IS4102 - Advanced Software Quality Assurance

# Final Assignment Report

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Bachelor of Science (Hons.) in Information Systems

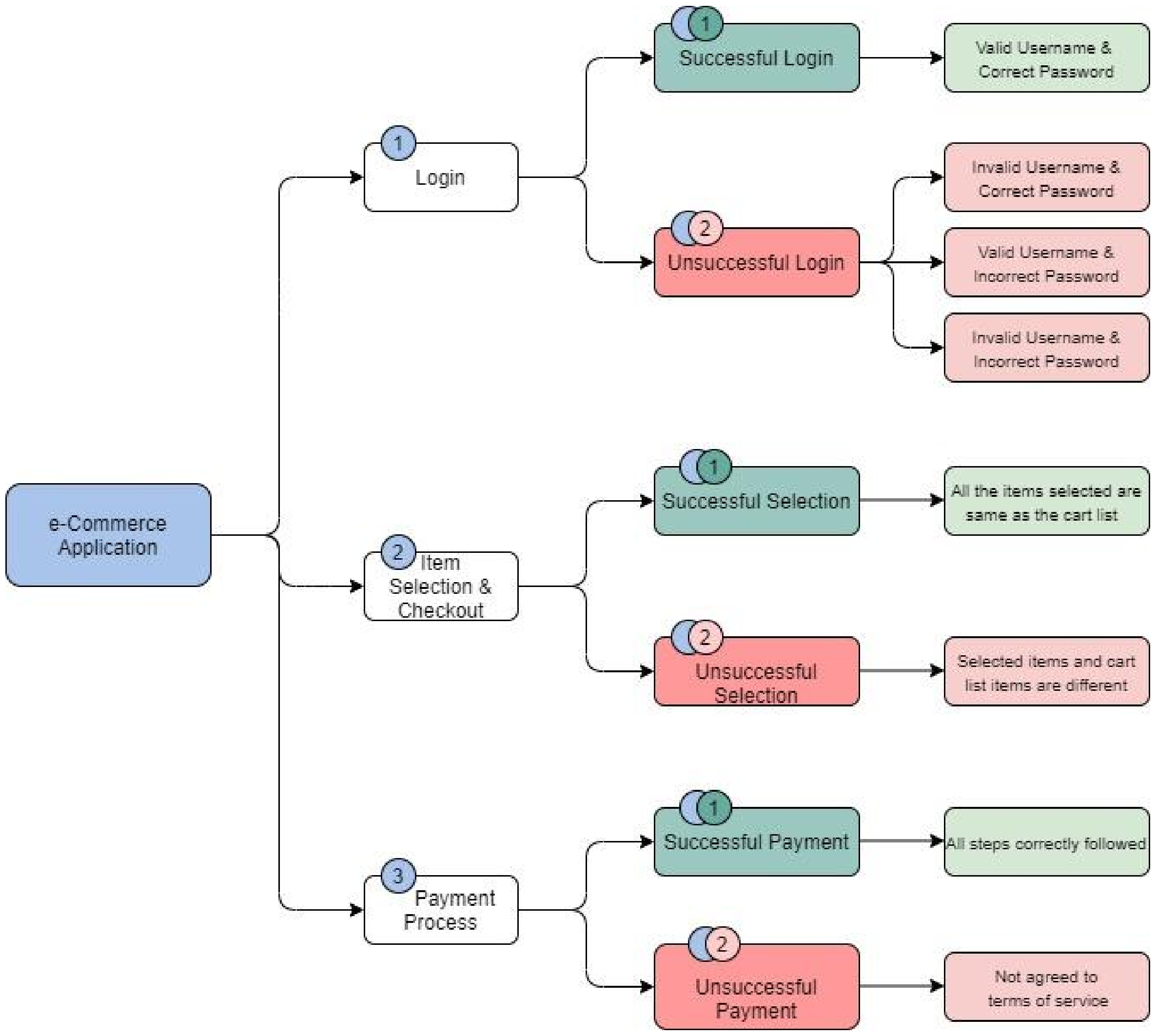
## 1. Introduction

This report is based on the implementation of a hybrid test framework using Selenium with regard to the final assignment of IS4102. For this assignment we have chosen the second question, which is the e-Commerce Application. Since the requirement mentioned in the question is to start with the login, registration of a user is not included. The GitHub link to the project and the youtube link to the video presenting the project are as below.

**Github link -**
**Youtube link -**

## 2. Mind Map

According to the requirement of the assignment, this automation is based on three tasks as login, item selection & checkout and the payment process. The mind map below clearly depicts the successful and unsuccessful scenarios of these three tasks.


e-Commerce Application
1 Login
1 Successful Login
Valid Username & Correct Password
2 Unsuccessful Login
Invalid Username & Correct Password
Valid Username & Incorrect Password
Invalid Username & Incorrect Password
2 Item Selection & Checkout
1 Successful Selection
All the items selected are same as the cart list
2 Unsuccessful Selection
Selected items and cart list items are different
3 Payment Process
1 Successful Payment
All steps correctly followed
2 Unsuccessful Payment
Not agreed to terms of service

# 3. Test Cases

This section describes the test cases of each of the above mentioned scenarios.

## 3.1. Test Cae 1 - Login

| Test step ID | Test Case | Pre Condition | Test Steps | Test Data | Expected Result | Post Condition | Status |
|---|---|---|---|---|---|---|---|
| 1.1 | Enter Valid Username & Correct Password | Need an already registered email to login | 1.Enter username<br>2.Enter password<br>3.Click on 'Sign in' button | | Successful login | Navigate to 'My Account' Page | Pass |
| 1.2.1 | Enter Invalid Username & Correct Password | Need an already registered email to login | 1.Enter username<br>2.Enter password<br>3.Click on 'Sign in' button | | A message "There is 1 error Authentication failed." is shown | | Fail |
| 1.2.2 | Enter Valid Username & Incorrect Password | Need an already registered email to login | 1.Enter username<br>2.Enter password<br>3.Click on 'Sign in' button | | A message "There is 1 error Authentication failed." is shown | | Fail |
| 1.2.3 | Enter Invalid Username & Incorrect Password | Need an already registered email to login | 1.Enter username<br>2.Enter password<br>3.Click on 'Sign in' button | | A message "There is 1 error Authentication failed." is shown | | Fail |

## 3.2 Test Cae 2 - Item Selection & Checkout

| Test step ID | Test Step | Pre Condition | Test Steps | Test Data | Expected Result | Post Condition | Status |
|---|---|---|---|---|---|---|---|
| 2.1 | Click on 'Add to Cart' | Need to be logged in | 1.Select the item<br>2.Click on 'Add to Cart' | | Successful item selection | Can see the pop up window | Pass |
| 1.2.1 | Enter Invalid Username & Correct Password | Need to be logged in | 1.Enter username<br>2.Enter password<br>3.Click | | A message "Item not found" is shown | | Fail |

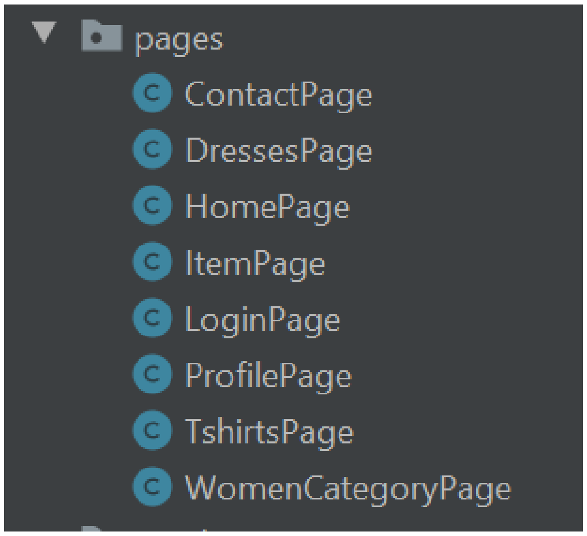
### 3.3. Test Cae 3 - Payment Process

| Test step ID | Test Step | Pre Condition | Test Steps | Test Data | Expected Result | Post Condition | Status |
|---|---|---|---|---|---|---|---|
| 3.1 | Click on ‘Add to Cart’ | Need to be logged in | 1.Select the item<br>2.Click on ‘Add to Cart’ | | Successful item selection | Can see the pop up window | Pass |
| 3.2 | Enter Invalid Username & Correct Password | Need to be logged in | 1.Enter username<br>2.Enter password<br>3.Click | | A message “Item not found” is shown | | Fail |

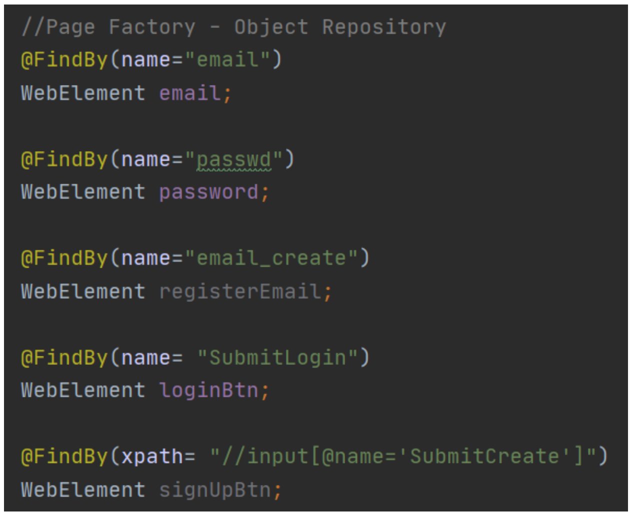
# 4. Page Object Model Architecture

This section takes you through the Page Object Model architecture of our project.

