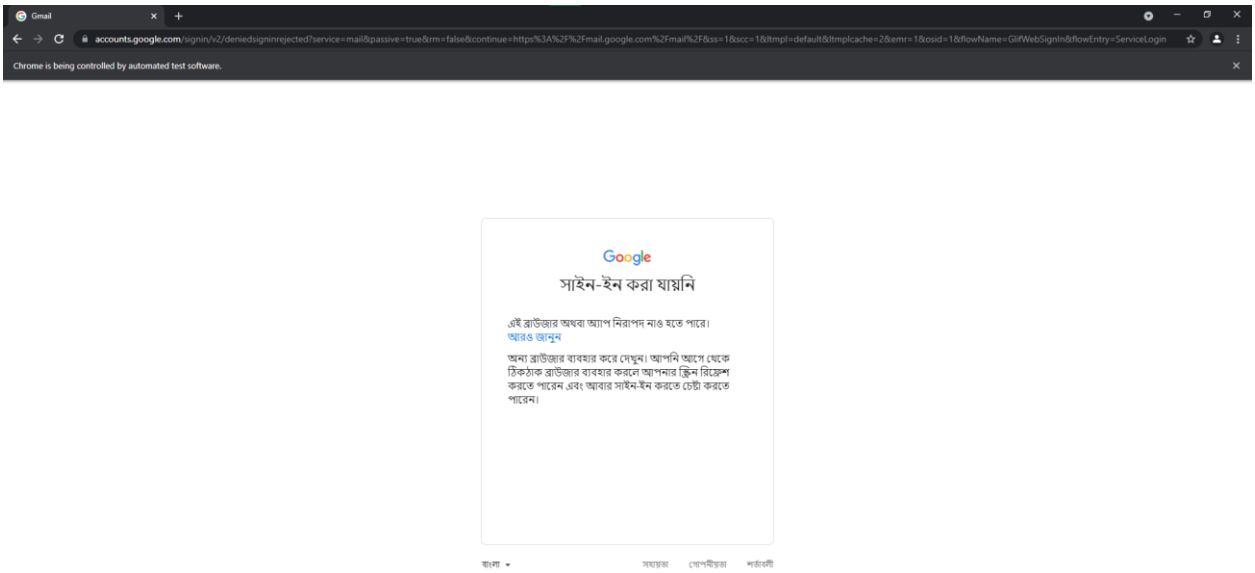
INFO: Detected dialect: W3C
Test is Successful!!!



In Firefox web extension:

