# Advance Software Quality Assurance IS4102

Final Assignment

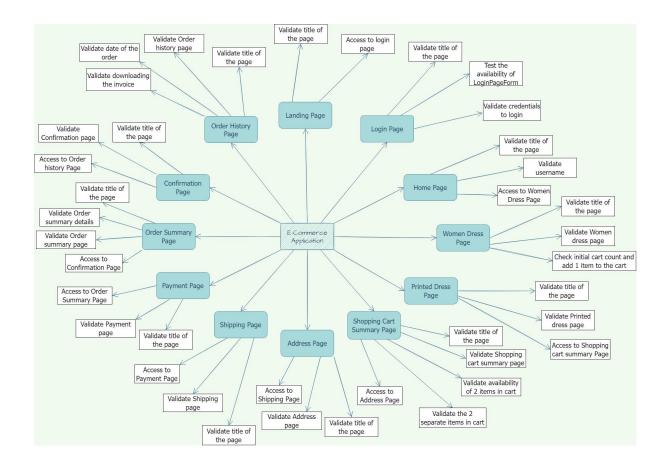
Name	Index Number	Registration Number
D.C.H. Muthukumarage	17020565	2017/IS/056
Y.O. Windsor	17021014	2017/IS/101

# **Project 02 - Validating the E-commerce application to add the products to the cart**

GitHub Repo link - https://github.com/DuminduChamal/MyStoreTestAutomation

YouTube Video link - <a href="https://youtu.be/BDJ01HACny4">https://youtu.be/BDJ01HACny4</a>

01). Mind Map and develop test cases for the given requirement



In the above mind map, we have shown the test cases that we've developed to test a scenario of logging to an e-commerce application, adding multiple items (2 in our case) and checking out to view the receipt. The test cases are categorized under 12 web pages that will be accessed during the testing process.

As we access the given url "<a href="http://automationpractice.com/index.php">http://automationpractice.com/index.php</a>", we'll be forwarded to a home page of the above e-commerce platform. This page is called the landing page throughout this process.

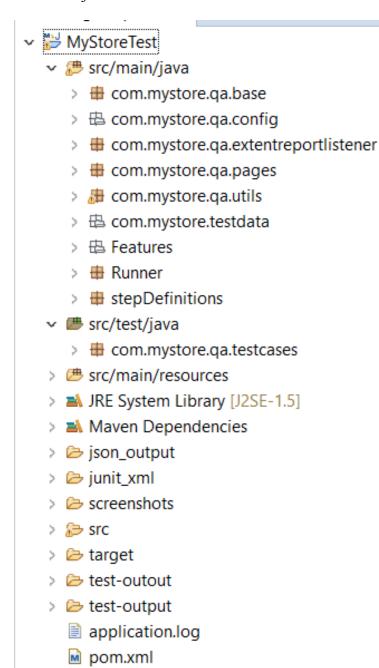


Once this website is accessed, we'll conduct the following test cases.

- 1. Validation of the title of the Landing Page
- Validation of access to Login Page
- 3. Validation of the title of the Login Page
- 4. Test the availability of the login form in the page
- 5. Validate the user credentials to login and direction to Home page
- 6. Validation of the title of the Home Page
- 7. Validation of username in the Home Page
- 8. Validation of access to Women Dress Page
- 9. Validation of the title of the Women Dress Page
- 10. Validation of the Women Dress Page with regards to content
- 11. Testing the count of initial cart and adding items to the cart
- 12. Validation of the title of the Printed Dress Page
- 13. Validation of the Printed Dress Page with regards to content
- 14. Validation of availability of 2 items in the cart
- 15. Validation of the items in the cart
- 16. Validation of access to Shopping Cart Summary Page
- 17. Validation of the title of the Shopping Cart Summary Page
- 18. Validation of the Shopping Cart Summary Page with regards to content
- 19. Validation of access to Address Page
- 20. Validation of the title of the Address Page
- 21. Validation of the Address Page with regards to content
- 22. Validation of the title of the Shipping Page
- 23. Validation of access to Shipping Page
- 24. Validation of the Shipping Page with regards to content

- 25. Validation of access to Payment Page
- 26. Validation of the title of the Payment Page
- 27. Validation of the Payment Page with regards to content
- 28. Validation of access to Order Summary Page
- 29. Validation of the title of the Order Summary Page
- 30. Validation of the Order Summary Page with regards to content
- 31. Validation of the order details in Order Summary Page
- 32. Validation of access to Confirmation Page
- 33. Validation of the title of the Confirmation Page
- 34. Validation of the Confirmation Page with regards to content
- 35. Validation of access to Order History Page
- 36. Validation of the title of the Order History Page
- 37. Validation of the Order History Page with regards to content
- 38. Validation of date of order placed
- 39. Validation of downloading the invoice

02). Hybrid Test Framework -- Page Object Model + Data-Driven framework + TestNG & Maven Project Structure



- 03). The corresponding packages for -- Scripting
- a. Page Layer: Creating and storing the test object description using Page Factory –

#### Framework

- w tom.mystore.qa.pages
  - › AddressPage.java
  - > I ConfirmationPage.java
  - › I HomePage.java
  - > I LandingPage.java
  - LoginPage.java
  - › I OrderHistoryPage.java
  - › OrderSummaryPage.java
  - > PaymentPage.java
  - PrintedDressPage.java
  - > I ShippingPage.java
  - > ShoppingCartSummaryPage.java
- b. Test Layer: Multiple test cases using TestNG annotations Framework
  - src/test/java
    - # com.mystore.qa.testcases
      - > AddressPageTest.java