### 4.1 Page Layer

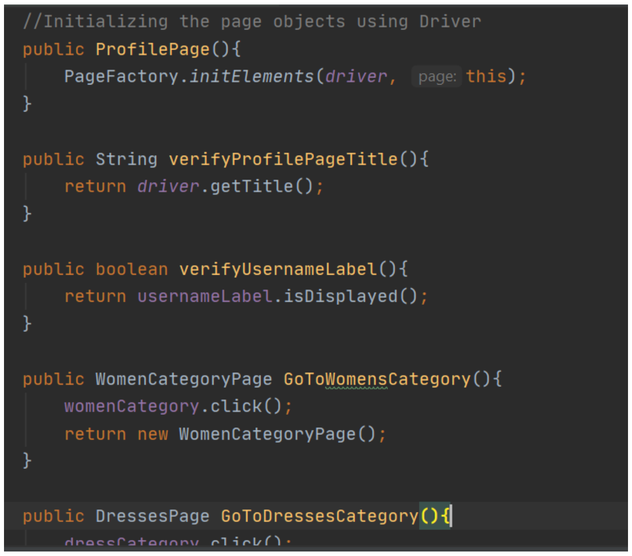


For each and every page of the application, a separate java class is created. These separate pages are used to define and store the test object description (Web objects/Web elements) using Page Factory. Actions/Methods for features of each page are defined in the respective file in the java class. The images below depict the page layer of the application, the Page Factory of the login page and some methods of the login Page.



```
//Page Factory - Object Repository
@FindBy(name="email")
WebElement email;

@FindBy(name="passwd")
WebElement password;

@FindBy(name="email_create")
WebElement registerEmail;

@FindBy(name= "SubmitLogin")
WebElement loginBtn;

@FindBy(xpath= "//input[@name='SubmitCreate']")
WebElement signUpBtn;
```

The page factory or the object repository contains the locators for different web elements such as buttons, input fields, etc. present on the page so that they can be easily used in the methods defined for that particular page. As it is shown in this image, the page factory uses *@FindBy* annotation which is more readable than the regular approach of initializing web page elements using *FindElement* or *FindElements*.

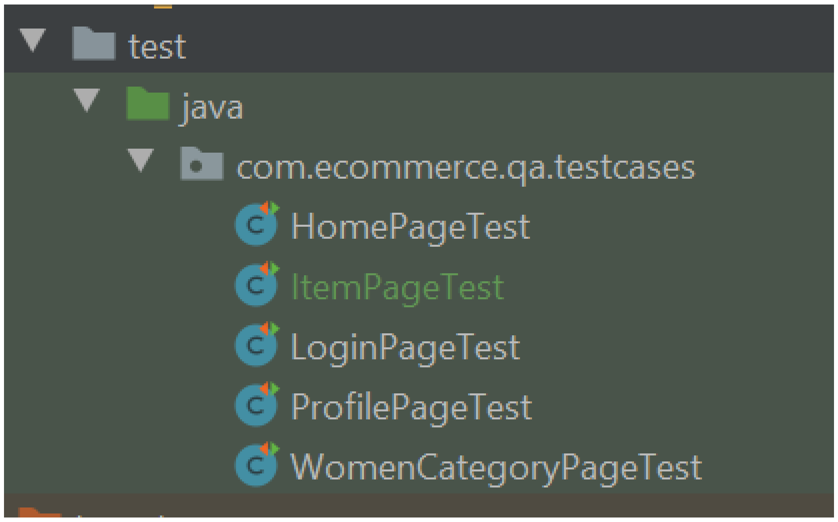


```
//Initializing the page objects using Driver
public ProfilePage(){
    PageFactory.initElements(driver,  page: this);
}

public String verifyProfilePageTitle(){
    return driver.getTitle();
}

public boolean verifyUsernameLabel(){
    return usernameLabel.isDisplayed();
}

public WomenCategoryPage GoToWomensCategory(){
    womenCategory.click();
    return new WomenCategoryPage();
}

public DressesPage GoToDressesCategory(){
    dressCategory.click();
```

This image is an example for methods written for a particular page to perform actions on the web elements defined before. First the page objects are initialized using *initElements()* and then methods are written for features of that page. It should be highlighted that method names are written in a way that it gives an idea about the function.

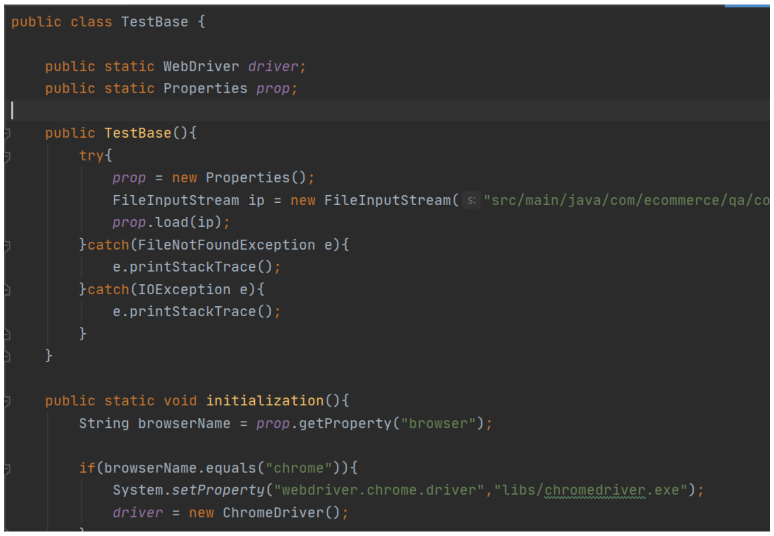
### 4.2 Test Layer

The test layer in the POM architecture holds the test cases of the Application and its verification part. The test cases in the test layer are defined using TestNG and separate test files are used to call the methods of a particular page.

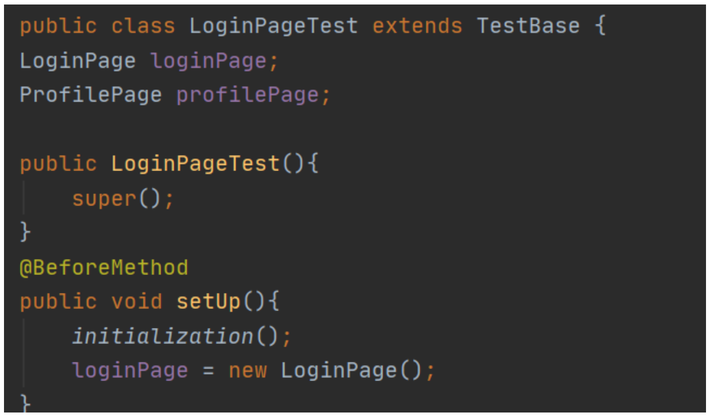

```
test
  java
    com.ecommerce.qa.testcases
      HomePageTest
      ItemPageTest
      LoginPageTest
      ProfilePageTest
      WomenCategoryPageTest
```

### 4.3 Test Base

Test Base or the base class is the main class that handles browser configuration, loading configuration files, and other reusable methods.

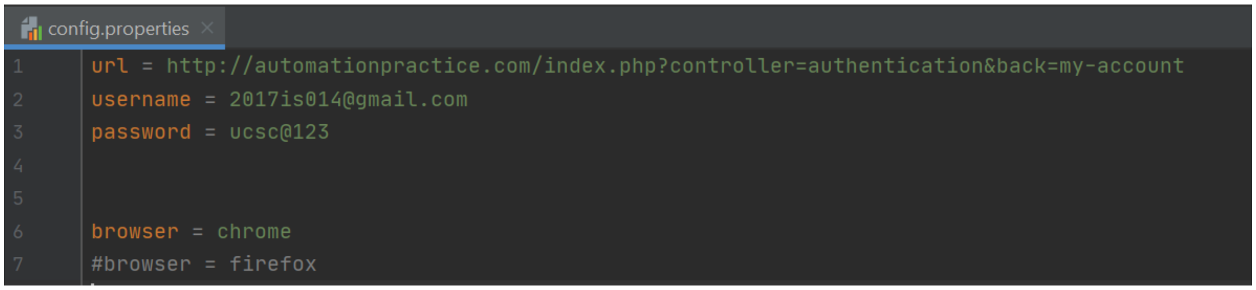

```java
public class TestBase {

    public static WebDriver driver;
    public static Properties prop;

    public TestBase(){
        try{
            prop = new Properties();
            FileInputStream ip = new FileInputStream( s: "src/main/java/com/ecommerce/qa/co
            prop.load(ip);
        }catch(FileNotFoundException e){
            e.printStackTrace();
        }catch(IOException e){
            e.printStackTrace();
        }
    }

    public static void initialization(){
        String browserName = prop.getProperty("browser");

        if(browserName.equals("chrome")){
            System.setProperty("webdriver.chrome.driver","libs/chromedriver.exe");
            driver = new ChromeDriver();
```

