



Assignment Cover Page

Assignment Title:	Selenium Downloads and Test Case		
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Course Title:	Software Quality and Testing		
Course Code:	CSC4271	Section:	B
Semester:	Fall	2022-23	Course Teacher: ABHIJIT BHOWMIK

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Group Name/No.:

No	Name	ID	Program	Signature
1	OISHI SINGH	20-43067-1	Bsc CSE	oishi
2	ANIK DEBNATH	20-42780-1	Bsc CSE	anik

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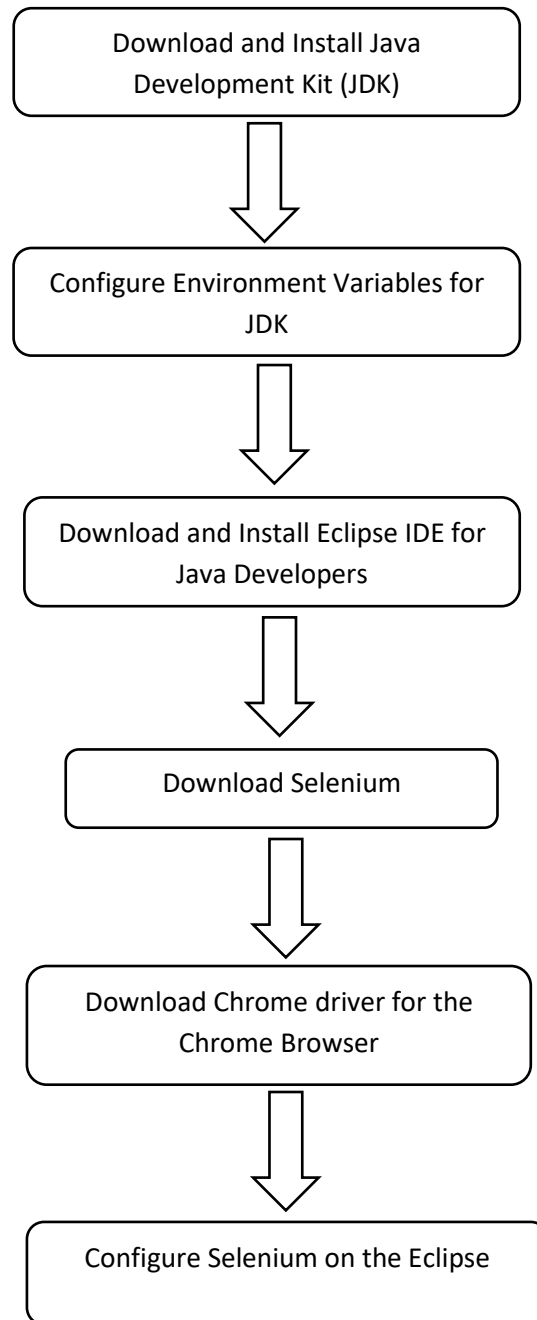
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What is Selenium: Selenium is basically used to automate the testing across various web browsers. It supports various browsers like Chrome, Mozilla, Firefox, Safari, and IE, and we can very easily automate browser testing across these browsers using Selenium WebDriver.

PART-1 The Selenium Web driver installation procedure for testing web applications automatically.

Flowchart of Installation Process

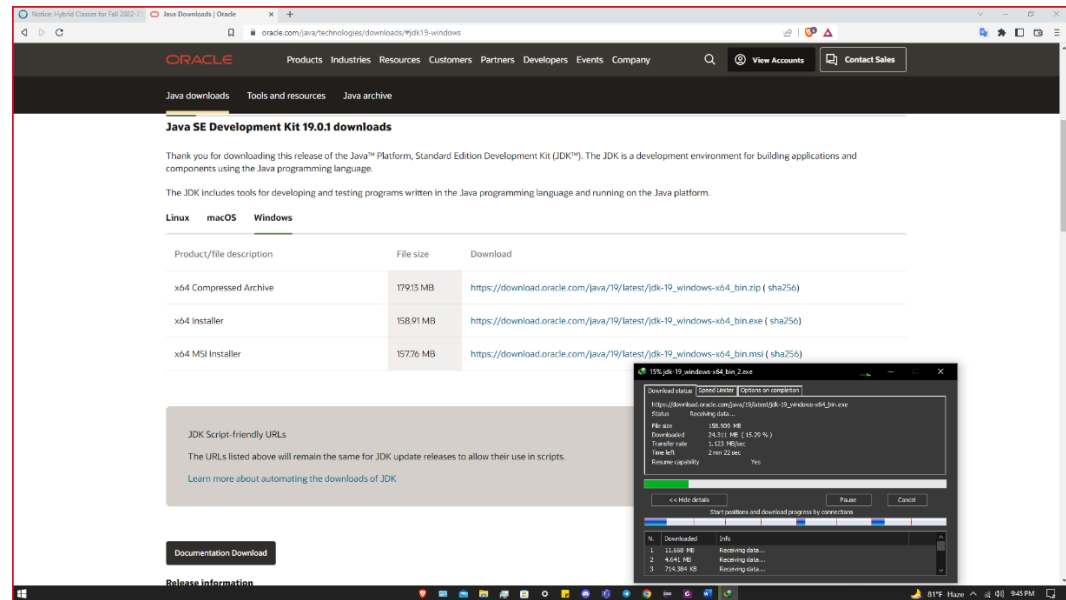


Download and install the Java Development Kit. Visual Representation and Description of Each Step in the Flowchart (JDK)

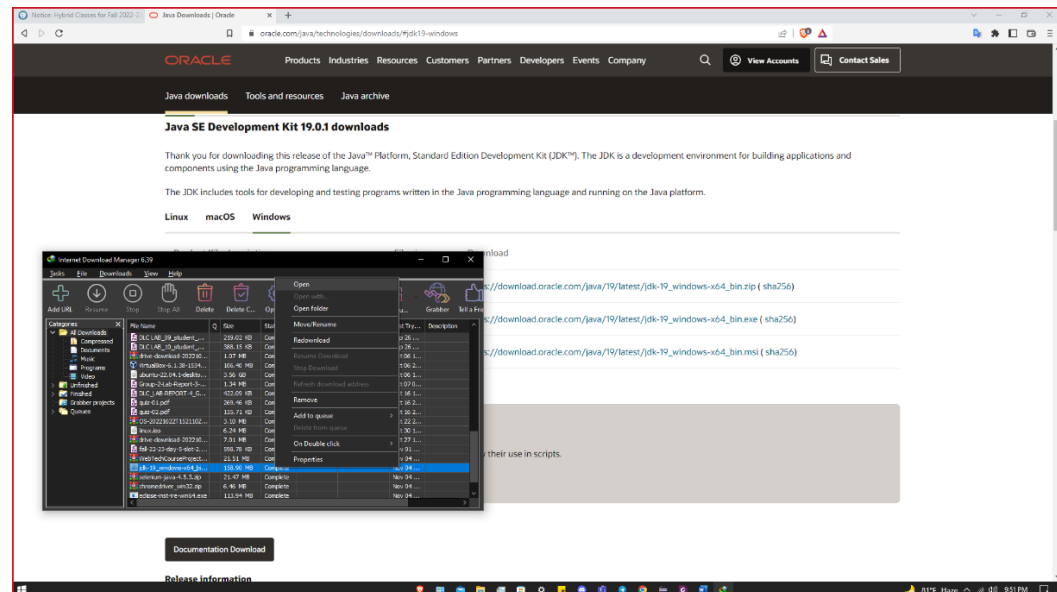
1. For downloading the Java Development Kit (JDK) you need to click on that link. This is only for windows users. For macOS and Linux there are also available links on the website.

(https://download.oracle.com/java/19/latest/jdk-19_windows-x64_bin.exe)

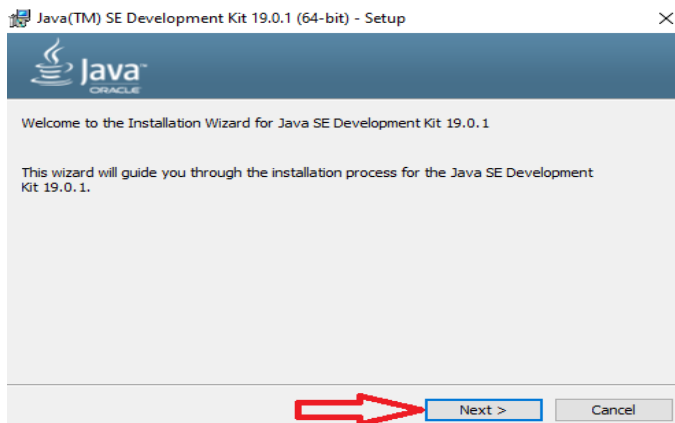
2. The necessary file will then begin downloading after that.



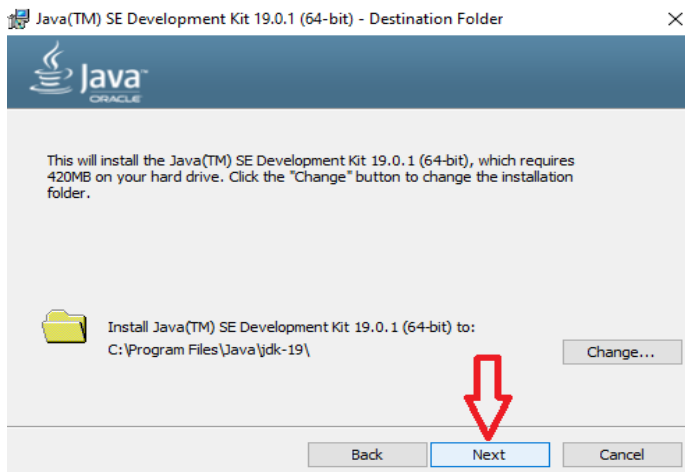
3. After successful downloading open the file.



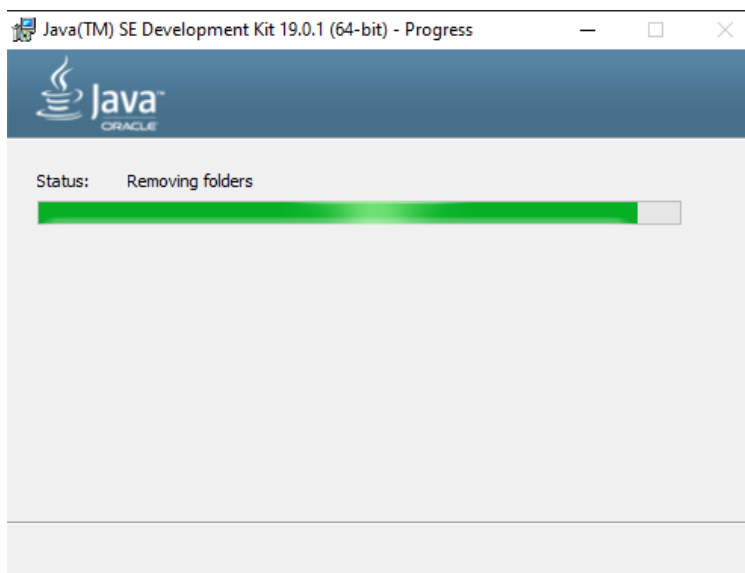
4. After opening this file we can see this interface and click on the **Next** option.



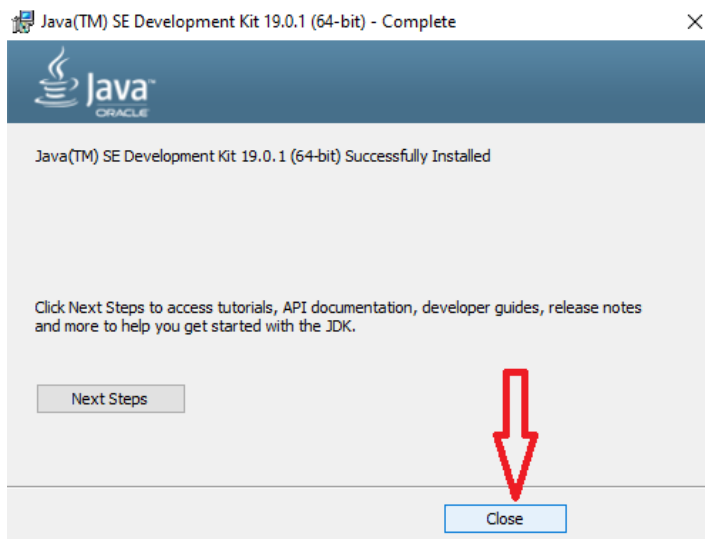
5. Again, click on the Next option.



6. Wait some moment for further process.



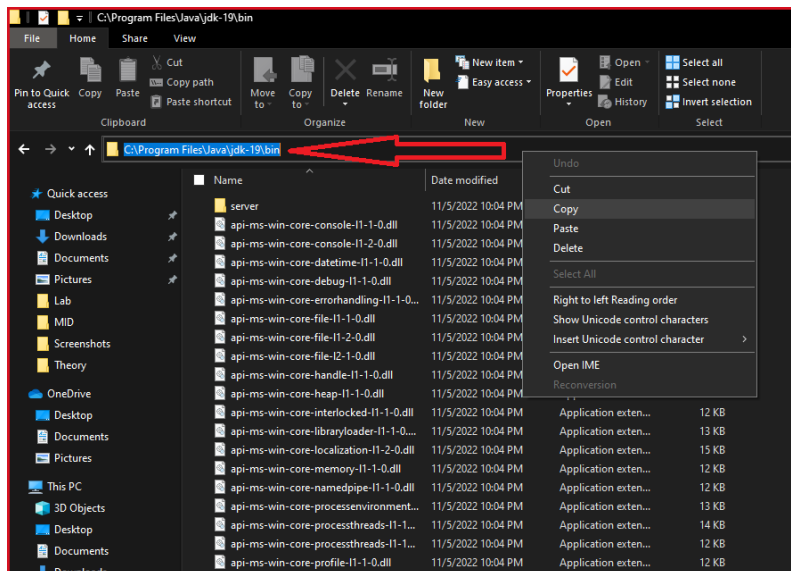
7. After all processes click on **Close** option.