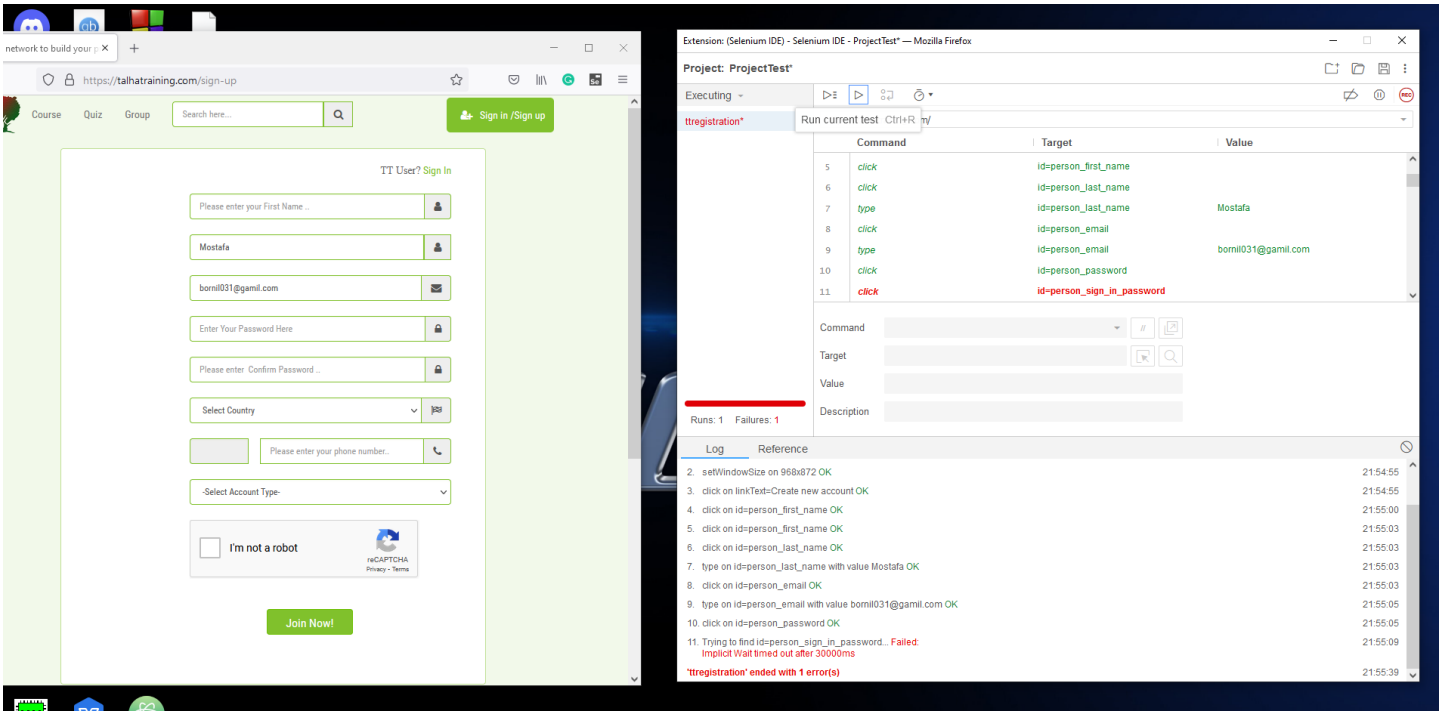


Figure 1: Unsuccessful test of registration

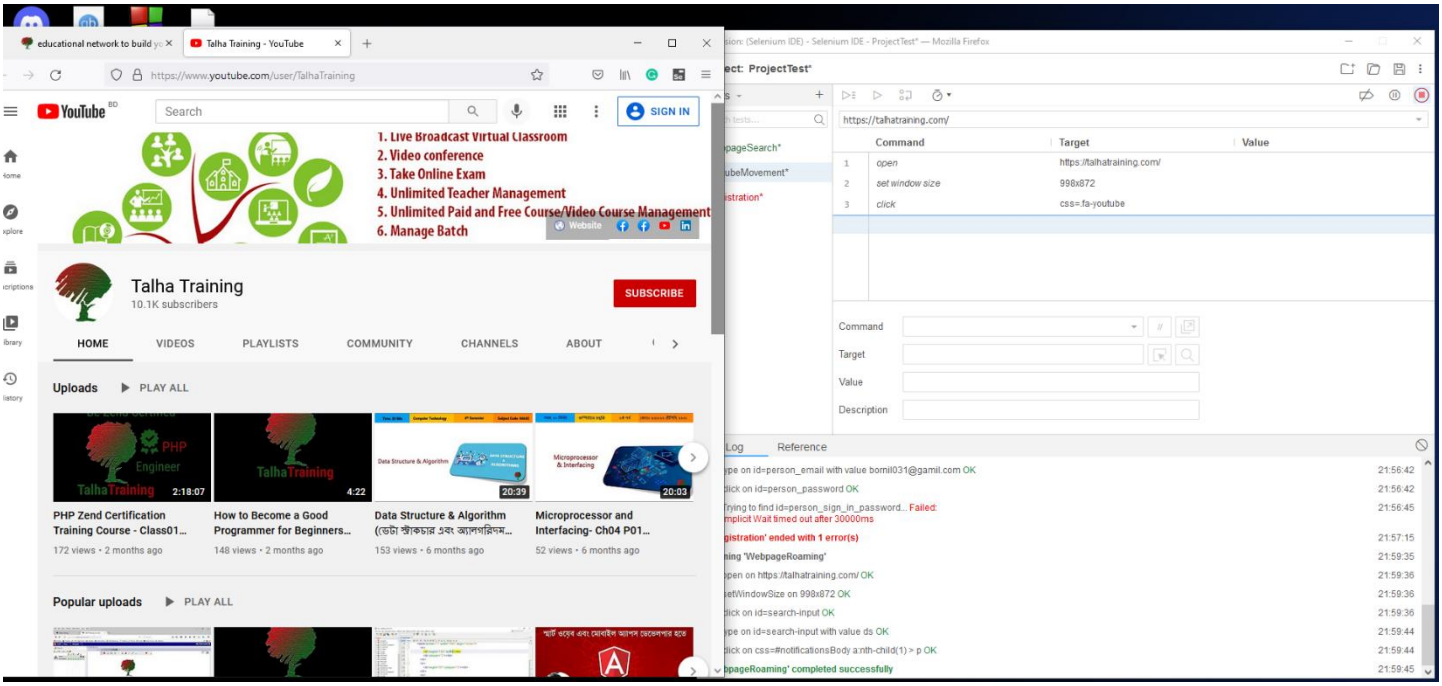