This helps to eliminate the duplication of code because when the TestCases extend this base class, all the methods of the base class can be used.


```java
public class LoginPageTest extends TestBase {
LoginPage loginPage;
ProfilePage profilePage;

public LoginPageTest(){
    super();
}
@BeforeMethod
public void setUp(){
    initialization();
    loginPage = new LoginPage();
}
```

### 4.4 Configuration Files

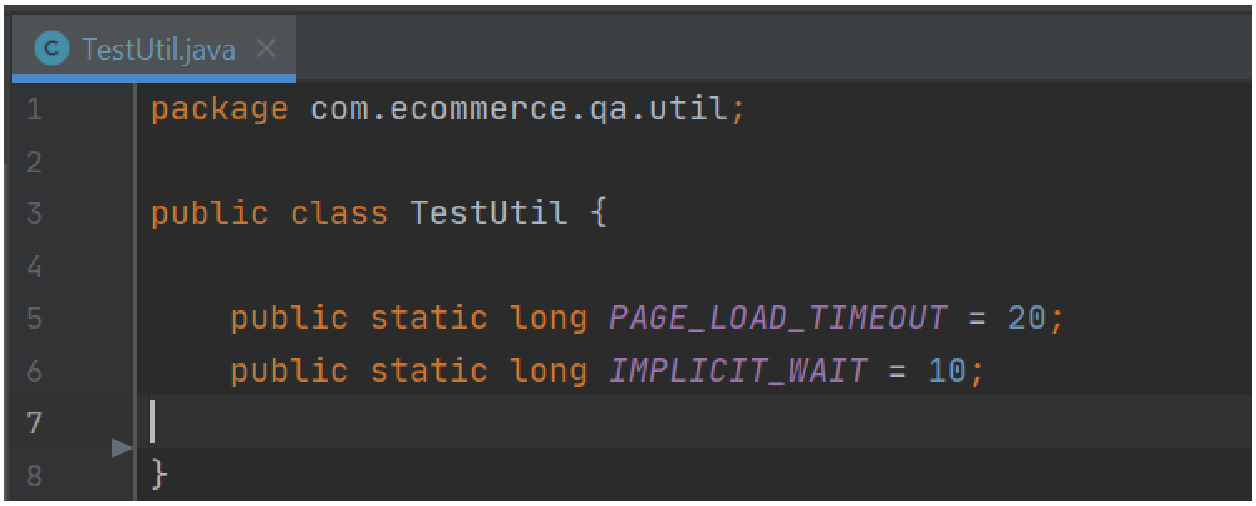
The config.properties file contains the URL, username, password and the browser instance.


config.properties

```
url = http://automationpractice.com/index.php?controller=authentication&back=my-account
username = 2017is014@gmail.com
password = ucsc@123


browser = chrome
#browser = firefox
```

### 4.5 Test Data Files

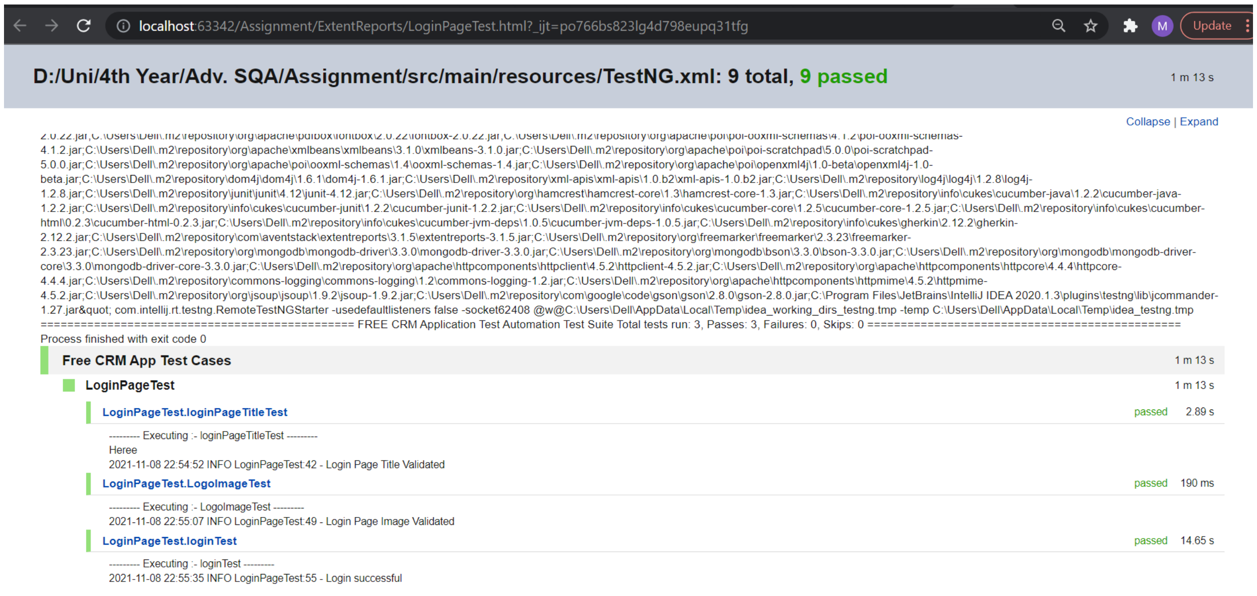
### 4.6 Utilities


TestUtil.java

```java
package com.ecommerce.qa.util;

public class TestUtil {

    public static long PAGE_LOAD_TIMEOUT = 20;
    public static long IMPLICIT_WAIT = 10;

}
```