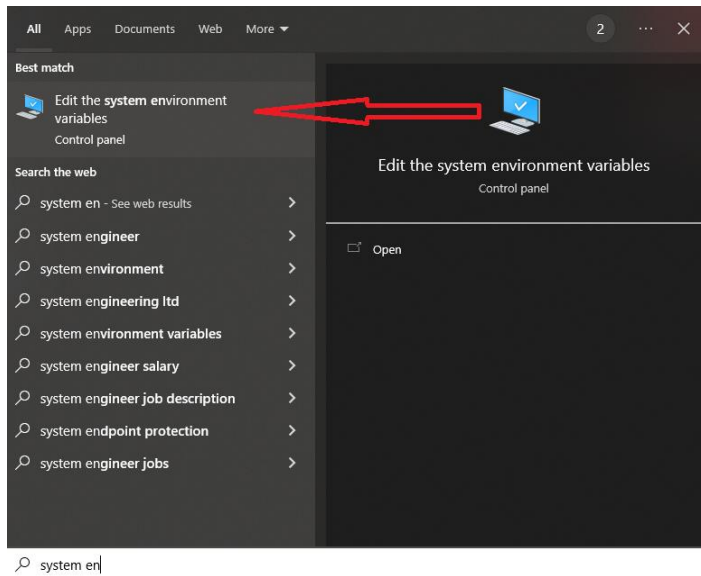
8. So far, our installation process is finished.

Configure Environment Variables for JDK

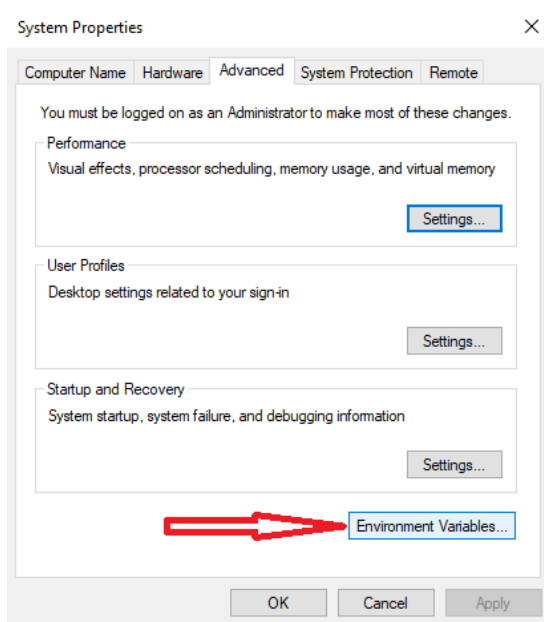
1. After installation we can find our required Java file in this location.



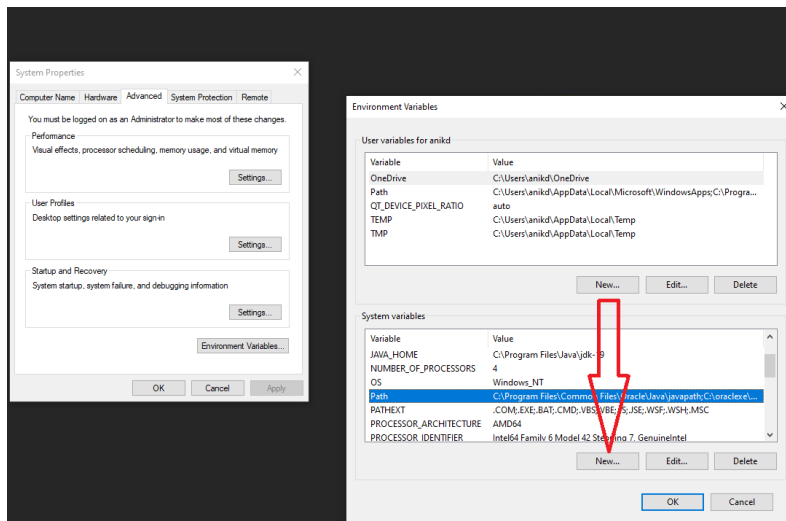
2. Then we need to go to **Settings → System → Search System environment** and Click on **Edit the system environment** option.



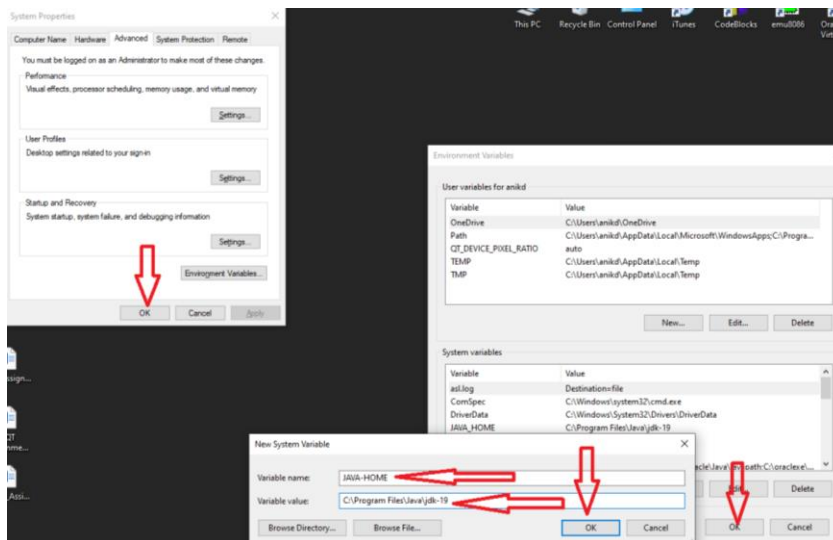
3. Then we can see this interface and click on the **Environment Variables** option.



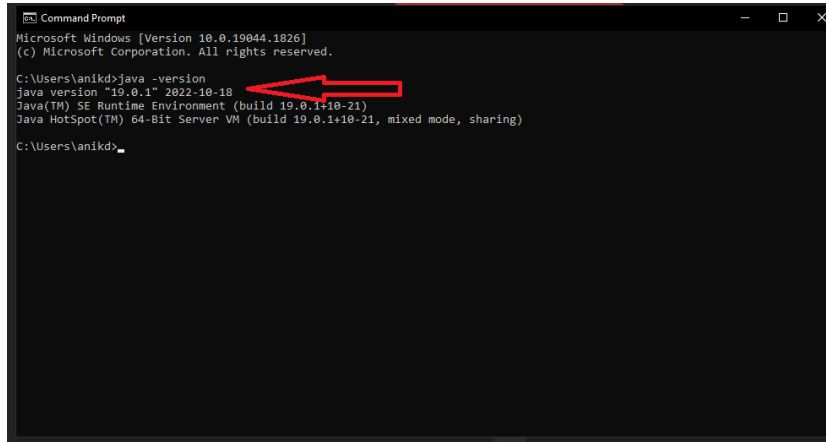
4. Click on **New** option.



5. Then set the Variable Name as **JAVA_HOME** or what you want. And paste location path of the installed JDK folder. (C:\Program Files\Java\jdk-19.0.1). Then click on **OK** in all the tabs.



6. Now we check that our JDK environment variable is properly set or not using the Command Prompt. Open the Command Prompt and write **java -version**. If we can see this kind of text after executing the command then our process is successful.



```
Microsoft Windows [Version 10.0.19044.1826]
(c) Microsoft Corporation. All rights reserved.

C:\Users\anikd>java -version
java version "19.0.1" 2022-10-18
Java(TM) SE Runtime Environment (build 19.0.1+10-21)
Java HotSpot(TM) 64-Bit Server VM (build 19.0.1+10-21, mixed mode, sharing)

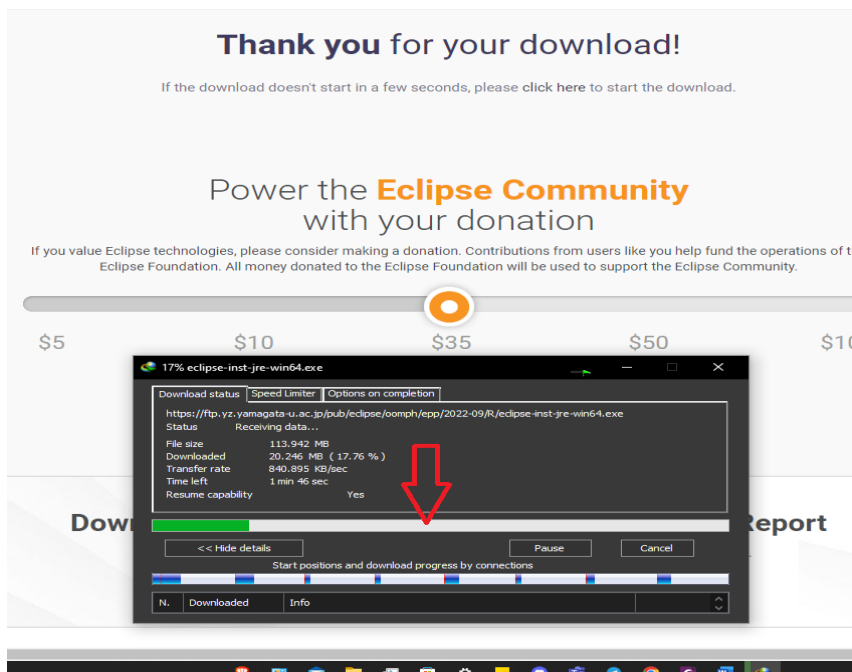
C:\Users\anikd>
```

Download and Install Eclipse IDE for Java Developers

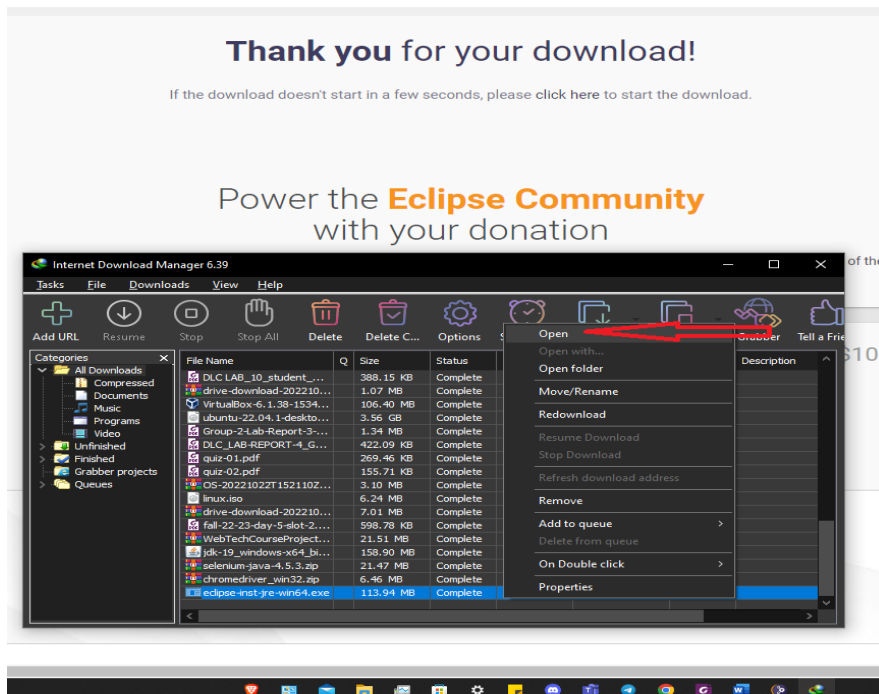
1. For downloading the Eclipse IDE for Java Developers, you need to click on that link. This is only for Windows users. For macOS and Linux, there are also available links on the website.

(<https://www.eclipse.org/downloads/download.php?file=/oomph/epp/2022-09/R/eclipse-inst-jre-win64.exe>)

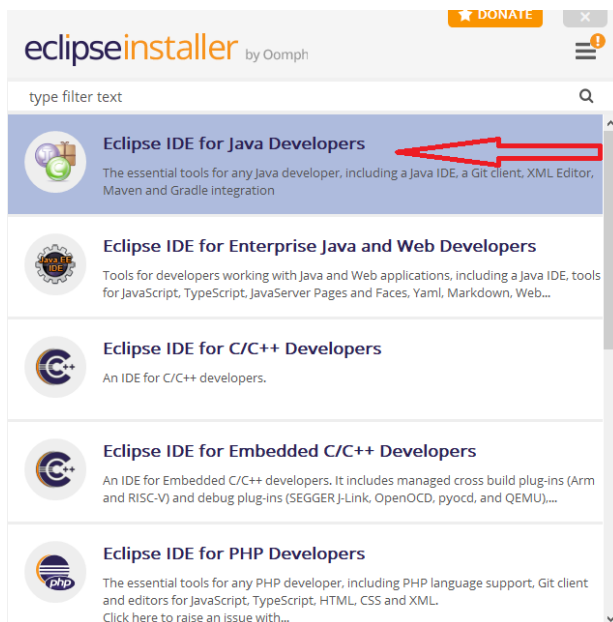
2. Then the required file will start downloading.