Figure 2: successfully click to YouTube

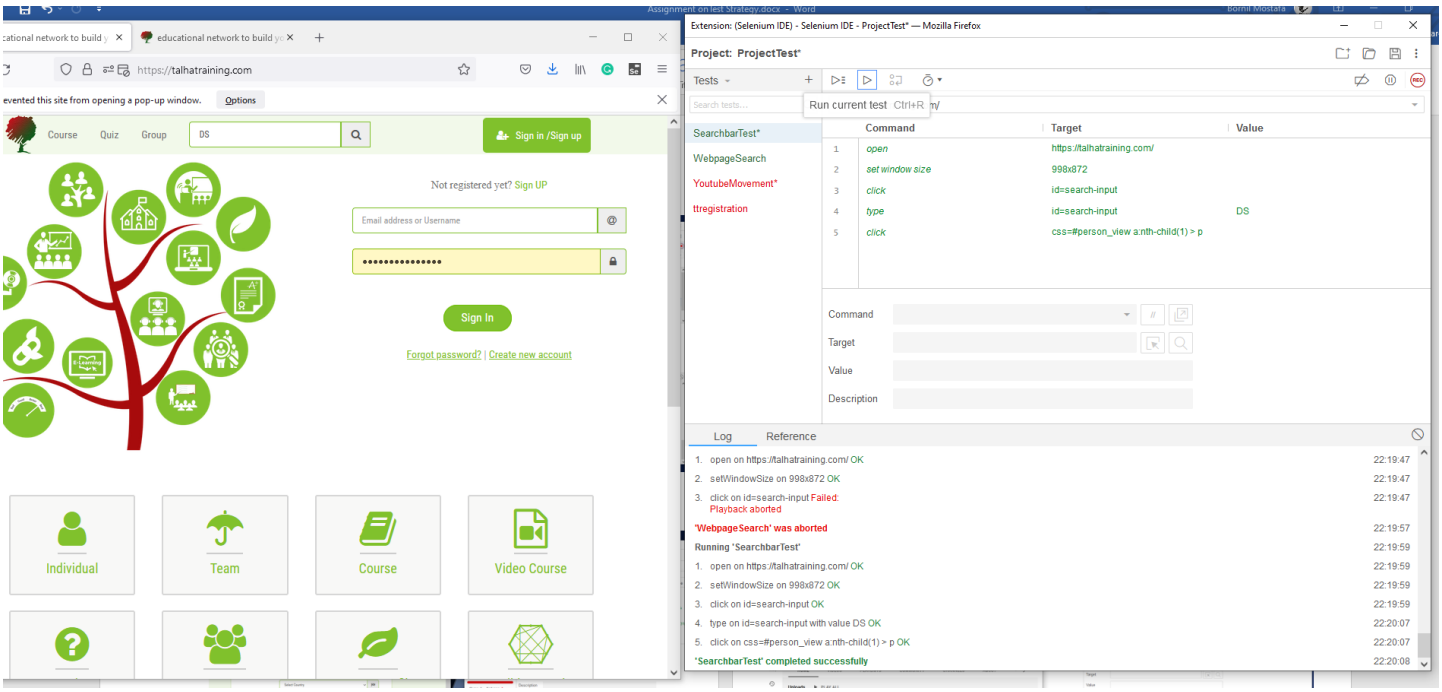