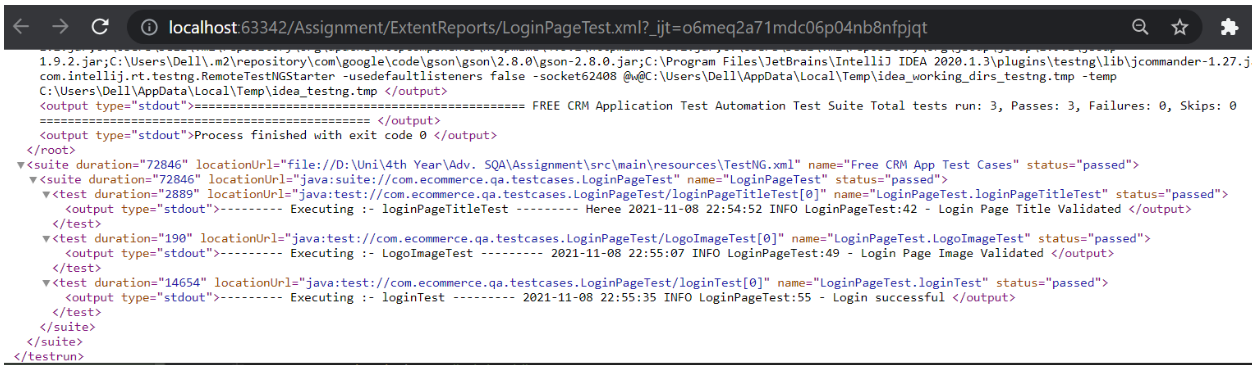
## 4.7 Reports

### a) HTML Reports



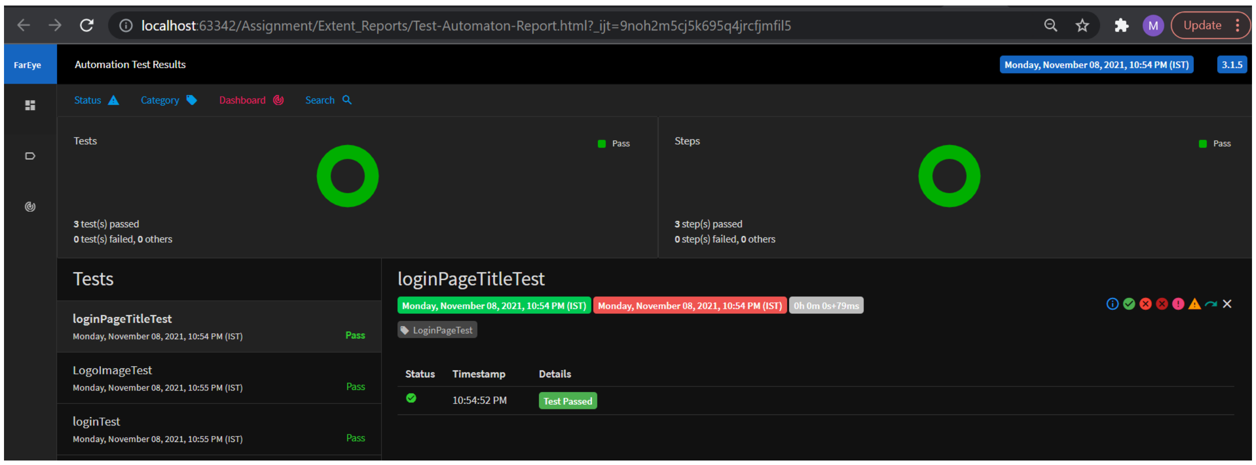
```
localhost:63342/Assignment/ExtentReports/LoginPageTest.html?_ijt=po766bs823lg4d798eupq31tfg

D:/Uni/4th Year/Adv. SQA/Assignment/src/main/resources/TestNG.xml: 9 total, 9 passed        1 m 13 s

Collapse | Expand
4.1.2.jar;C:\Users\Dell\.m2\repository\org\apache\xmlbeans\xmlbeans\3.1.0\xmlbeans-3.1.0.jar;C:\Users\Dell\.m2\repository\org\apache\poi\poi-scratchpad\5.0.0\poi-scratchpad-
5.0.0.jar;C:\Users\Dell\.m2\repository\org\apache\poi\ooxml-schemas\1.4\ooxml-schemas-1.4.jar;C:\Users\Dell\.m2\repository\org\apache\poi\openxml4j\1.0-beta\openxml4j-1.0-
beta.jar;C:\Users\Dell\.m2\repository\dom4j\dom4j\1.6.1\dom4j-1.6.1.jar;C:\Users\Dell\.m2\repository\xml-apis\xml-apis\1.0.b2\xml-apis-1.0.b2.jar;C:\Users\Dell\.m2\repository\log4j\log4j\1.2.8\log4j-
1.2.8.jar;C:\Users\Dell\.m2\repository\junit\junit\4.12\junit-4.12.jar;C:\Users\Dell\.m2\repository\org\hamcrest\hamcrest-core\1.3\hamcrest-core-1.3.jar;C:\Users\Dell\.m2\repository\info\cukes\cucumber-java\1.2.2\cucumber-java-
1.2.2.jar;C:\Users\Dell\.m2\repository\info\cukes\cucumber-junit\1.2.2\cucumber-junit-1.2.2.jar;C:\Users\Dell\.m2\repository\info\cukes\cucumber-core\1.2.5\cucumber-core-1.2.5.jar;C:\Users\Dell\.m2\repository\info\cukes\cucumber-
html\0.2.3\cucumber-html-0.2.3.jar;C:\Users\Dell\.m2\repository\info\cukes\cucumber-jvm-deps\1.0.5\cucumber-jvm-deps-1.0.5.jar;C:\Users\Dell\.m2\repository\info\cukes\gherkin\2.12.2\gherkin-
2.12.2.jar;C:\Users\Dell\.m2\repository\com\aventstack\extentreports\3.1.5\extentreports-3.1.5.jar;C:\Users\Dell\.m2\repository\org\freemarker\freemarker\2.3.23\freemarker-
2.3.23.jar;C:\Users\Dell\.m2\repository\org\mongodb\mongodb-driver\3.3.0\mongodb-driver-3.3.0.jar;C:\Users\Dell\.m2\repository\org\mongodb\bson\3.3.0\bson-3.3.0.jar;C:\Users\Dell\.m2\repository\org\mongodb\mongodb-driver-
core\3.3.0\mongodb-driver-core-3.3.0.jar;C:\Users\Dell\.m2\repository\org\apache\httpcomponents\httpclient\4.5.2\httpclient-4.5.2.jar;C:\Users\Dell\.m2\repository\org\apache\httpcomponents\httpcore\4.4.4\httpcore-
4.4.4.jar;C:\Users\Dell\.m2\repository\commons-logging\commons-logging\1.2\commons-logging-1.2.jar;C:\Users\Dell\.m2\repository\org\apache\httpcomponents\httpmime\4.5.2\httpmime-
4.5.2.jar;C:\Users\Dell\.m2\repository\org\jsoup\jsoup\1.9.2\jsoup-1.9.2.jar;C:\Users\Dell\.m2\repository\com\google\code\gson\gson\2.8.0\gson-2.8.0.jar;C:\Program Files\JetBrains\IntelliJ IDEA 2020.1.3\plugins\testng\lib\jcommander-
1.27.jar&quot; com.intellij.rt.testng.RemoteTestNGStarter -usedefaultlisteners false -socket62408 @w@C:\Users\Dell\AppData\Local\Temp\idea_working_dirs_testng.tmp -temp C:\Users\Dell\AppData\Local\Temp\idea_testng.tmp
============================================ FREE CRM Application Test Automation Test Suite Total tests run: 3, Passes: 3, Failures: 0, Skips: 0 ============================================
Process finished with exit code 0
Free CRM App Test Cases                                                                  1 m 13 s
  LoginPageTest                                                                          1 m 13 s
    LoginPageTest.loginPageTitleTest                                           passed   2.89 s
      --------- Executing :- loginPageTitleTest ---------
      Heree
      2021-11-08 22:54:52 INFO LoginPageTest:42 - Login Page Title Validated
    LoginPageTest.LogoImageTest                                                passed   190 ms
      --------- Executing :- LogoImageTest ---------
      2021-11-08 22:55:07 INFO LoginPageTest:49 - Login Page Image Validated
    LoginPageTest.loginTest                                                    passed   14.65 s
      --------- Executing :- loginTest ---------
      2021-11-08 22:55:35 INFO LoginPageTest:55 - Login successful
```

### b) XML Reports



```
localhost:63342/Assignment/ExtentReports/LoginPageTest.xml?_ijt=o6meq2a71mdc06p04nb8nfpjqt

    1.9.2.jar;C:\Users\Dell\.m2\repository\com\google\code\gson\gson\2.8.0\gson-2.8.0.jar;C:\Program Files\JetBrains\IntelliJ IDEA 2020.1.3\plugins\testng\lib\jcommander-1.27.j
    com.intellij.rt.testng.RemoteTestNGStarter -usedefaultlisteners false -socket62408 @w@C:\Users\Dell\AppData\Local\Temp\idea_working_dirs_testng.tmp -temp
    C:\Users\Dell\AppData\Local\Temp\idea_testng.tmp </output>
    <output type="stdout">============================================ FREE CRM Application Test Automation Test Suite Total tests run: 3, Passes: 3, Failures: 0, Skips: 0
    ============================================ </output>
    <output type="stdout">Process finished with exit code 0 </output>
  </root>
▼<suite duration="72846" locationUrl="file://D:\Uni\4th Year\Adv. SQA\Assignment\src\main\resources\TestNG.xml" name="Free CRM App Test Cases" status="passed">
  ▼<suite duration="72846" locationUrl="java:suite://com.ecommerce.qa.testcases.LoginPageTest" name="LoginPageTest" status="passed">
    ▼<test duration="2889" locationUrl="java:test://com.ecommerce.qa.testcases.LoginPageTest/loginPageTitleTest[0]" name="LoginPageTest.loginPageTitleTest" status="passed">
      <output type="stdout">--------- Executing :- loginPageTitleTest --------- Heree 2021-11-08 22:54:52 INFO LoginPageTest:42 - Login Page Title Validated </output>
    </test>
    ▼<test duration="190" locationUrl="java:test://com.ecommerce.qa.testcases.LoginPageTest/LogoImageTest[0]" name="LoginPageTest.LogoImageTest" status="passed">
      <output type="stdout">--------- Executing :- LogoImageTest --------- 2021-11-08 22:55:07 INFO LoginPageTest:49 - Login Page Image Validated </output>
    </test>
    ▼<test duration="14654" locationUrl="java:test://com.ecommerce.qa.testcases.LoginPageTest/loginTest[0]" name="LoginPageTest.loginTest" status="passed">
      <output type="stdout">--------- Executing :- loginTest --------- 2021-11-08 22:55:35 INFO LoginPageTest:55 - Login successful </output>
    </test>
  </suite>
</suite>
</testrun>
```

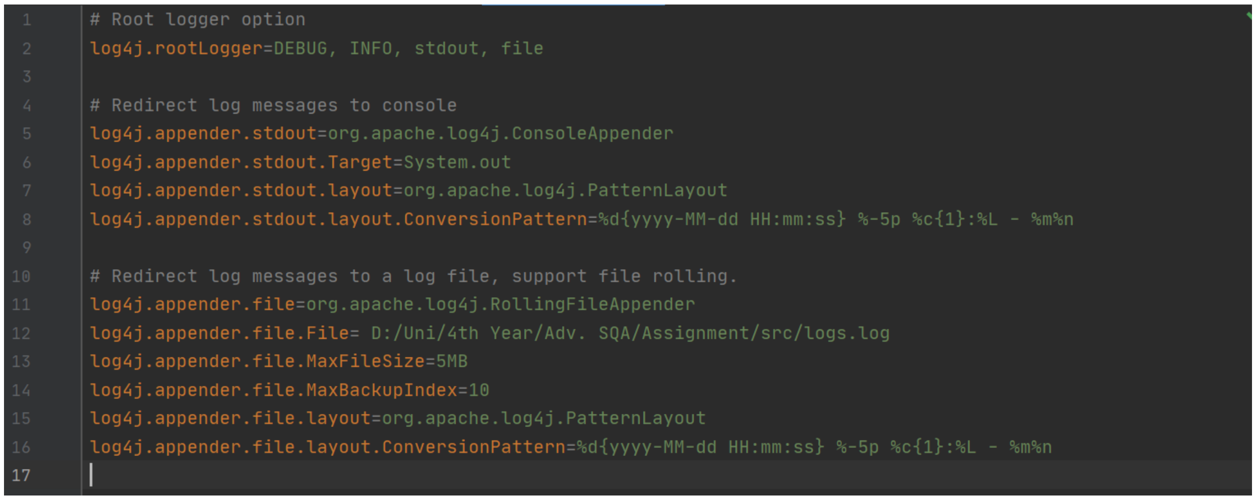
### c) Extent Reports



```
localhost:63342/Assignment/Extent_Reports/Test-Automaton-Report.html?_ijt=9noh2m5cj5k695q4jrcfjmfil5

FarEye   Automation Test Results                     Monday, November 08, 2021, 10:54 PM (IST)   3.1.5

Status   Category   Dashboard   Search

Tests                                    Pass      Steps                                    Pass
3 test(s) passed                                   3 step(s) passed
0 test(s) failed, 0 others                         0 step(s) failed, 0 others

Tests                                              loginPageTitleTest
loginPageTitleTest                                 Monday, November 08, 2021, 10:54 PM (IST)  Monday, November 08, 2021, 10:54 PM (IST)  0h 0m 0s+79ms
Monday, November 08, 2021, 10:54 PM (IST)   Pass   LoginPageTest
LogoImageTest                                      Status   Timestamp     Details
Monday, November 08, 2021, 10:55 PM (IST)   Pass   ✓        10:54:52 PM   Test Passed
loginTest
Monday, November 08, 2021, 10:55 PM (IST)   Pass
```