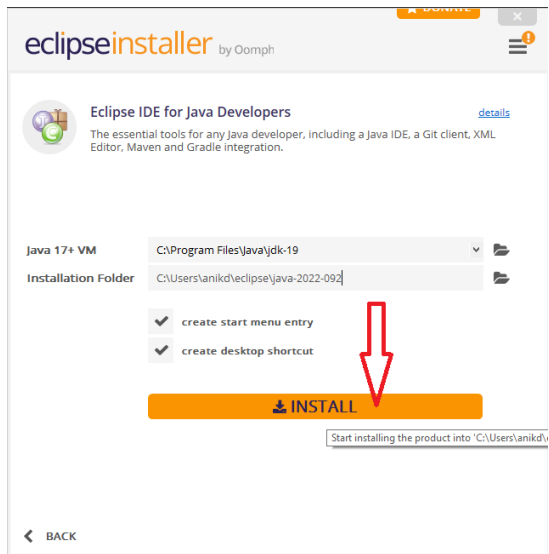
3. After successful downloading open the file.



4. After that we can see this tab and click on the first option.



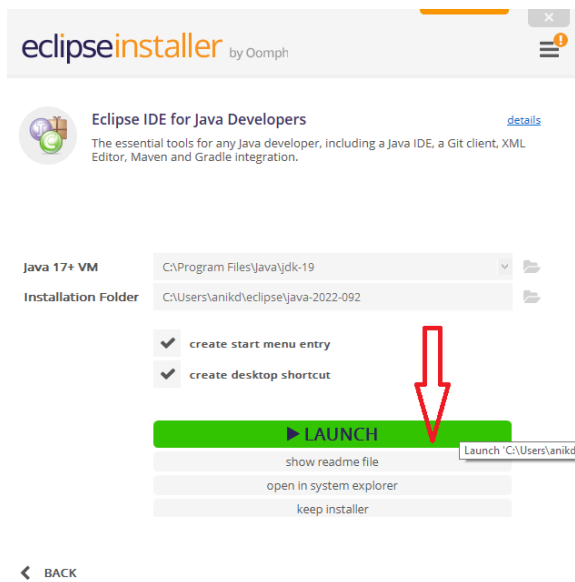
5. Click on the **Install** option.



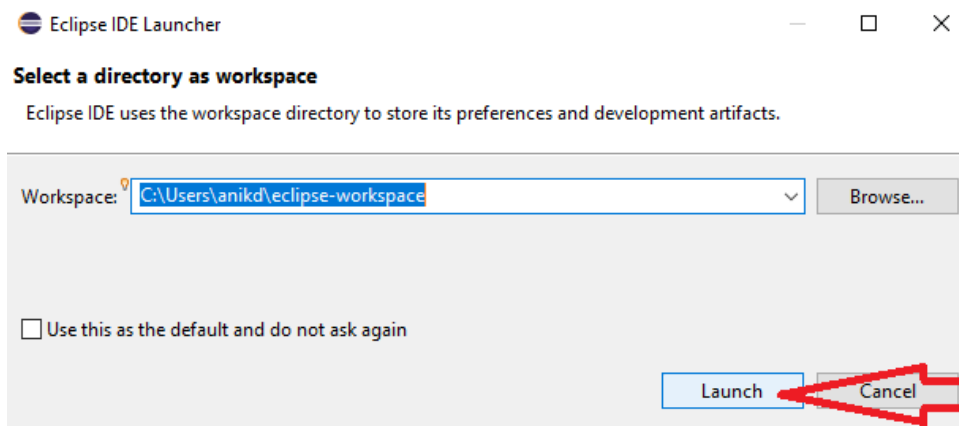
6. Wait some moment for further process.



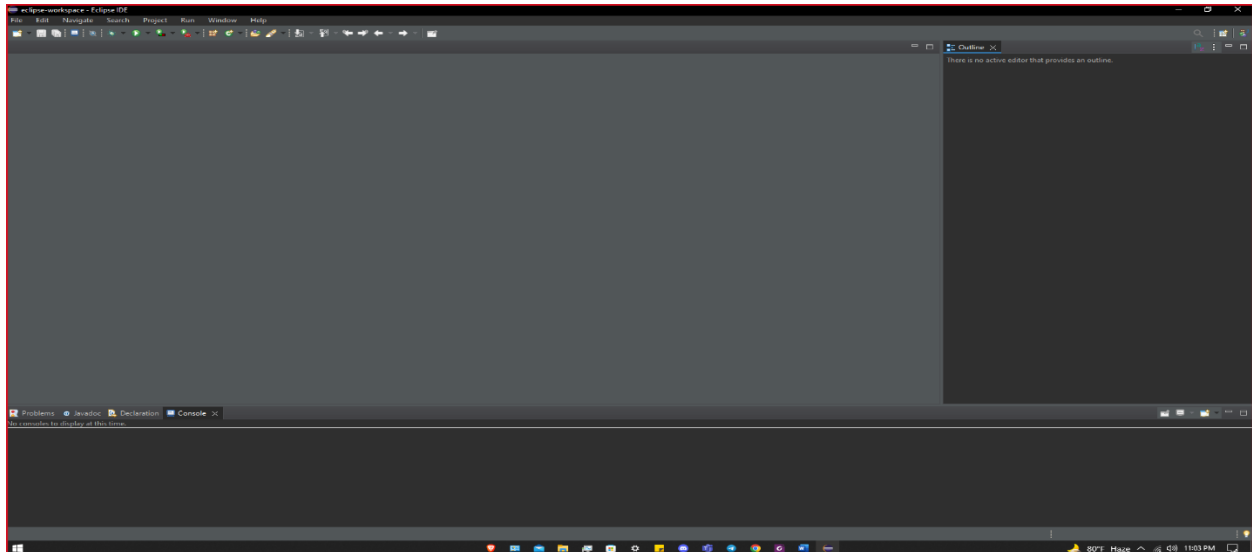
7. Click on the **LAUNCH** option.



8. Again, select the **Launch** option here to open the Eclipse IDE.

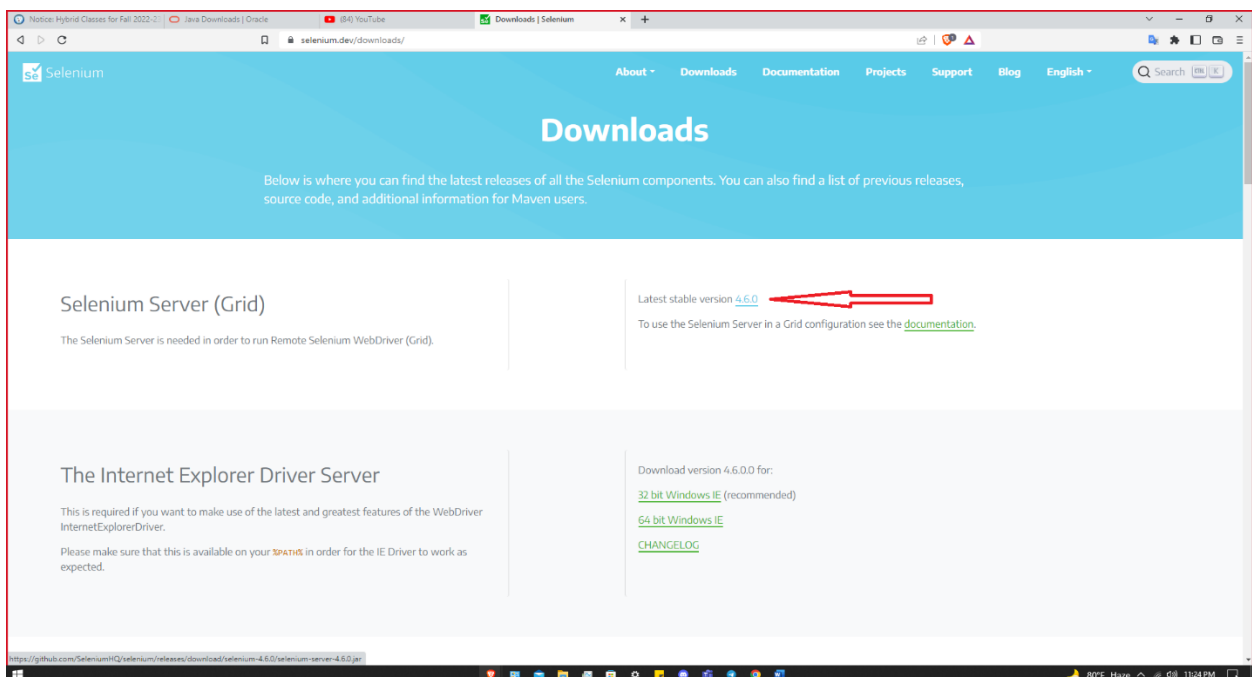


9. After that, we can able to see this window. That's mean our Eclipse IDE is ready for work and our configuration procedure finished.



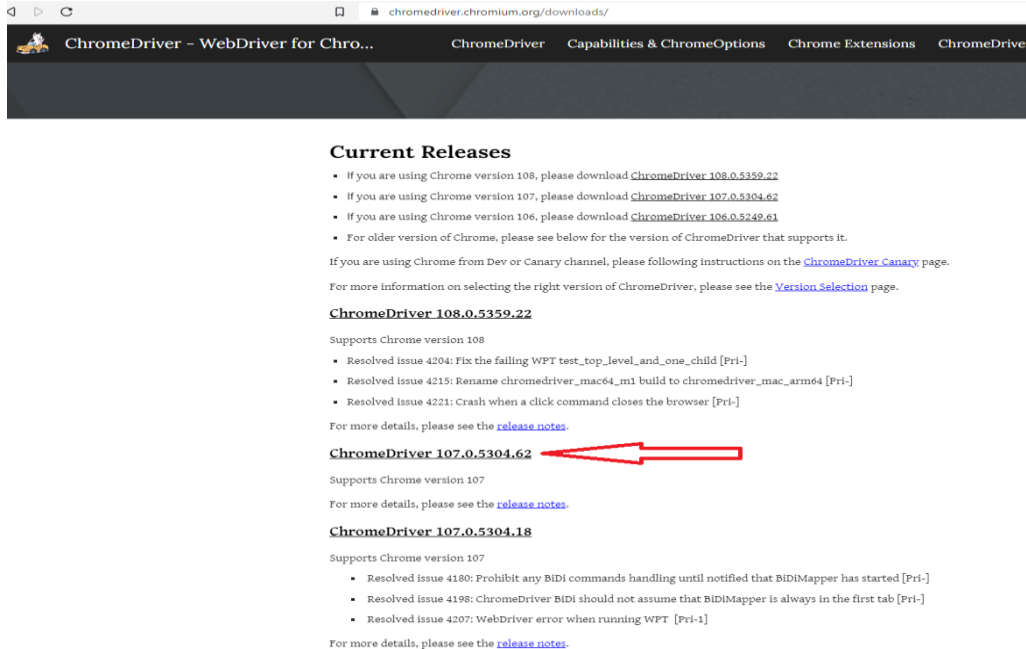
Download Selenium

1. For downloading the Selenium Web driver you need to click on that link.
(<https://www.selenium.dev/downloads/>). Select **Latest stable version 4.6.0** option. Required file start downloading.



Download Chromedriver for the Chrome Browser

1. For downloading the Chromedriver you need to click on this link. (<https://chromedriver.chromium.org/downloads>). Then find the version which will match with your Chrome Browser latest version.



The screenshot shows the 'Current Releases' section of the Chromedriver website. It lists versions for Chrome 108, 107, and 106. A red arrow points to the link for 'ChromeDriver 107.0.5304.62', which is the version being used in the tutorial.

Current Releases

- If you are using Chrome version 108, please download [ChromeDriver 108.0.5359.22](#)
- If you are using Chrome version 107, please download [ChromeDriver 107.0.5304.62](#)
- If you are using Chrome version 106, please download [ChromeDriver 106.0.5249.61](#)
- For older version of Chrome, please see below for the version of ChromeDriver that supports it.

If you are using Chrome from Dev or Canary channel, please following instructions on the [ChromeDriver Canary](#) page.

For more information on selecting the right version of ChromeDriver, please see the [Version Selection](#) page.

ChromeDriver 108.0.5359.22

Supports Chrome version 108

- Resolved issue 4204: Fix the failing WPT test_top_level_and_one_child [Pri-]
- Resolved issue 4215: Rename chromedriver_mac64_m1 build to chromedriver_mac_arm64 [Pri-]
- Resolved issue 4221: Crash when a click command closes the browser [Pri-]

For more details, please see the [release notes](#).

ChromeDriver 107.0.5304.62

Supports Chrome version 107

For more details, please see the [release notes](#).