Figure 3: Successfully in Search Bar

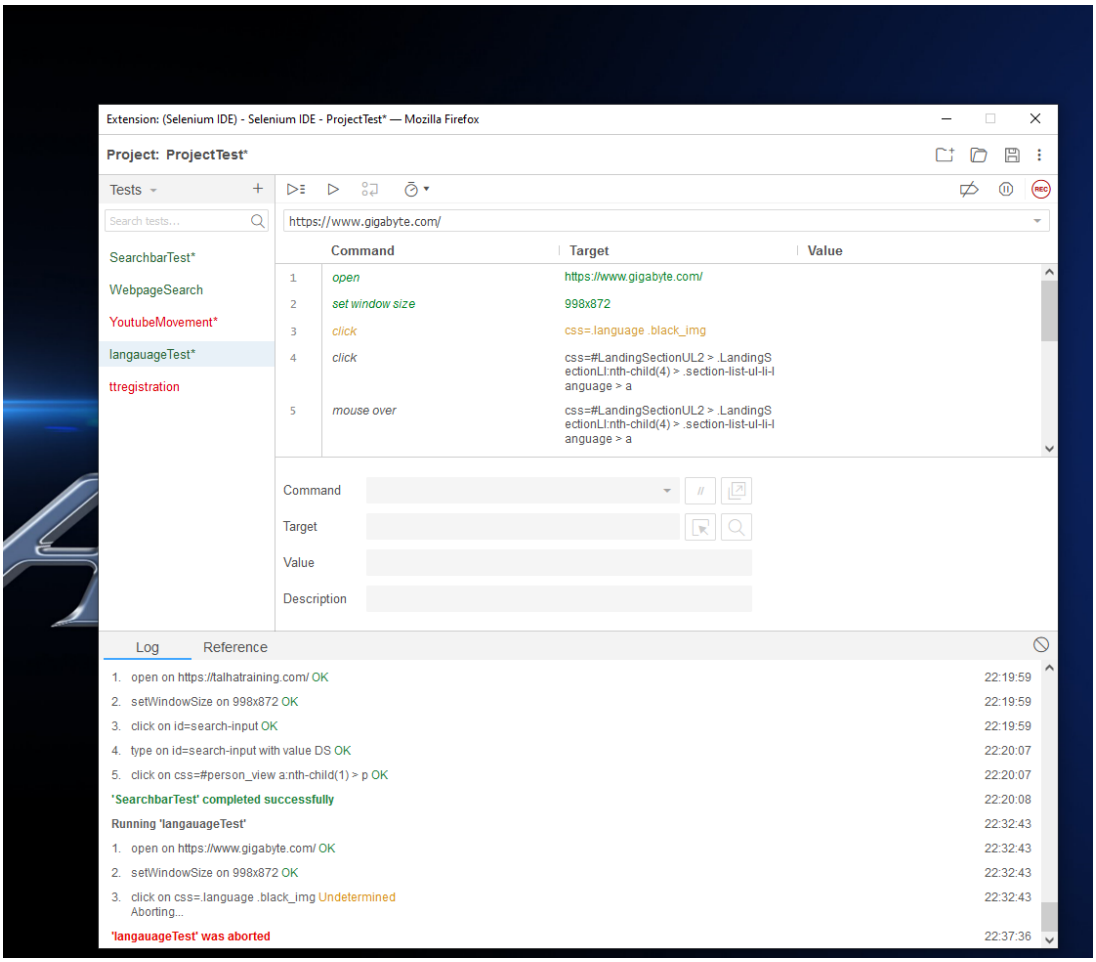


Figure 4: Unsuccessfully test of