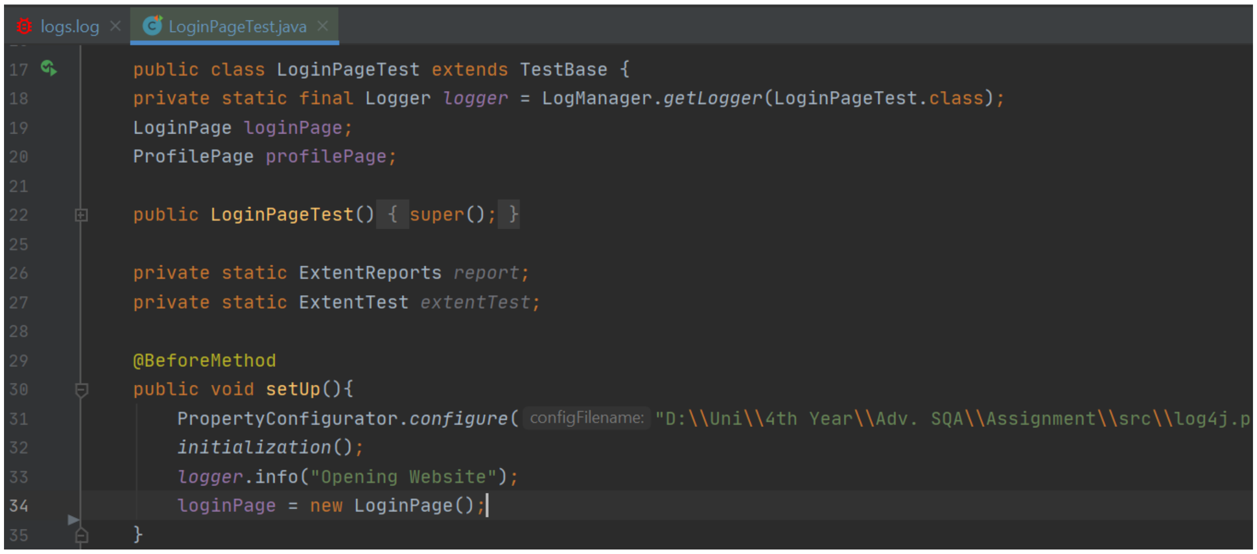
# 5. Log4j

Log4j Properties



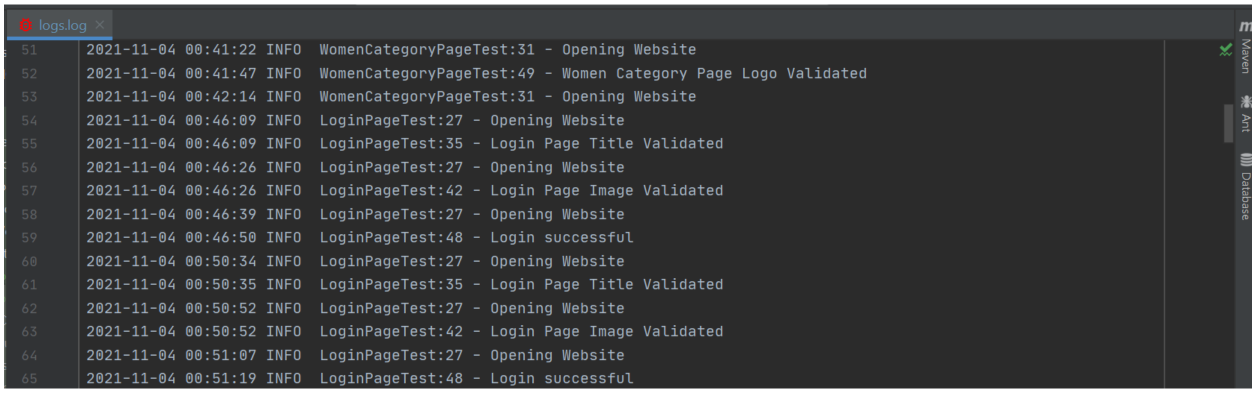
```
# Root logger option
log4j.rootLogger=DEBUG, INFO, stdout, file

# Redirect log messages to console
log4j.appender.stdout=org.apache.log4j.ConsoleAppender
log4j.appender.stdout.Target=System.out
log4j.appender.stdout.layout=org.apache.log4j.PatternLayout
log4j.appender.stdout.layout.ConversionPattern=%d{yyyy-MM-dd HH:mm:ss} %-5p %c{1}:%L - %m%n

# Redirect log messages to a log file, support file rolling.
log4j.appender.file=org.apache.log4j.RollingFileAppender
log4j.appender.file.File= D:/Uni/4th Year/Adv. SQA/Assignment/src/logs.log
log4j.appender.file.MaxFileSize=5MB
log4j.appender.file.MaxBackupIndex=10
log4j.appender.file.layout=org.apache.log4j.PatternLayout
log4j.appender.file.layout.ConversionPattern=%d{yyyy-MM-dd HH:mm:ss} %-5p %c{1}:%L - %m%n
```

The image below shows how log4j is initialized, and how it is used to create logs within methods.



```
public class LoginPageTest extends TestBase {
private static final Logger logger = LogManager.getLogger(LoginPageTest.class);
LoginPage loginPage;
ProfilePage profilePage;

public LoginPageTest() { super(); }

private static ExtentReports report;
private static ExtentTest extentTest;

@BeforeMethod
public void setUp(){
    PropertyConfigurator.configure( configFilename: "D:\\Uni\\4th Year\\Adv. SQA\\Assignment\\src\\log4j.p
    initialization();
    logger.info("Opening Website");
    loginPage = new LoginPage();
}
```

And the logs are created in the logs.log file as shown below.


logs.log

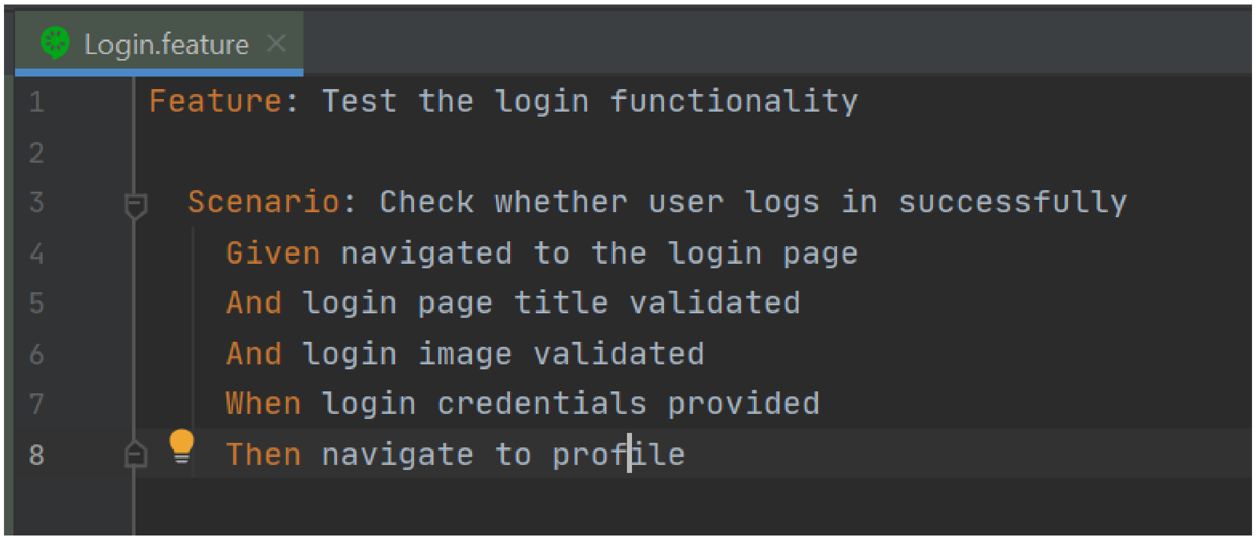
```
2021-11-04 00:41:22 INFO  WomenCategoryPageTest:31 - Opening Website
2021-11-04 00:41:47 INFO  WomenCategoryPageTest:49 - Women Category Page Logo Validated
2021-11-04 00:42:14 INFO  WomenCategoryPageTest:31 - Opening Website
2021-11-04 00:46:09 INFO  LoginPageTest:27 - Opening Website
2021-11-04 00:46:09 INFO  LoginPageTest:35 - Login Page Title Validated
2021-11-04 00:46:26 INFO  LoginPageTest:27 - Opening Website
2021-11-04 00:46:26 INFO  LoginPageTest:42 - Login Page Image Validated
2021-11-04 00:46:39 INFO  LoginPageTest:27 - Opening Website
2021-11-04 00:46:50 INFO  LoginPageTest:48 - Login successful
2021-11-04 00:50:34 INFO  LoginPageTest:27 - Opening Website
2021-11-04 00:50:35 INFO  LoginPageTest:35 - Login Page Title Validated
2021-11-04 00:50:52 INFO  LoginPageTest:27 - Opening Website
2021-11-04 00:50:52 INFO  LoginPageTest:42 - Login Page Image Validated
2021-11-04 00:51:07 INFO  LoginPageTest:27 - Opening Website
2021-11-04 00:51:19 INFO  LoginPageTest:48 - Login successful
```