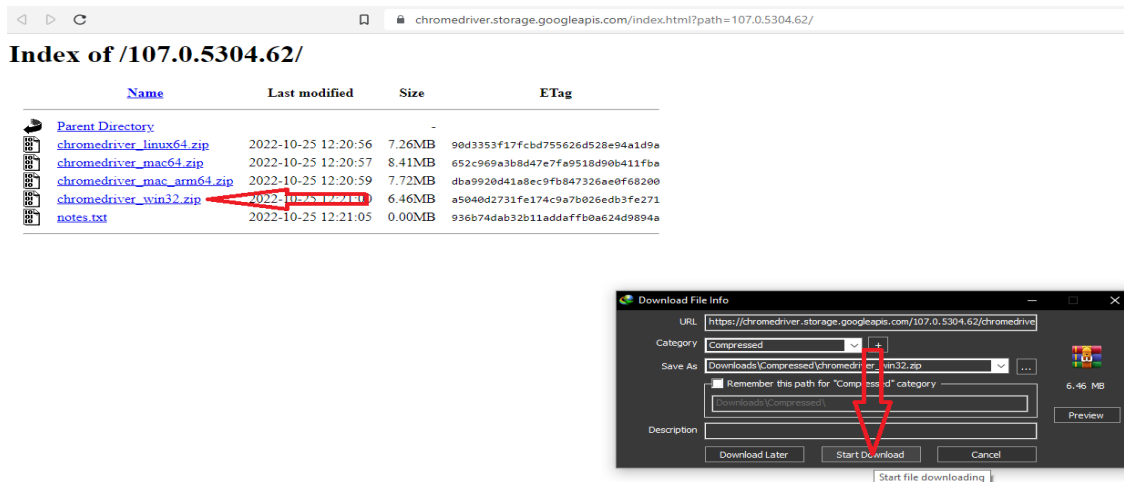
ChromeDriver 107.0.5304.18

Supports Chrome version 107

- Resolved issue 4180: Prohibit any BiDi commands handling until notified that BiDiMapper has started [Pri-]
- Resolved issue 4198: ChromeDriver BiDi should not assume that BiDiMapper is always in the first tab [Pri-]
- Resolved issue 4207: WebDriver error when running WPT [Pri-1]

For more details, please see the [release notes](#).

2. Then you can see this page. Click on the link which is according to your Operating System. I click on **chromedriver_win32.zip**. Because I use Windows Operating System. Then the required file will start downloading.



The screenshot shows the 'Index of /107.0.5304.62/' page with a table of files. A red arrow points to the 'chromedriver_win32.zip' file. Below the table, a 'Download File Info' dialog box is shown with the 'Start Download' button highlighted by a red arrow.

Index of /107.0.5304.62/

Name	Last modified	Size	ETag
Parent Directory		-	
chromedriver_linux64.zip	2022-10-25 12:20:56	7.26MB	9ed3353f17fcbd755626d528e94a1d9a
chromedriver_mac64.zip	2022-10-25 12:20:57	8.41MB	652c969a3b8d47e7fa9518d90b411fba
chromedriver_mac_arm64.zip	2022-10-25 12:20:59	7.72MB	dba9920d41a8ec9fb847326ae0f68200
chromedriver_win32.zip	2022-10-25 12:21:05	6.46MB	a5040d2731fe174c9a7b026ed3fe271
notes.txt	2022-10-25 12:21:05	0.00MB	936b74dab32b11addaffb0ae624d9894a

Download File Info

URL: https://chromedriver.storage.googleapis.com/107.0.5304.62/chromedriver_win32.zip

Category: [Compressed](#)

Save As: [Downloads\Compressed\chromedriver_win32.zip](#)

☒ Remember this path for "Compressed" category

Description:

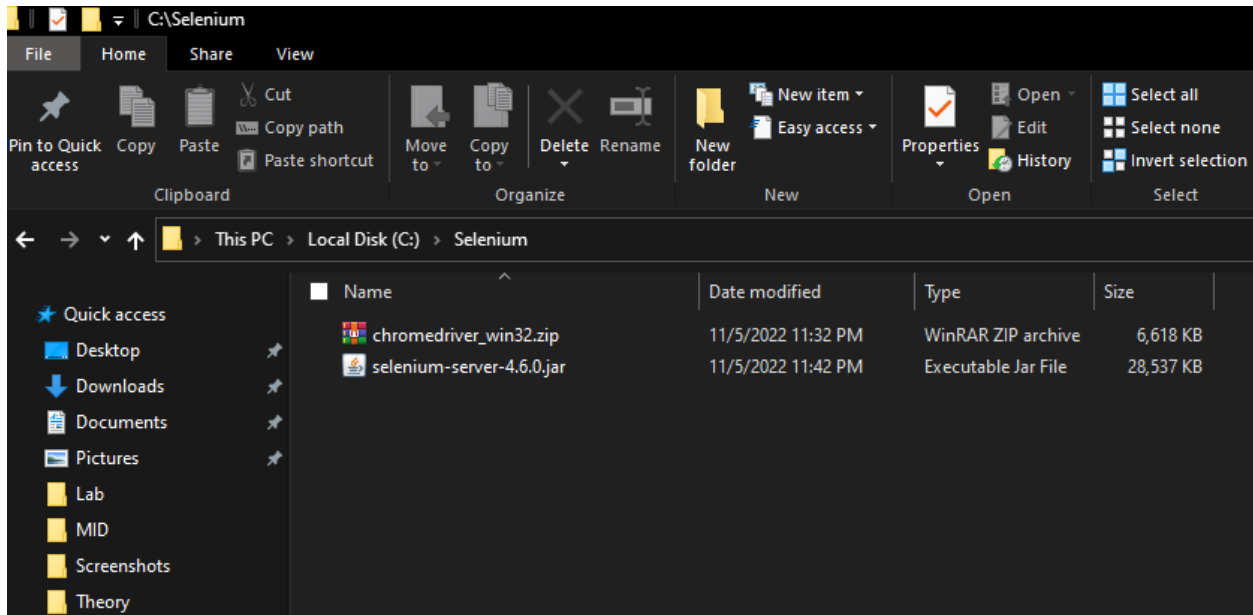
[Download Later](#) [Start Download](#) [Cancel](#)

Start file downloading

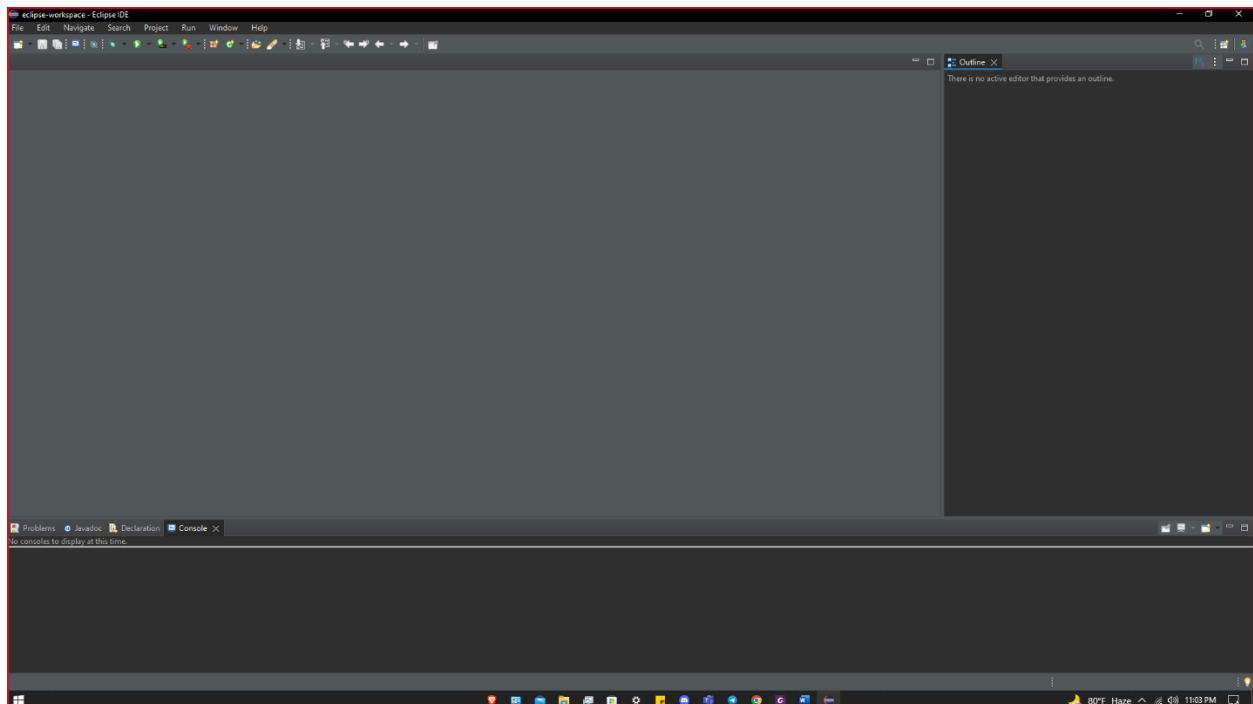
Note: If you use different browser then you need to download the driver according to your browser.

Configure Selenium on the Eclipse

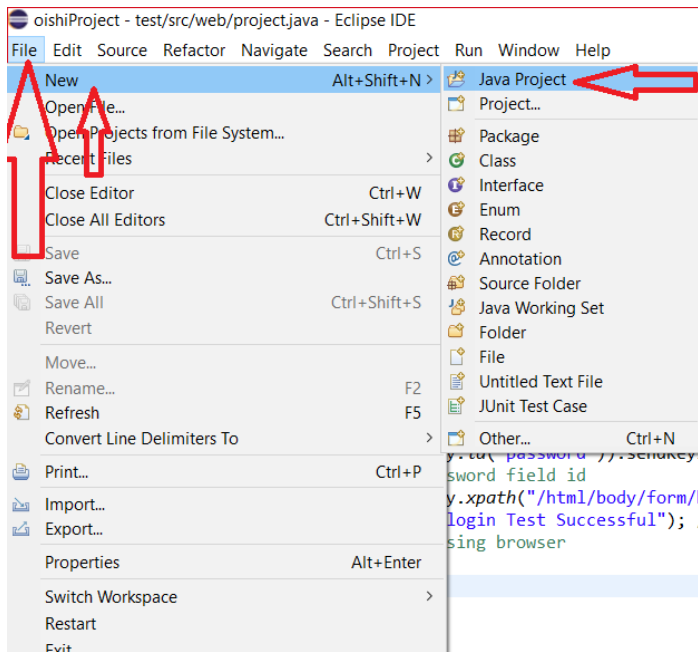
1. For our working convenience, we will keep the Selenium and Chromedriver file in the same folder which we already downloaded in our previous steps. In that case, I created a folder as Selenium in **C Drive**. Then keep those files inside that folder.



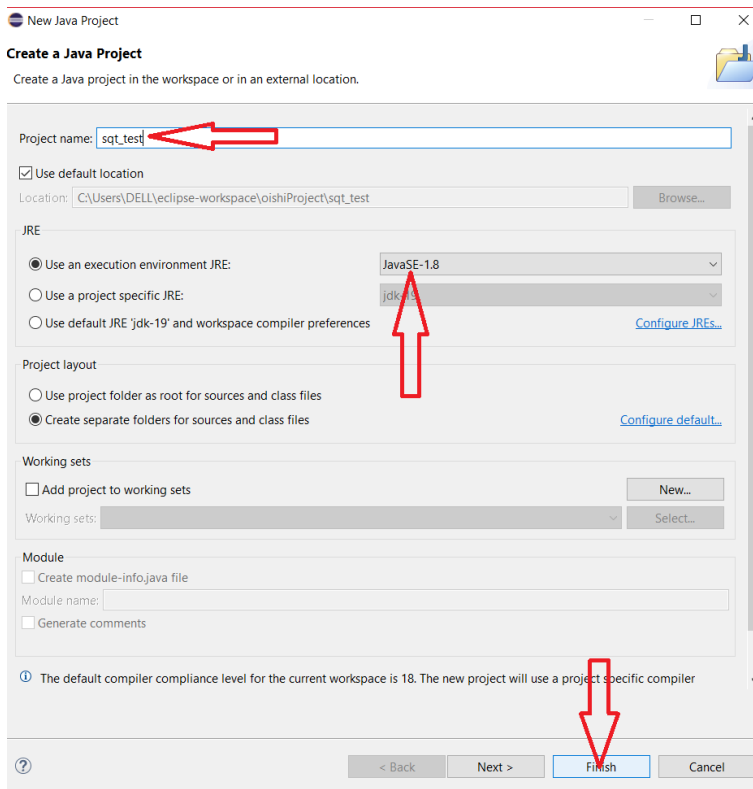
2. Now we run the Eclipse IDE for configure the Selenium



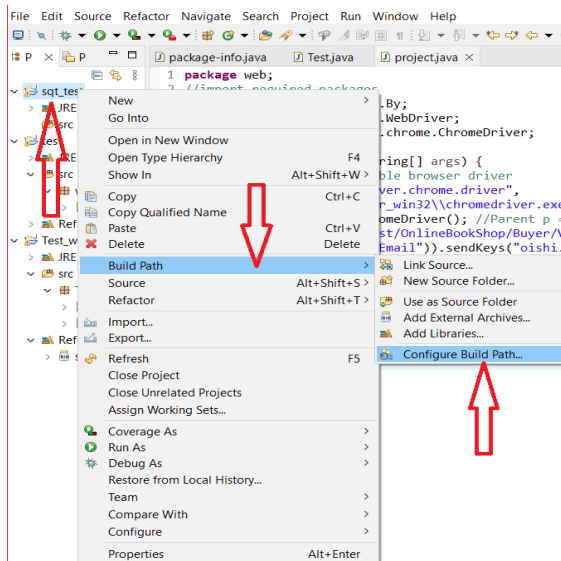
3. For create a new java project. Click on **File → New → Java Project**.