language because Hugh Data

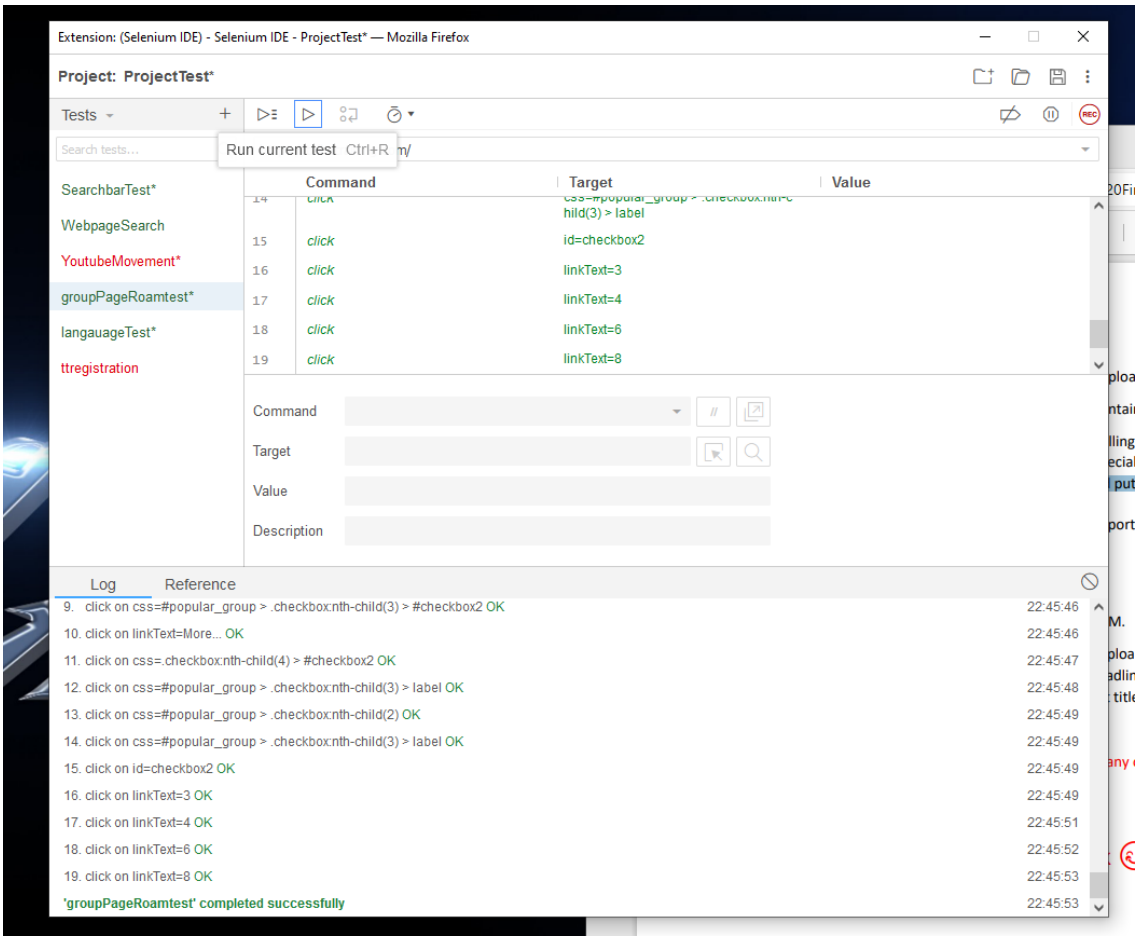


Figure 5: Groupage Roaming Test Result