## 6. Jenkins

# 7. Cucumber

### 7.1 Feature File using Gherkin Language

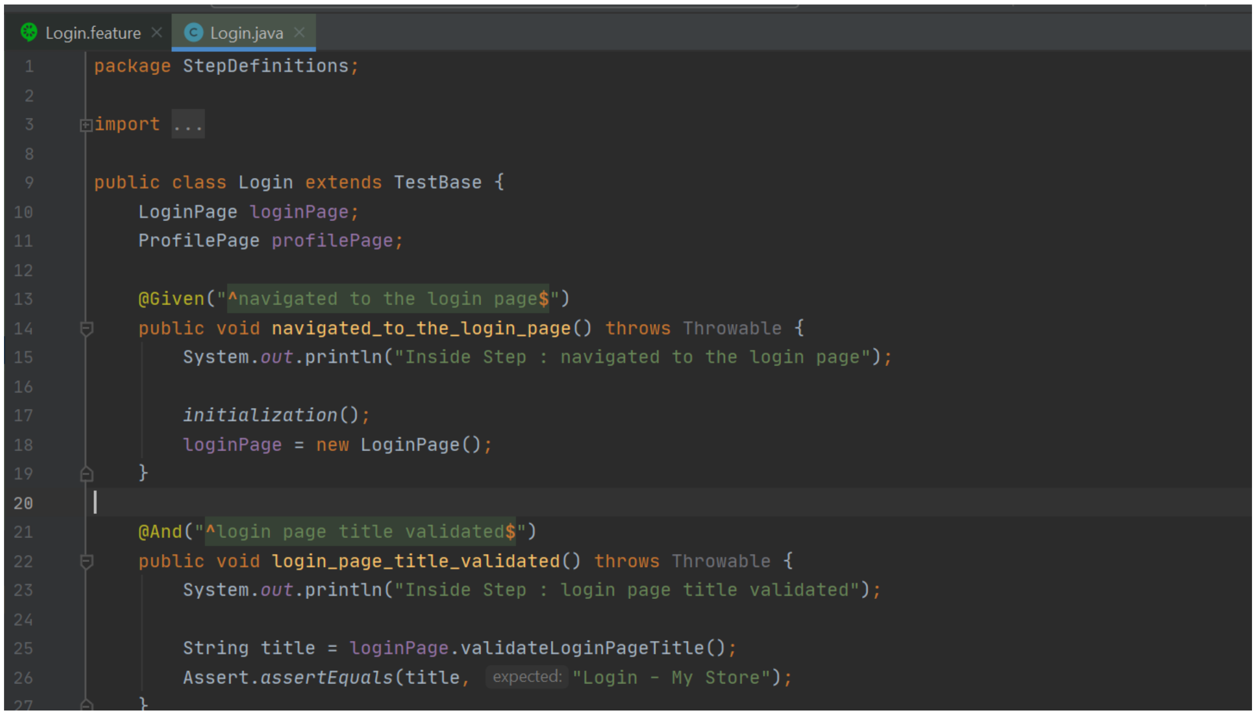
The feature file uses Gherkin language and contains Gherkin scenarios & requirements.



```gherkin
Feature: Test the login functionality

  Scenario: Check whether user logs in successfully
    Given navigated to the login page
    And login page title validated
    And login image validated
    When login credentials provided
    Then navigate to profile
```

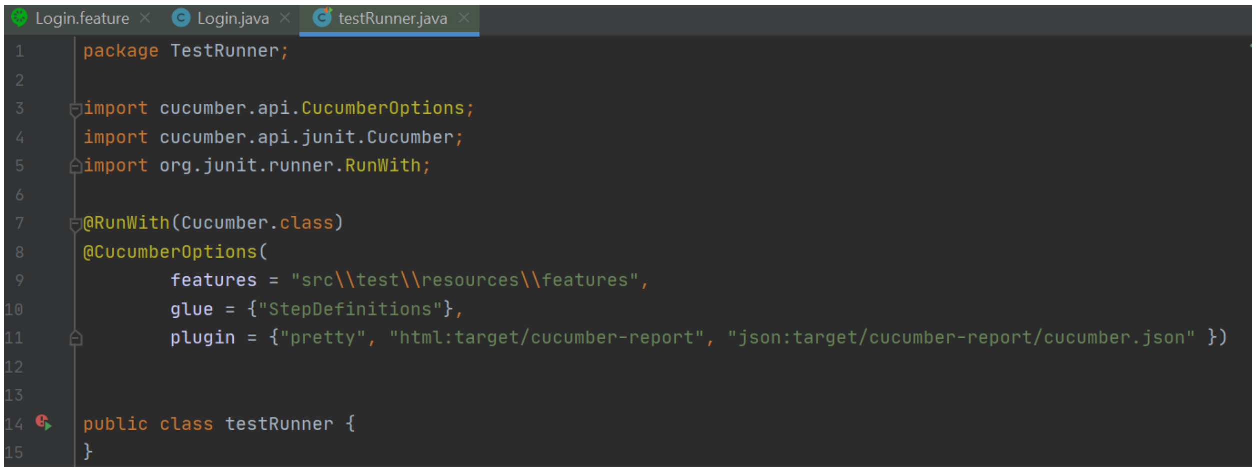
### 7.2  Step Definition file using cucumber Gherkin annotations

The step definition file which is shown below maps the Test Case Steps in the feature file to code.



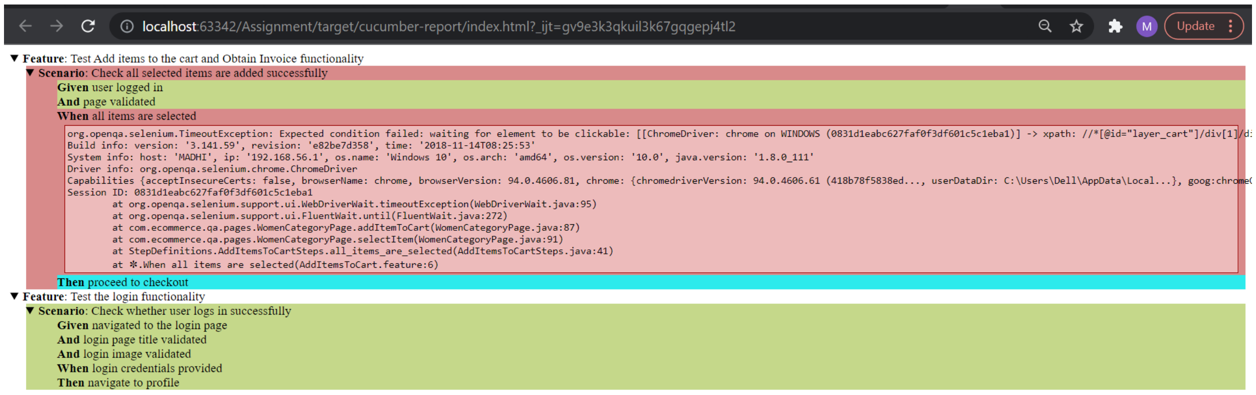
```java
package StepDefinitions;

import ...

public class Login extends TestBase {
    LoginPage loginPage;
    ProfilePage profilePage;

    @Given("^navigated to the login page$")
    public void navigated_to_the_login_page() throws Throwable {
        System.out.println("Inside Step : navigated to the login page");

        initialization();
        loginPage = new LoginPage();
    }

    @And("^login page title validated$")
    public void login_page_title_validated() throws Throwable {
        System.out.println("Inside Step : login page title validated");

        String title = loginPage.validateLoginPageTitle();
        Assert.assertEquals(title,  expected: "Login - My Store");
    }
```

## 7.3 Test Runner class Cucumber



```java
package TestRunner;

import cucumber.api.CucumberOptions;
import cucumber.api.junit.Cucumber;
import org.junit.runner.RunWith;

@RunWith(Cucumber.class)
@CucumberOptions(
        features = "src\\test\\resources\\features",
        glue = {"StepDefinitions"},
        plugin = {"pretty", "html:target/cucumber-report", "json:target/cucumber-report/cucumber.json" })


public class testRunner {
}
```