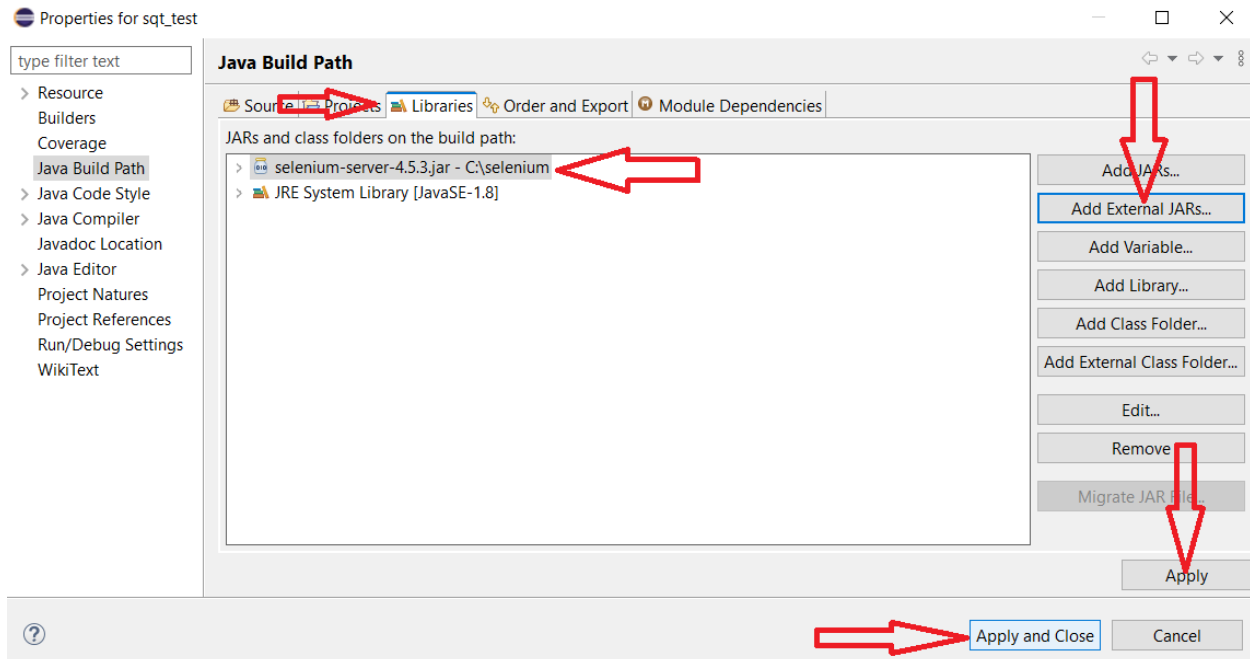
4. Then this tab will appear. Give the **Project Name** as your choice. Then click on that dropdown option and select **JavaSE-1.8** and click on **Finish**.



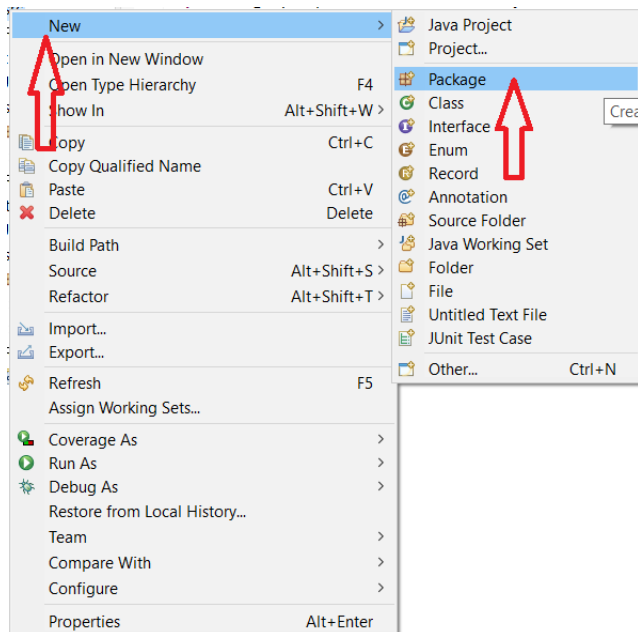
5. Then right click on the project name. Click on **Bulid Path** → **Configure Build Path** option.



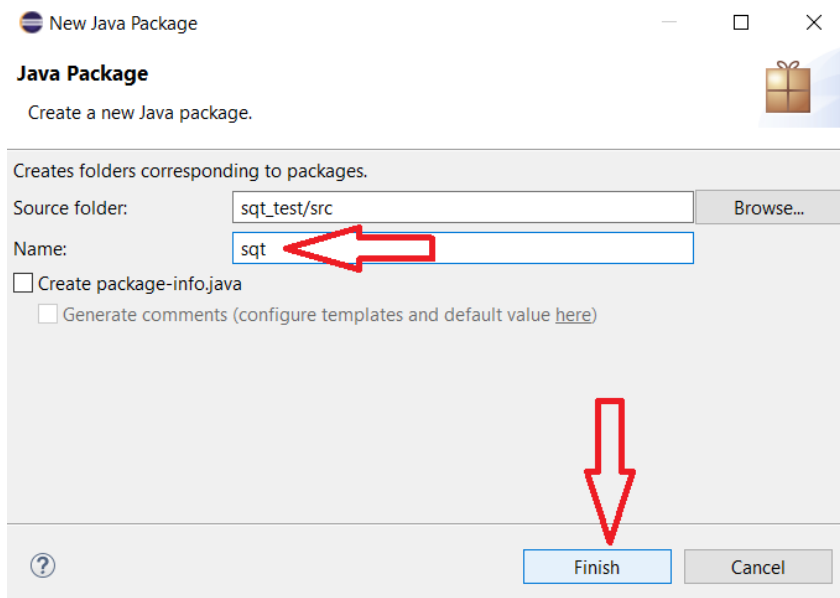
6. Then this tab will appear to us. Then go to **Libraries** → **Add External JARs...** option Then go to that path here we stored our Selenium file then select the file, click on **Open** then click on **Apply and Close**.



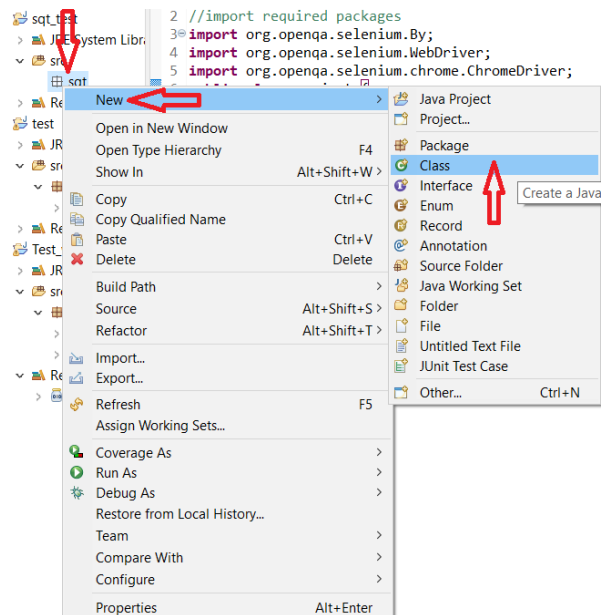
7. Now right click on **src** option then click on **New → Package**.



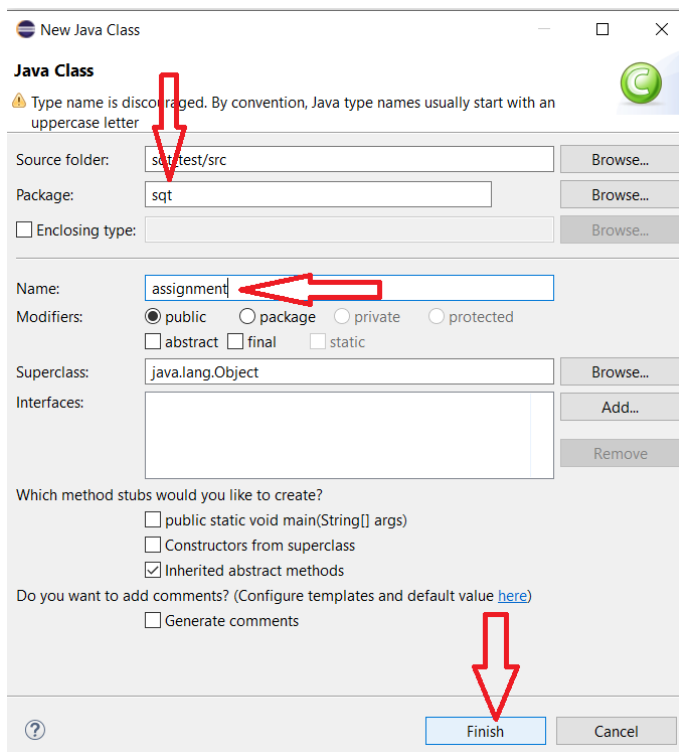
9. Then this tab will appear. Give a name and click on **Finish**.



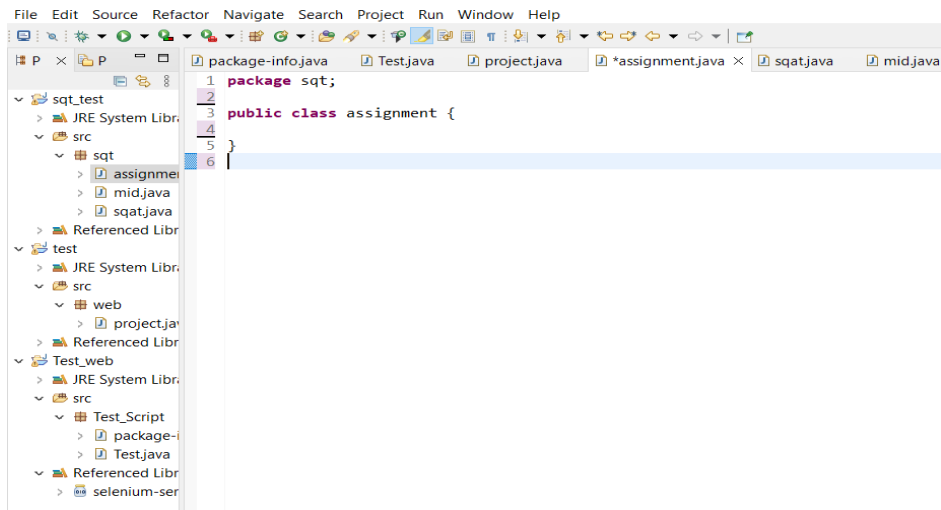
10. After that, click on **sqt** option then **New → Class**.



11. Give a name of **Package** section. Give a class Name Click on **Finish**.

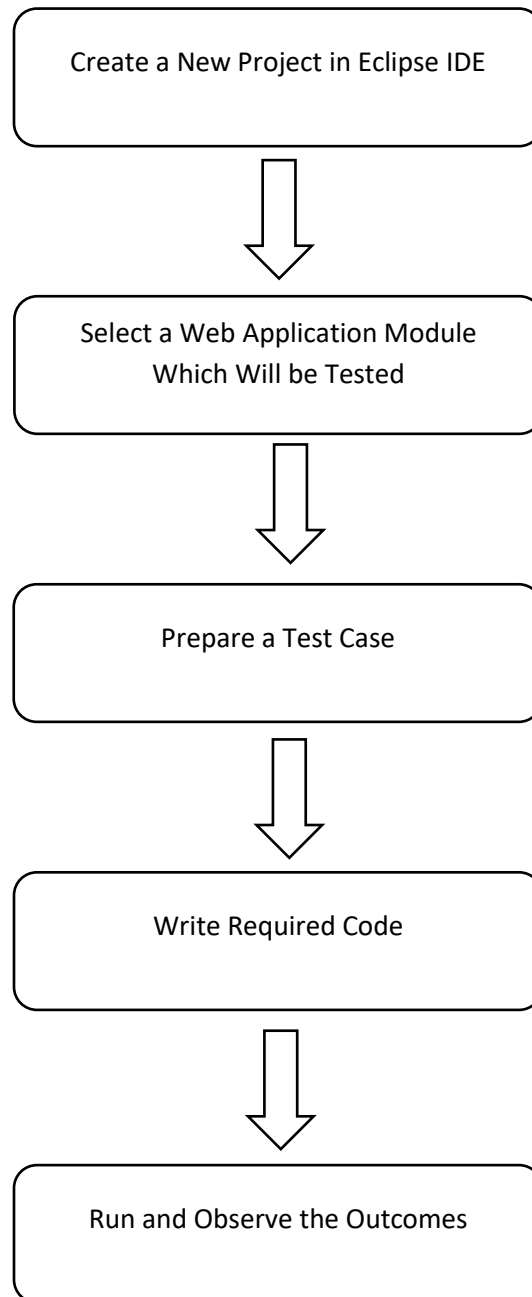


12. Ultimately this window will visible to us. That's mean our Selenium configuration on Eclipse IDE is done.



Part-II: Test a Web Application Module Using Selenium Webdriver.