## 7.4 Cucumber Reports


localhost:63342/Assignment/target/cucumber-report/index.html?_ijt=gv9e3k3qkuil3k67gqgepj4tl2
Update

▼ **Feature**: Test Add items to the cart and Obtain Invoice functionality
▼ **Scenario**: Check all selected items are added successfully
**Given** user logged in
**And** page validated
**When** all items are selected

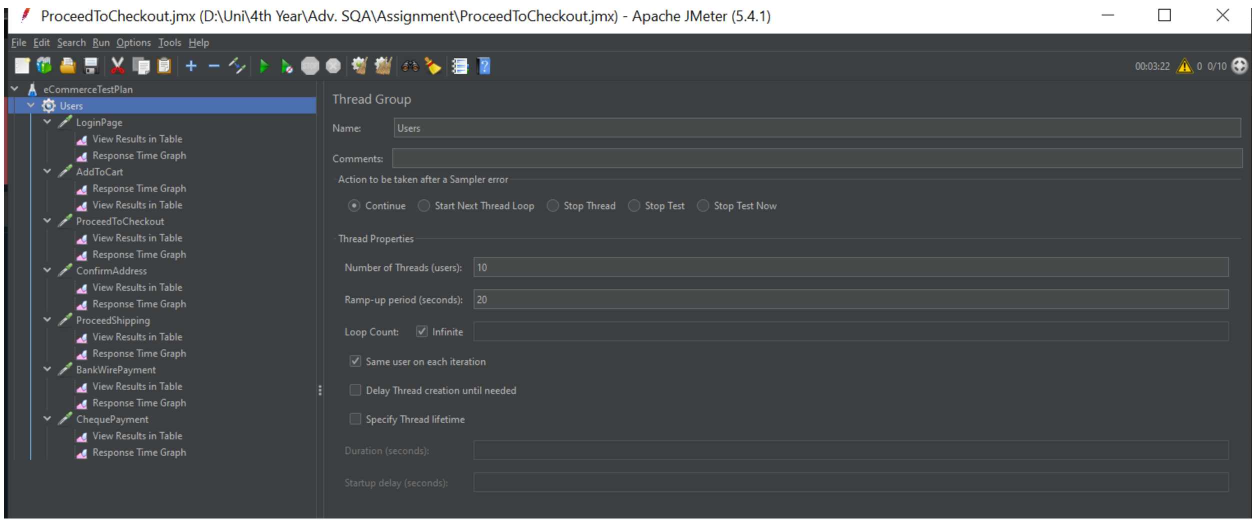
```
org.openqa.selenium.TimeoutException: Expected condition failed: waiting for element to be clickable: [[ChromeDriver: chrome on WINDOWS (0831d1eabc627faf0f3df601c5c1eba1)] -> xpath: //*[@id="layer_cart"]/div[1]/d
Build info: version: '3.141.59', revision: 'e82be7d358', time: '2018-11-14T08:25:53'
System info: host: 'MADHI', ip: '192.168.56.1', os.name: 'Windows 10', os.arch: 'amd64', os.version: '10.0', java.version: '1.8.0_111'
Driver info: org.openqa.selenium.chrome.ChromeDriver
Capabilities {acceptInsecureCerts: false, browserName: chrome, browserVersion: 94.0.4606.81, chrome: {chromedriverVersion: 94.0.4606.61 (418b78f5838ed..., userDataDir: C:\Users\Dell\AppData\Local...}, goog:chrome
Session ID: 0831d1eabc627faf0f3df601c5c1eba1
	at org.openqa.selenium.support.ui.WebDriverWait.timeoutException(WebDriverWait.java:95)
	at org.openqa.selenium.support.ui.FluentWait.until(FluentWait.java:272)
	at com.ecommerce.qa.pages.WomenCategoryPage.addItemToCart(WomenCategoryPage.java:87)
	at com.ecommerce.qa.pages.WomenCategoryPage.selectItem(WomenCategoryPage.java:91)
	at StepDefinitions.AddItemsToCartSteps.all_items_are_selected(AddItemsToCartSteps.java:41)
	at ✻.When all items are selected(AddItemsToCart.feature:6)
```

**Then** proceed to checkout
▼ **Feature**: Test the login functionality
▼ **Scenario**: Check whether user logs in successfully
**Given** navigated to the login page
**And** login page title validated
**And** login image validated
**When** login credentials provided
**Then** navigate to profile

## 8. Testing web services using Postman

## 9. Performance testing using JMeter

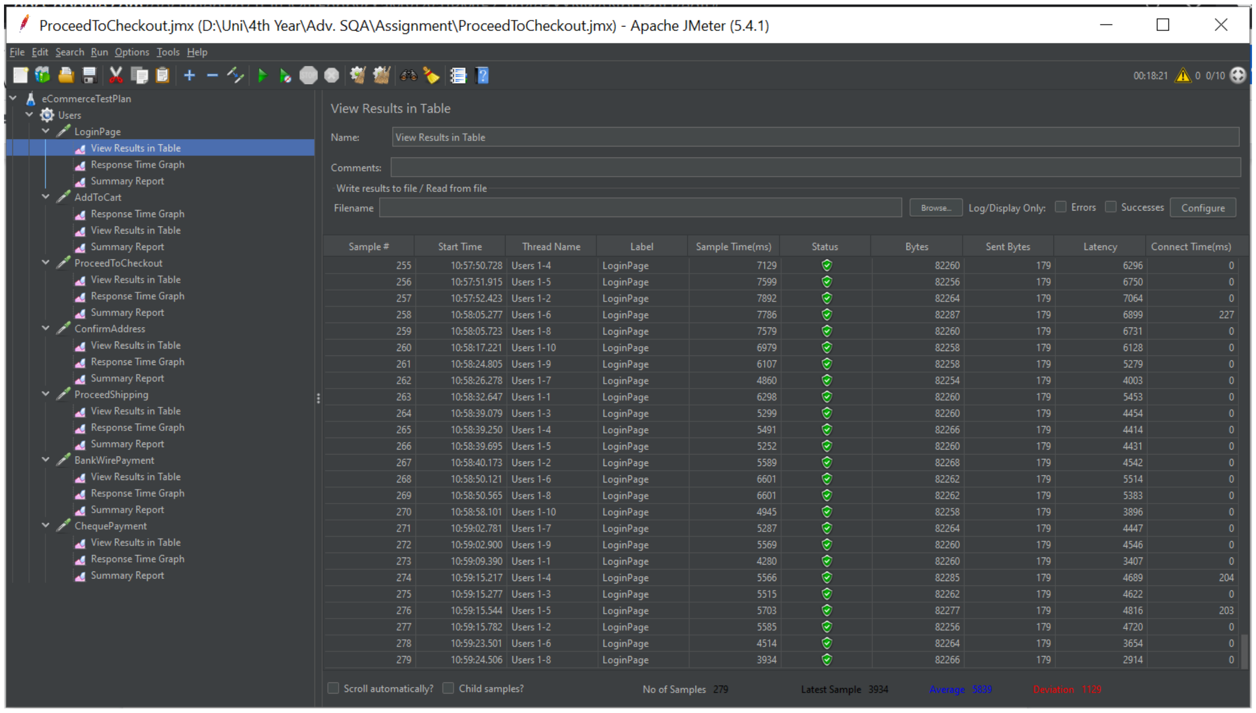
The elements of the test plan are defined in the thread group as shown below. Action to be taken after a sampler error is set default which is 'continue'. Therefore Jmeter will ignore the error, continue the execution and only the affected sampler fails in the listener. Thread count or the number of Users to be simulated for the execution is defined as 10 with a ramp up period of 20 seconds. That means the 10 users will be simulated within 20 seconds. Loop count is left as infinite which means that the performance test will be executed until it is stopped manually.


ProceedToCheckout.jmx (D:\Uni\4th Year\Adv. SQA\Assignment\ProceedToCheckout.jmx) - Apache JMeter (5.4.1)
File Edit Search Run Options Tools Help
00:03:22 0 0/10

eCommerceTestPlan
- Users
  - LoginPage
    - View Results in Table
    - Response Time Graph
  - AddToCart
    - Response Time Graph
    - View Results in Table
  - ProceedToCheckout
    - View Results in Table
    - Response Time Graph
  - ConfirmAddress
    - View Results in Table
    - Response Time Graph
  - ProceedShipping
    - View Results in Table
    - Response Time Graph
  - BankWirePayment
    - View Results in Table
    - Response Time Graph
  - ChequePayment
    - View Results in Table
    - Response Time Graph

Thread Group
Name: Users
Comments:
Action to be taken after a Sampler error
[✓ Continue] Start Next Thread Loop Stop Thread Stop Test Stop Test Now
Thread Properties
Number of Threads (users): 10
Ramp-up period (seconds): 20
Loop Count: [✓ Infinite]
[✓ Same user on each iteration]
Delay Thread creation until needed
Specify Thread lifetime
Duration (seconds):
Startup delay (seconds):

The view results in table listener gives the number of samples and the average response time as well at the bottom of the page.