Flowchart of Testing Process



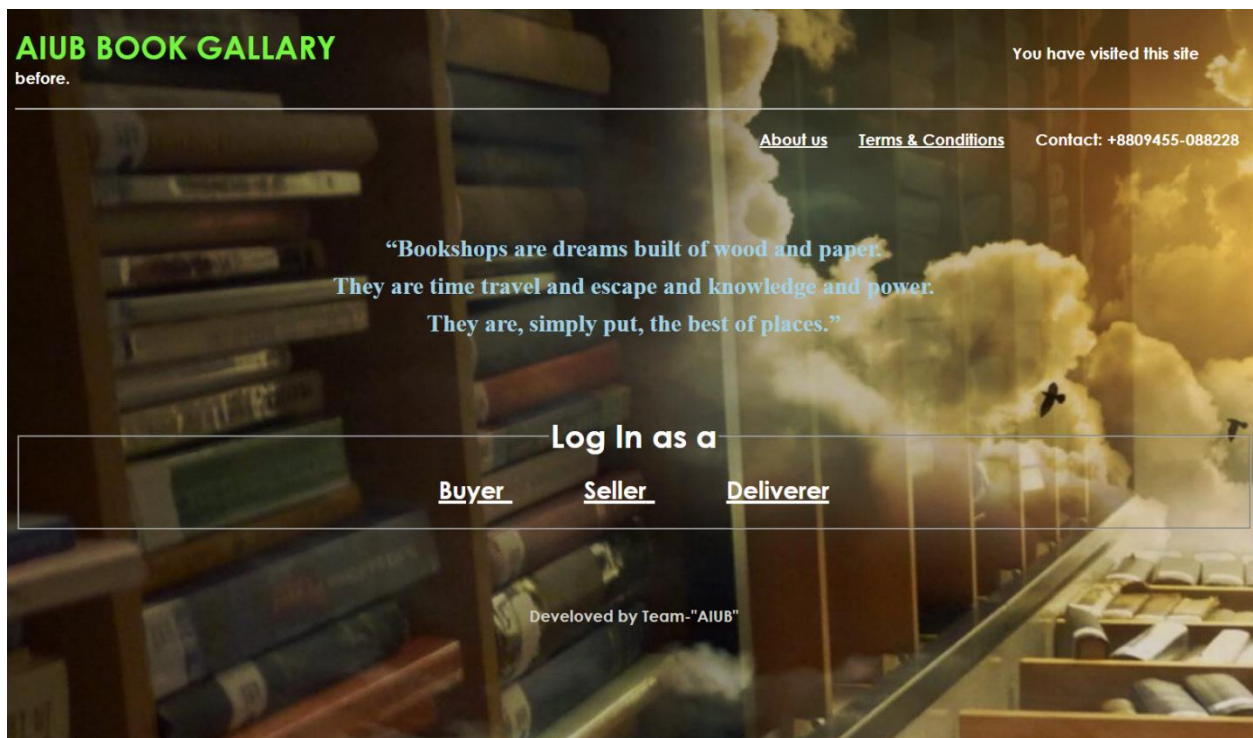
Visual Representation and Description of Each Step of the Flowchart

Create a New Project in Eclipse IDE

1. In **Part-I, Configure Selenium on the Eclipse** section's (ii-xiii) points already explained this procedure. Kindly look over that section then you can easily create a new project in Eclipse IDE.

Select a Web Application Module Which Will be Tested

1. For testing purposes, we select a web application **"Online Book Shop Management System"** that I did in my **"Web Technology"** course. We test the **Login module** of that application.



Write Required Code

1. In that stage, we write the required code for test execution. Each line of the Code's properly explained with comments.

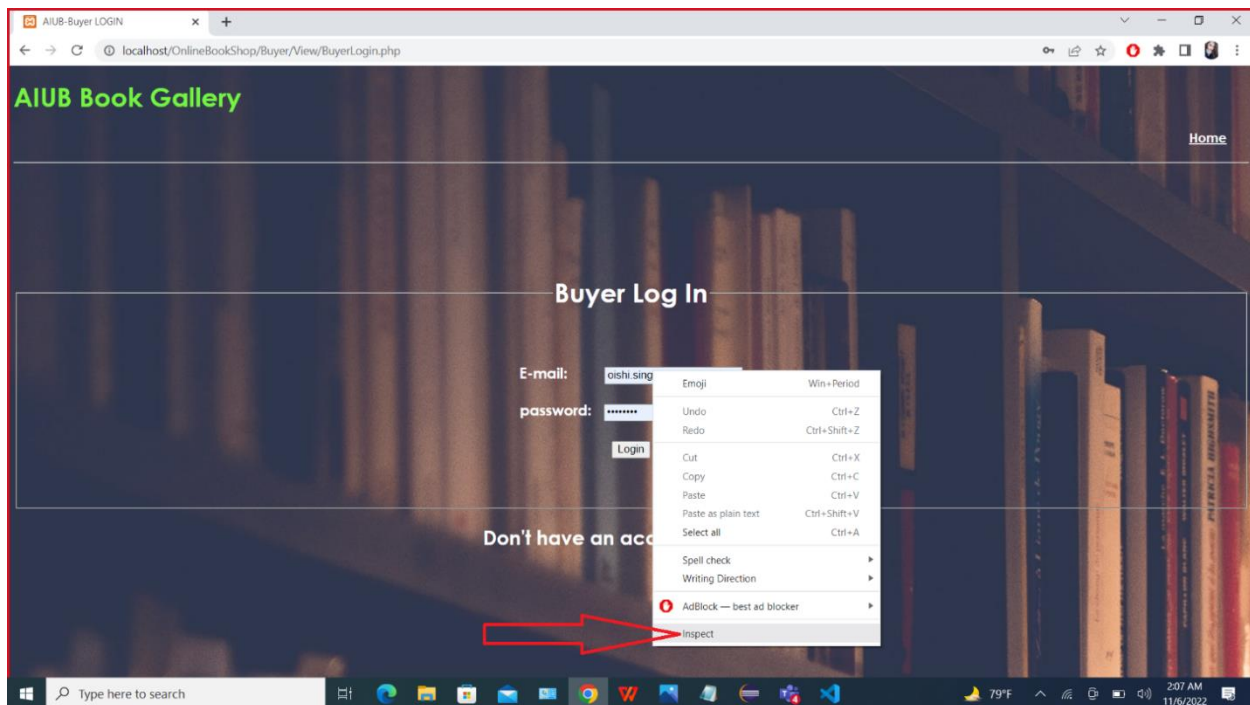
2. This is the code for login module automation testing.

BUYER Login Session:

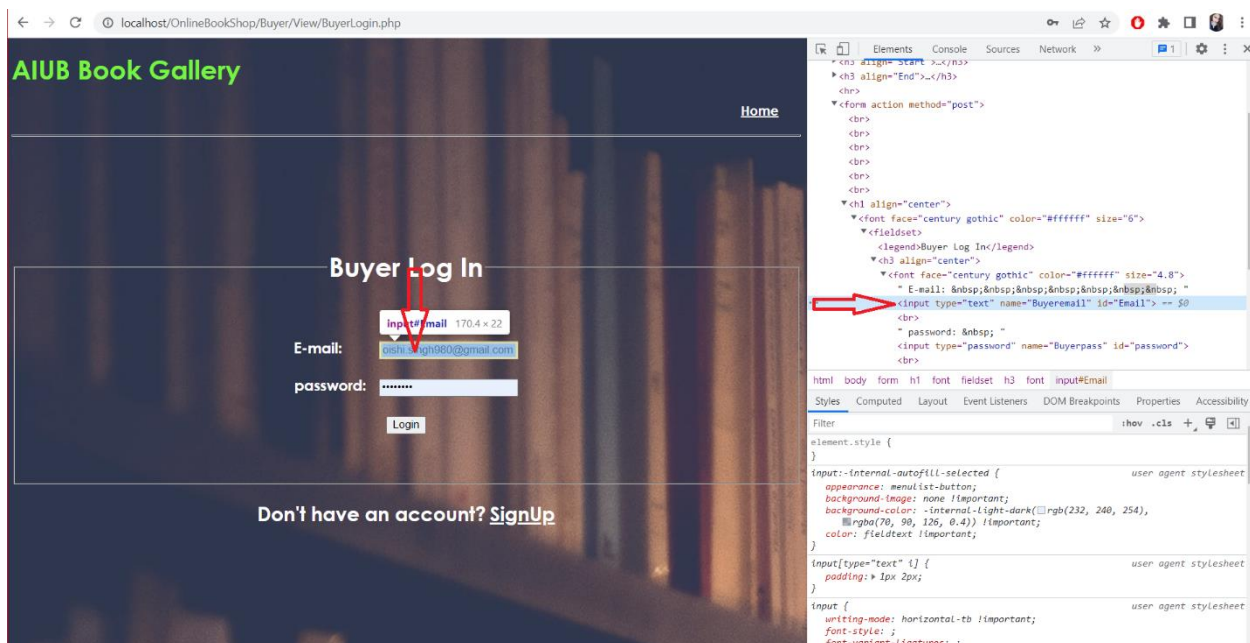
```
package sqt;
//import required packages
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
public class assignment {
    public static void main(String[] args) {
        // Set the path of Executable browser driver
        System.setProperty("webdriver.chrome.driver",
            "C:\\Selenium\\chromedriver_win32\\chromedriver.exe");
        WebDriver driver = new ChromeDriver(); //Parent p = new child (WebDriver is parent and Chrome
        driver is child))
        driver.get("http://localhost/OnlineBookShop/Buyer/View/BuyerLogin.php"); //opening url
        driver.findElement(By.id("Email")).sendKeys("oishi.singh980@gmail.com");
        //login module's E-mail field id
        driver.findElement(By.id("password")).sendKeys("12345678");
        //login module's password field id
        driver.findElement(By.xpath("/html/body/form/h1/font/fieldset/h3/font/input[3]")).click();
        System.out.println("login Test Successful"); //Print that text after successful code execution
        driver.quit(); //closing browser
    }
}
```

Finally we tested our 2 project session. First one is Buyer Login session:

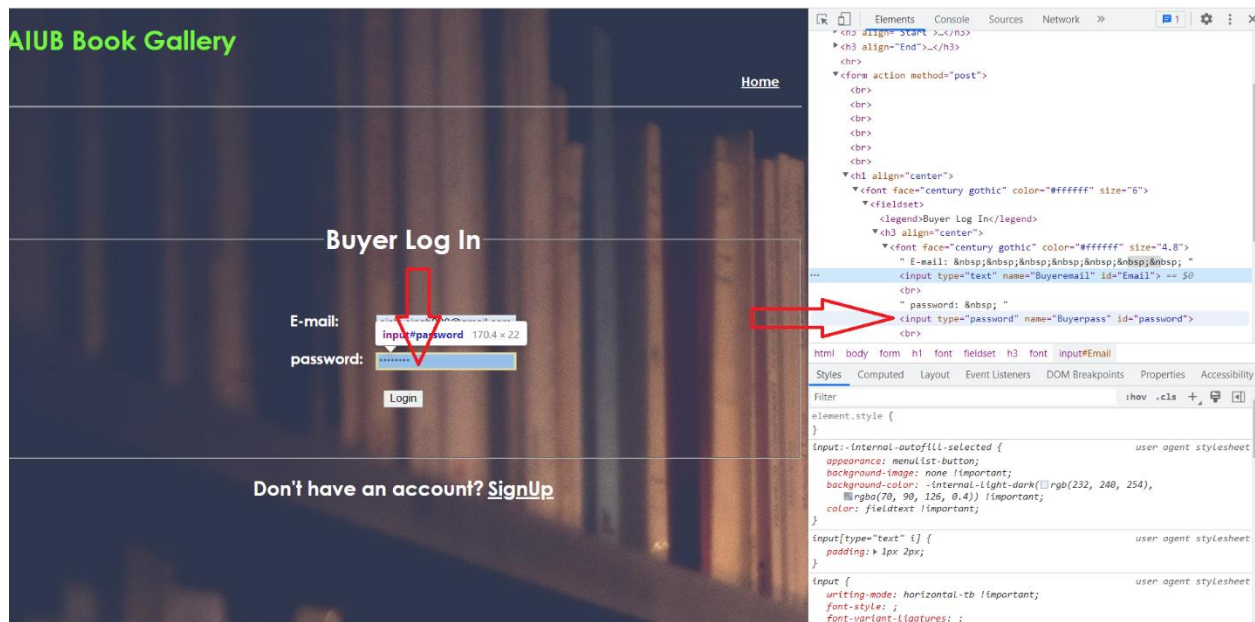
First, we need to go to the web page. Then select the field (Buyer login session) and right-click on that field. Go to Inspect then the respective field code block appears to us and we can easily find the E-mail and copy that. Same process goes for password and login field.



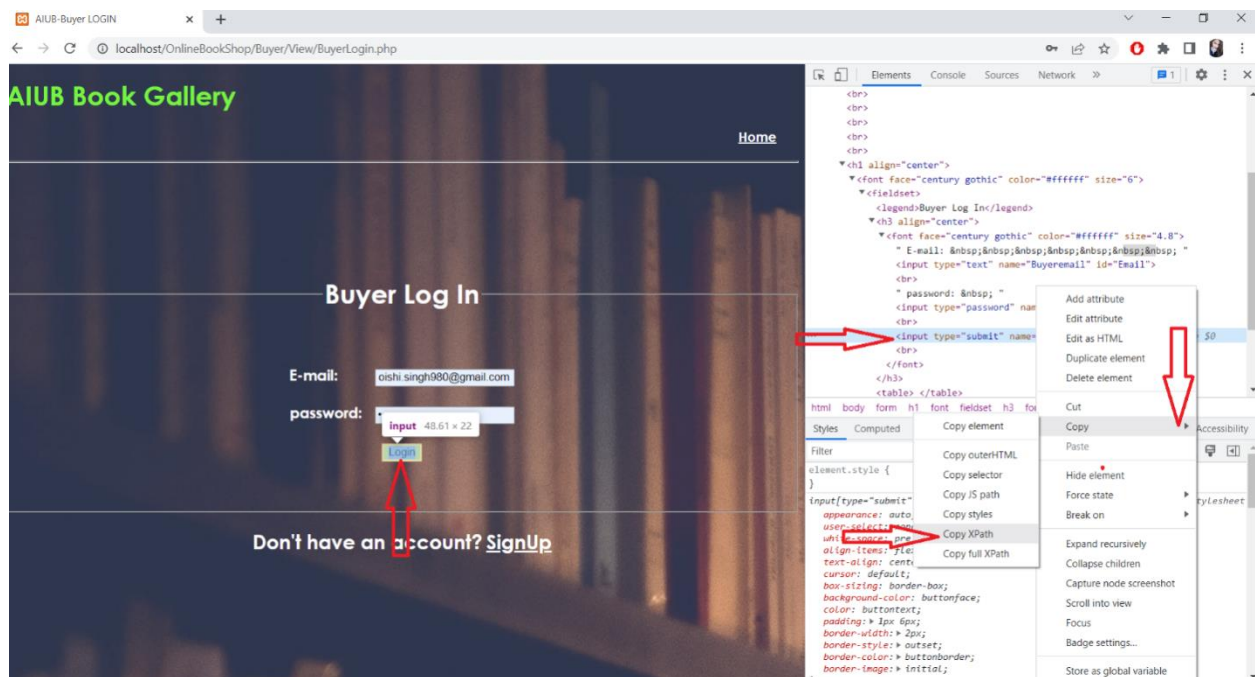
This is for E-mail field.



This is for password field.



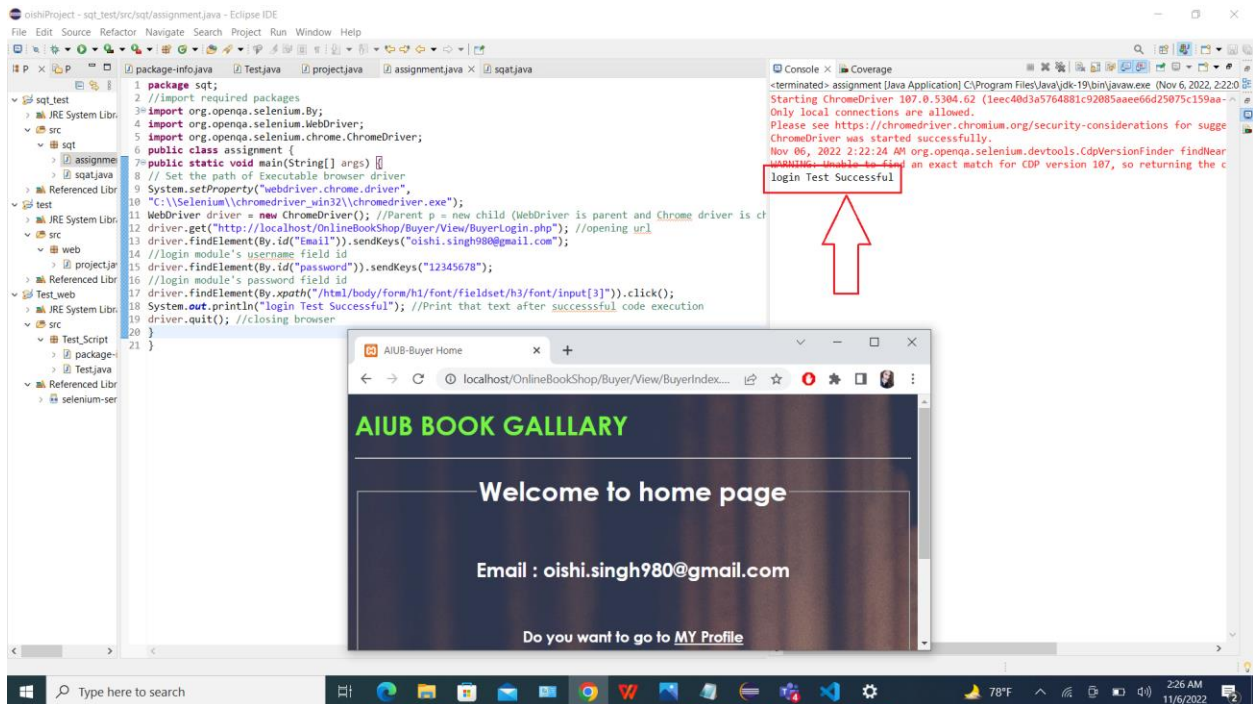
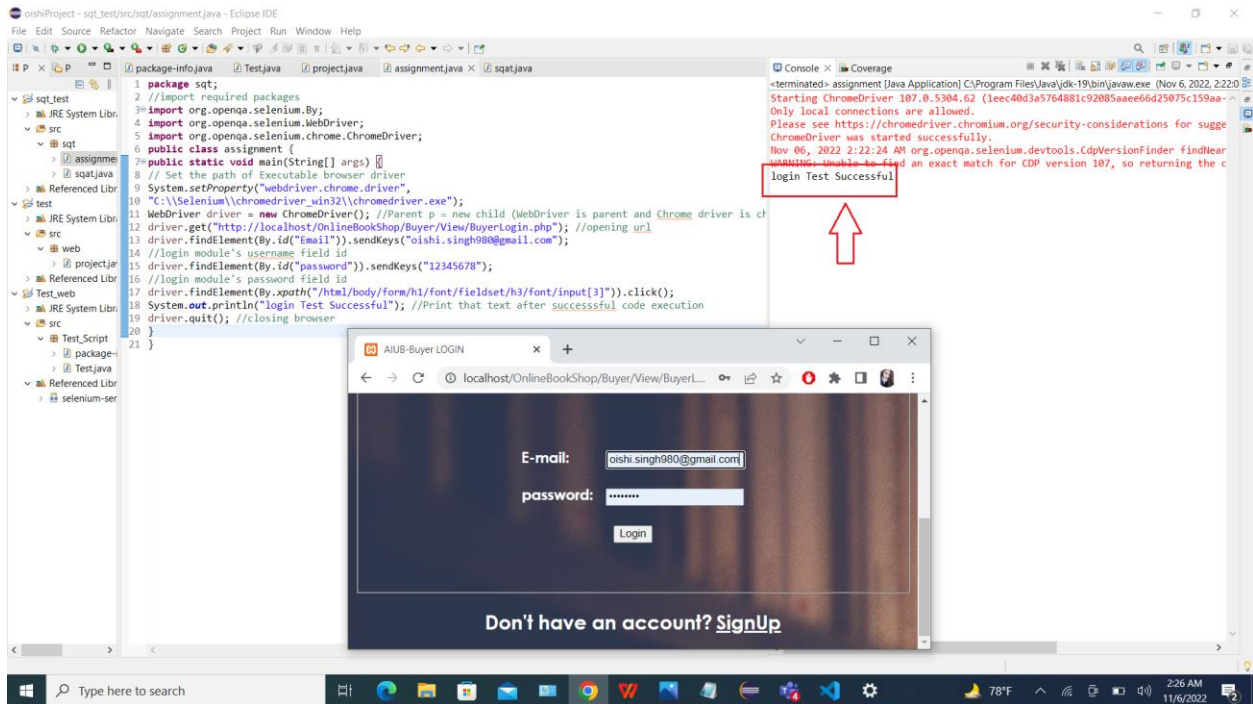
For submit button XPath. Right click on **Submit** button then go to **Inspect**. Then **code block** appears then right click on that code block then go to **Copy** and **Copy XPath**.



By following these steps, we can easily find out the **E-mail** and **XPath**.

Run and observe the outcome

After code written click on the run button For very short time login page appear to us. E-mail, password field will fill- up with respective E-mail and password which defined in testcase and code. Lastly submit button automatically clicked and successfully login into the website. In the Console section of Eclipse IDE “Login Test Successful” text will be appeared. That's mean our testing process is successful.



TEST CASE: (Buyer)

This is Buyer Login test case

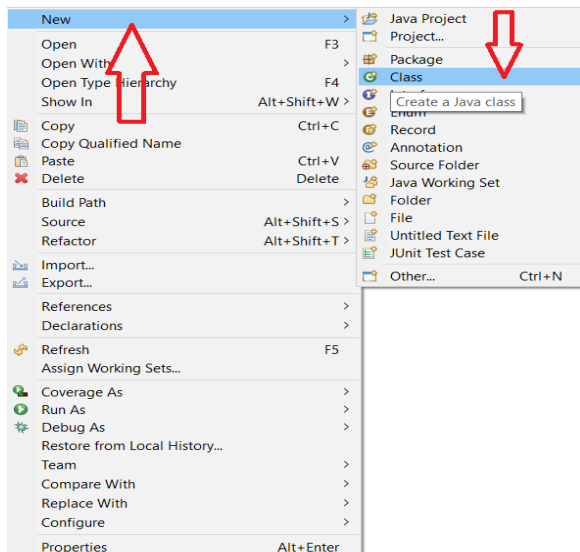
Project Name: AIUB BOOK GALLERY			Test Designed by: ANIK DEBNATH	
Test Case ID: 01			Test Designed date: 5 th <u>november</u> 2022	
Test Priority (Low, Medium, High): Medium			Test Executed by: OISHI SINGH	
Module Name:Buyer Login Session			Test Execution date: 6 th <u>november</u> 2022	
Test Title: Verify login with valid Email and password				
Description: Test the website login page				
Precondition: User has valid Email and password				
Dependencies: If any				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the site 2.Enter username 3.Enter password 4.Click submit	Email: <u>oishi.singh</u> <u>980@gmail</u> <u>l.com</u> Password: 12345678	User should login Into the application	As expected,	Pass
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

Second one is Seller Login session:

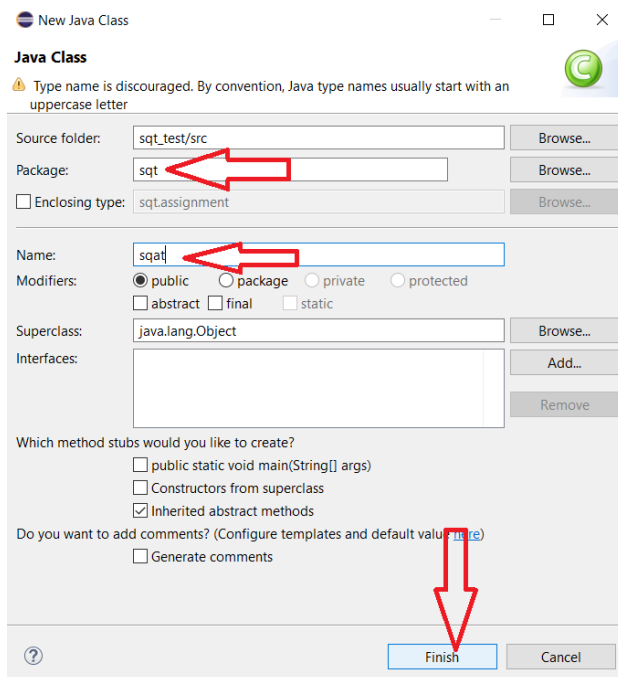
(SELLER PART)

```
package sqt;
//import required packages
import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.chrome.ChromeDriver;
public class sqat {
    public static void main(String[] args) {
        // Set the path of Executable browser driver
        System.setProperty("webdriver.chrome.driver",
            "C:\\Selenium\\chromedriver_win32\\chromedriver.exe");
        WebDriver driver = new ChromeDriver(); //Parent p = new child (WebDriver is parent and Chrome
        driver is child))
        driver.get("http://localhost/OnlineBookShop/Seller/View/SellerLogin.php"); //opening url
        driver.findElement(By.id("Email")).sendKeys("anik.deb93@gmail.com");
        //login module's E-mail field id
        driver.findElement(By.id("password")).sendKeys("12345678");
        //login module's password field id
        driver.findElement(By.xpath("/html/body/form/h1/font/fieldset/h3/font/input[3]")).click();
        System.out.println("login Test Successful"); //Print that text after successful code execution
        driver.quit(); //closing browser
    }
}
```

Here we create a new class for seller login session inside sqt package.