ProceedToCheckout.jmx (D:\Uni\4th Year\Adv. SQA\Assignment\ProceedToCheckout.jmx) - Apache JMeter (5.4.1)

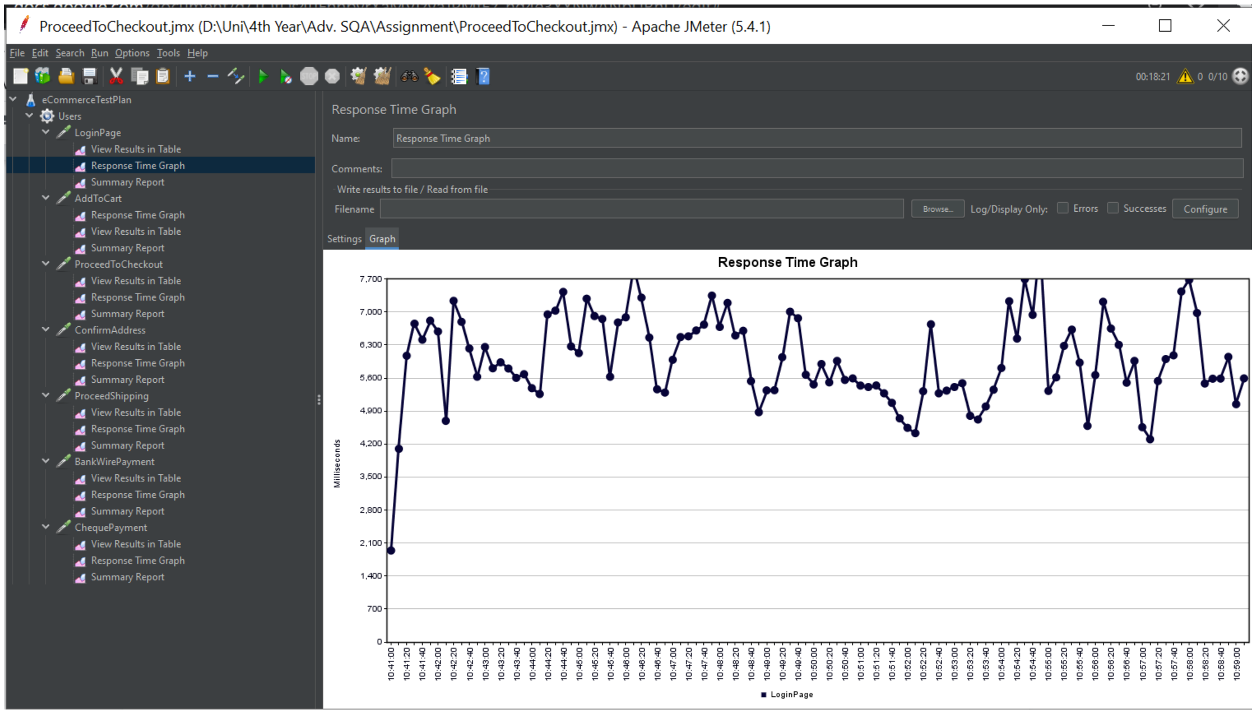
View Results in Table

Name: View Results in Table

| Sample # | Start Time | Thread Name | Label | Sample Time(ms) | Status | Bytes | Sent Bytes | Latency | Connect Time(ms) |
|---|---|---|---|---|---|---|---|---|---|
| 255 | 10:57:50.728 | Users 1-4 | LoginPage | 7129 | ✓ | 82260 | 179 | 6296 | 0 |
| 256 | 10:57:51.915 | Users 1-5 | LoginPage | 7599 | ✓ | 82256 | 179 | 6750 | 0 |
| 257 | 10:57:52.423 | Users 1-2 | LoginPage | 7892 | ✓ | 82264 | 179 | 7064 | 0 |
| 258 | 10:58:05.277 | Users 1-6 | LoginPage | 7786 | ✓ | 82287 | 179 | 6899 | 227 |
| 259 | 10:58:05.723 | Users 1-8 | LoginPage | 7579 | ✓ | 82260 | 179 | 6731 | 0 |
| 260 | 10:58:17.221 | Users 1-10 | LoginPage | 6979 | ✓ | 82258 | 179 | 6128 | 0 |
| 261 | 10:58:24.805 | Users 1-9 | LoginPage | 6107 | ✓ | 82258 | 179 | 5279 | 0 |
| 262 | 10:58:26.278 | Users 1-7 | LoginPage | 4860 | ✓ | 82254 | 179 | 4003 | 0 |
| 263 | 10:58:32.647 | Users 1-1 | LoginPage | 6298 | ✓ | 82260 | 179 | 5453 | 0 |
| 264 | 10:58:39.079 | Users 1-3 | LoginPage | 5299 | ✓ | 82260 | 179 | 4454 | 0 |
| 265 | 10:58:39.250 | Users 1-4 | LoginPage | 5491 | ✓ | 82266 | 179 | 4414 | 0 |
| 266 | 10:58:39.695 | Users 1-5 | LoginPage | 5252 | ✓ | 82260 | 179 | 4431 | 0 |
| 267 | 10:58:40.173 | Users 1-2 | LoginPage | 5589 | ✓ | 82268 | 179 | 4542 | 0 |
| 268 | 10:58:50.121 | Users 1-6 | LoginPage | 6601 | ✓ | 82262 | 179 | 5514 | 0 |
| 269 | 10:58:50.565 | Users 1-8 | LoginPage | 6601 | ✓ | 82262 | 179 | 5383 | 0 |
| 270 | 10:58:58.101 | Users 1-10 | LoginPage | 4945 | ✓ | 82258 | 179 | 3896 | 0 |
| 271 | 10:59:02.781 | Users 1-7 | LoginPage | 5287 | ✓ | 82264 | 179 | 4447 | 0 |
| 272 | 10:59:02.900 | Users 1-9 | LoginPage | 5569 | ✓ | 82260 | 179 | 4546 | 0 |
| 273 | 10:59:09.390 | Users 1-1 | LoginPage | 4280 | ✓ | 82260 | 179 | 3407 | 0 |
| 274 | 10:59:15.217 | Users 1-4 | LoginPage | 5566 | ✓ | 82285 | 179 | 4689 | 204 |
| 275 | 10:59:15.277 | Users 1-3 | LoginPage | 5515 | ✓ | 82262 | 179 | 4622 | 0 |
| 276 | 10:59:15.544 | Users 1-5 | LoginPage | 5703 | ✓ | 82277 | 179 | 4816 | 203 |
| 277 | 10:59:15.782 | Users 1-2 | LoginPage | 5585 | ✓ | 82256 | 179 | 4720 | 0 |
| 278 | 10:59:23.501 | Users 1-6 | LoginPage | 4514 | ✓ | 82264 | 179 | 3654 | 0 |
| 279 | 10:59:24.506 | Users 1-8 | LoginPage | 3934 | ✓ | 82266 | 179 | 2914 | 0 |

No of Samples 279 Latest Sample 3934 Average 5839 Deviation 1129

The image below displays the response time graph that was created for the tests executed.

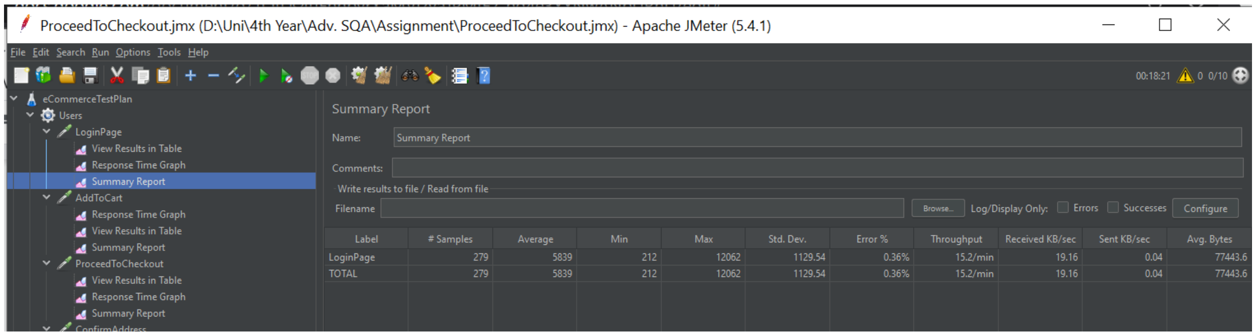


ProceedToCheckout.jmx (D:\Uni\4th Year\Adv. SQA\Assignment\ProceedToCheckout.jmx) - Apache JMeter (5.4.1)

Response Time Graph

Name: Response Time Graph

The summary report gives the number of samples, average, min, max response time and many other statistics related to the performance test executed.



Summary Report

Name: Summary Report

Comments:

Write results to file / Read from file

Filename

Log/Display Only: ☐ Errors ☐ Successes

| Label | # Samples | Average | Min | Max | Std. Dev. | Error % | Throughput | Received KB/sec | Sent KB/sec | Avg. Bytes |
|---|---|---|---|---|---|---|---|---|---|---|
| LoginPage | 279 | 5839 | 212 | 12062 | 1129.54 | 0.36% | 15.2/min | 19.16 | 0.04 | 77443.6 |
| TOTAL | 279 | 5839 | 212 | 12062 | 1129.54 | 0.36% | 15.2/min | 19.16 | 0.04 | 77443.6 |