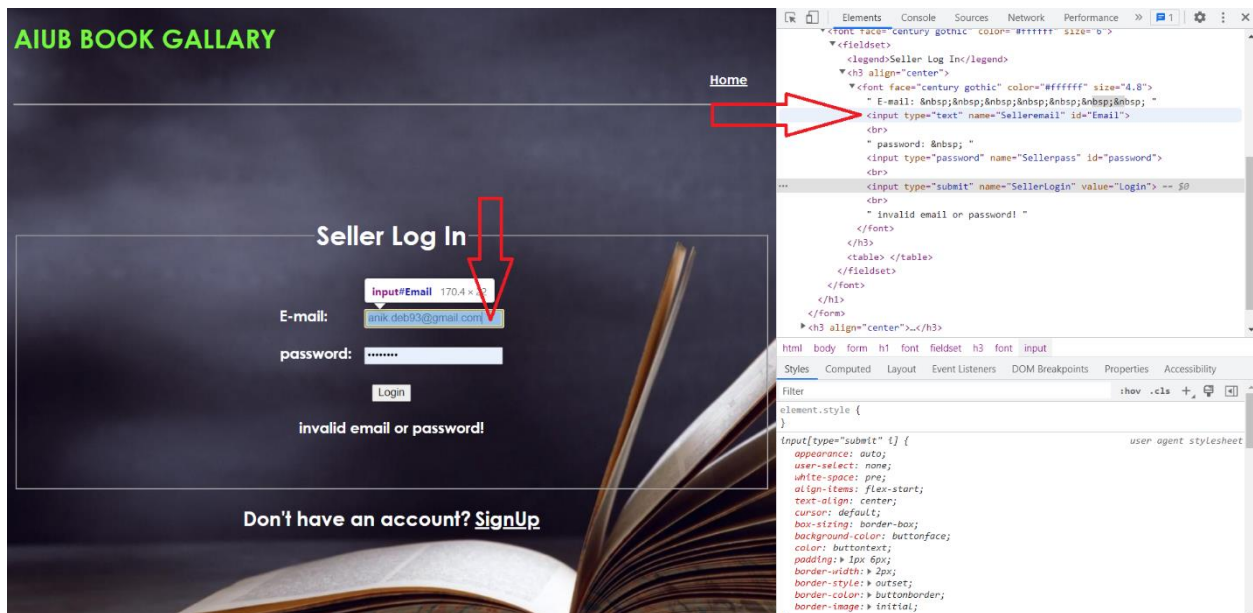


The name of the class we have opened is sqat. Then we click Finish button.

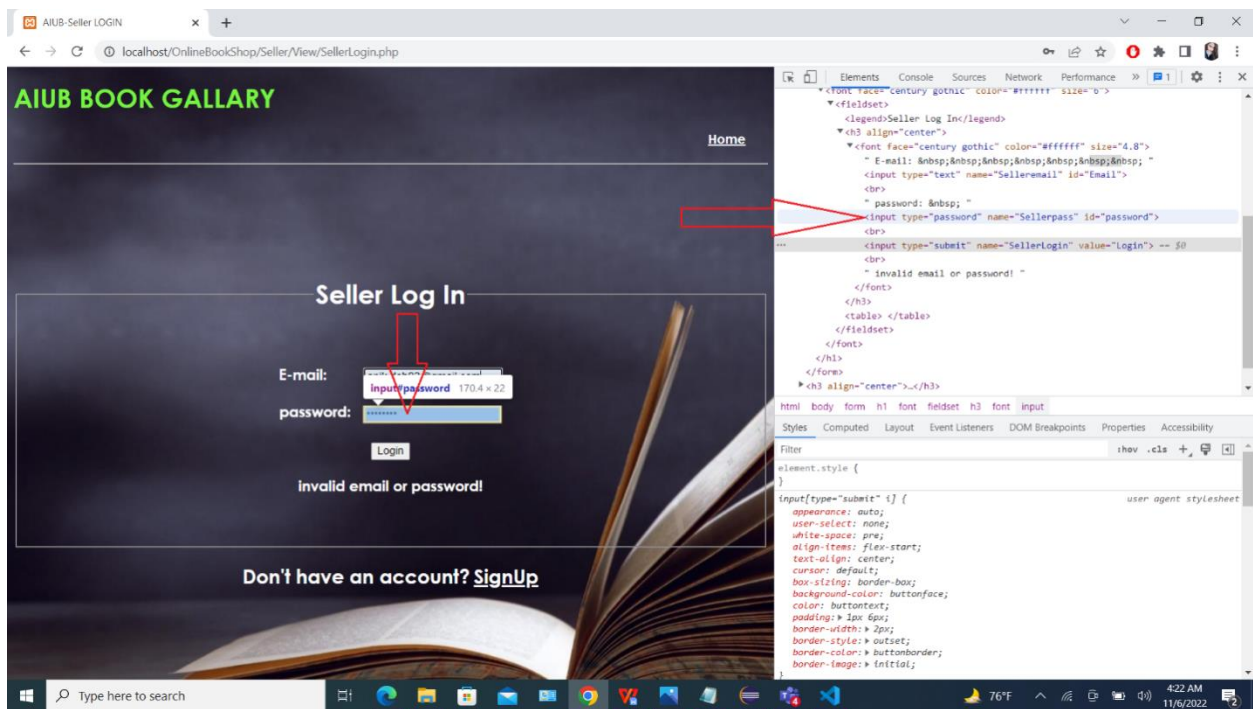


Then, we need to go to the web page. Then select the field (Seller login session) and right-click on that field. Go to Inspect then the respective field code block appears to us and we can easily find the E-mail and copy that. Same process goes for password and login field.

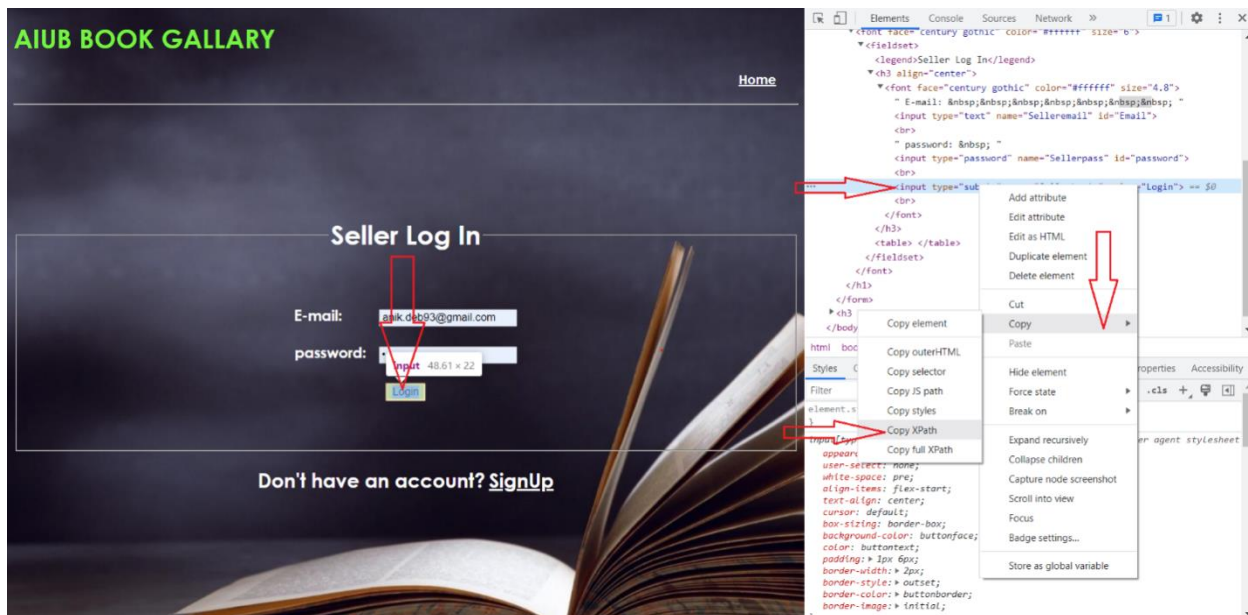
This is for E-mail field.



This is for password field.



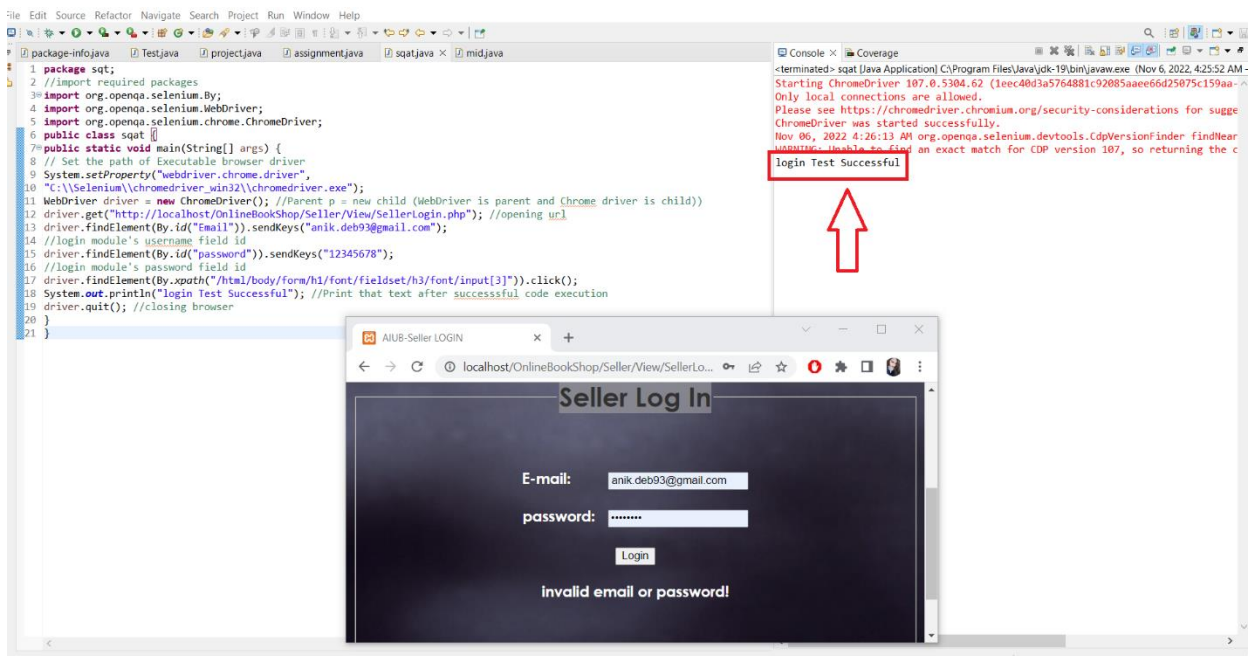
For submit button XPath. Right click on **Submit** button then go to **Inspect**. Then **code block** appears then **right click on that code block** then go to **Copy** and **Copy XPath**.

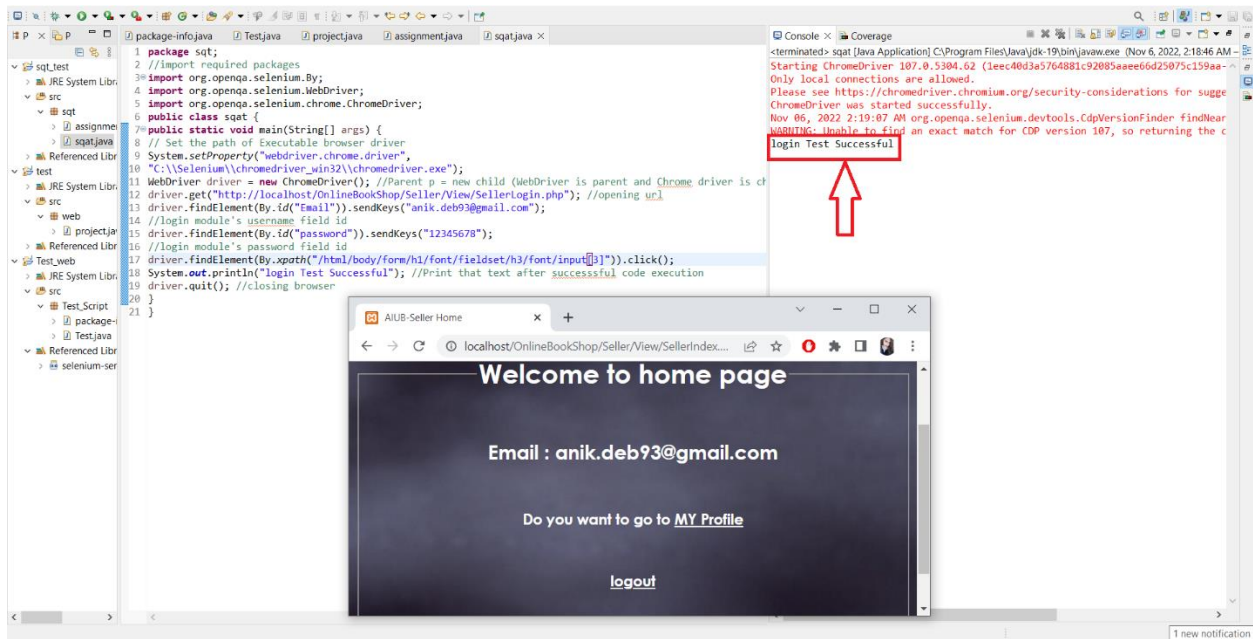


By following these steps, we can easily find out the E-mail and XPath.

Run and observe the outcome

After code written click on the run button. For very short time login page appear to us. E-mail, password field will fill- up with respective E-mail and password which defined in testcase and code. Lastly submit button automatically clicked and successfully login into the website. In the Console section of Eclipse IDE "Login Test Successful" text will be appeared. That's mean our testing process is successful.





TEST CASE: (Seller)

This is Seller login test case

Project Name: AIUB BOOK GALLERY		Test Designed by: OISHI SINGH		
Test Case ID: 02		Test Designed date: 5 th november 2022		
Test Priority (Low, Medium, High): Medium		Test Executed by: ANIK DEBNATH		
Module Name: Seller Login Session		Test Execution date: 6 th november 2022		
Test Title: Verify login with valid Email and password				
Description: Test the website login page				
Precondition: User has valid Email and password				
Dependencies: If any				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the site 2.Enter username 3.Enter password 4.Click submit	Email: <u>anik.deb93@gmail.com</u> Password: 12345678	User should login Into the application	As expected,	Pass
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				