      - > 🛭 HomePageTest.java
      - > 1 LandingPageTest.java
      - > LoginPageTest.java
      - › I OrderHistoryPageTest.java
      - › OrderSummaryPageTest.java
      - PaymentPageTest.java
      - > PrintedDressPageTest.java
      - › I ShippingPageTest.java
      - › I ShoppingCartSummaryPageTest.java

c. Test Base: Prerequisite of initializing the drivers, properties, etc. – Framework

```
    ✓ MyStoreTest
    ✓ Æ src/main/java
    ✓ ⊕ com.mystore.qa.base
    → ☑ TestBase.java
```

```
☐ TestBase.iava 🖾
   2 import java.io.FileInputStream;
  public class TestBase {
   public static WebDriver driver;
   public static Properties prop;
}
             public static EventFiringWebDriver e_driver;
public static WebEventListener eventListener;
             public TestBase(){
                  26
27
28
30
31
32
33
34
35
36°
37
38
40
41
42
43
44
45
46
47
48
49
50
51
55
56
57
57
58
                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", "F:\\SQA\\chromedriver.exe");
}
                          driver = new ChromeDriver();
                  else if(browserName.equals("firefox")){
    System.setProperty("webdriver.gecko.driver", "F:\\SQA\\geckodriver.exe");
    driver = new FirefoxDriver();
                   e_driver = new EventFiringWebDriver(driver);
                    eventListener = new WebEventListener();
                   e_driver.register(eventListener);
driver = e_driver;
                   driver.manage().window().maximize();
driver.manage().deleteAllCookies();
driver.manage().timeouts().pageLoadTimeout(TestUtil.PAGE_LOAD_TIMEOUT, TimeUnit.SECONDS);
driver.manage().timeouts().implicitlyWait(TestUtil.IMPLICIT_WAIT, TimeUnit.SECONDS);
                    driver.get(prop.getProperty("url"));
```

- d. Configuration files: to store environment variables in. properties file like, URL, Default username and passwords, browser instances etc. Framework
- the com.mystore.qa.config
   config.properties

```
config.properties \( \text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tint{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tinx{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\til\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text
```

- e. Test data files: Excels, My SQL DB, Property file
- - ltem\_Selection.xlsx
- f. Utilities: to store screenshots, generic functions, common utilities, emails etc.
  - - > 🕖 TestUtil.java
    - > 🛭 WebEventListener.java
- g. Reports using HTML, XML, Extent Reports etc.- Framework

Test	# Passed	# Skipped	# Retried	# Failed	Time (ms)	Included Groups	Excluded Groups
My Store Test Automation Test Suite							
My Store Test Cases	39	0	0	0	989,627		

Class	Method	Start	Time (ms)
My St	tore Test Automation Test Suite		
M	y Store Test Cases — passed		
com.mystore.qa.testcases.AddressPageTest	AddressPageTitleTest	1636534212376	6
	AddressPageValidateTest	1636534237142	55
	ProceedToCheckoutTest	1636534263399	1818
com.mystore.qa.testcases.ConfirmationPageTest	<u>BackToOrderHistoryTest</u>	1636534670741	3355
	<u>ConfirmationPageTitleTest</u>	1636534603317	13
	ConfirmationPageValidateTest	1636534635361	46
com.mystore.qa.testcases.HomePageTest	HomePageTitleTest	1636533909737	16
	HomePageUserNameTest	1636533922184	63
	directToWomenDressPageTest	1636533935782	2683
com.mystore.qa.testcases.LandingPageTest	directToLoginPageTest	1636533861923	2097
	<u>loginPageTitleTest</u>	1636533853597	45
com.mystore.qa.testcases.LoginPageTest	loghrPageTitleTest	1636533873538	20
	loginPagelogoTest	1636533883717	73
	<u>Ingin Test</u>	1636533894134	2065
com.mystore.qa.testcases.OrderHistoryPageTest	CheckTheDateOfOrderTest	1636534793087	46
	<b>DownLoadInvoiceTest</b>	1636534833962	101
	<u>OrderHistoryPageTitleTest</u>	1636534712977	5
	OrderHistoryPageValidateTest	1636534755634	47
com.mystore.qa.testcases.OrderSummaryPageTest	CheckOrdorSummaryPageValidateTest	1636534529565	49
	OrderProceedToCheckontTest	1636534563546	2937

com.mystore.qa.testcases.PaymentPageTest	<u>PaymentPageTitleTest</u>	1636534372795	8
	<u>PaymentPageValidateTest</u>	1636534402255	59
	<u>ProceedToCheckoutTest</u>	1636534434631	1200
com.mystore.qa.testcases.PrintedDressPageTest	AddItemAndProceedToCheckontTest	1636534056232	2951
	PrinteDressPageTitleTest	1636534012597	4
	PrintedDressPageValidateTest	1636534033873	52
com.mystore.qa.testcases.ShippingPageTest	<u>ProceedToCheckoutTest</u>	1636534341407	1748
	<u>ShippingPageTitleTest</u>	1636534291406	15
	<u>ShippingPageValidateTest</u>	1636534317813	62
com. mystore. qa. test cases. Shopping Cart Summary Page Test	ExactTwoProductsTest	1636534162363	80
	PrinteDressPageTitleTest	1636534088427	7
	PrintedDressPageValidateTest	1636534115087	52
	ProceedToCheckoutTest	1636534184210	2166
	TwoProductsTest	1636534138283	55
com.mystore.qa.testcases.WomenDressPageTest	<u>WomenDressPageTitleTest</u>	1636533958337	9
	<u>WomenDressPageValidateTest</u>	1636533972835	65
	addOneItemAndViewOneItemTest	1636533987699	4600

# **My Store Test Cases**

com. mystore. qa. test cases. Address Page Test #Address Page Title Test

back to summary

com. mystore. qa. test cases. Address Page Test #Address Page Validate Test

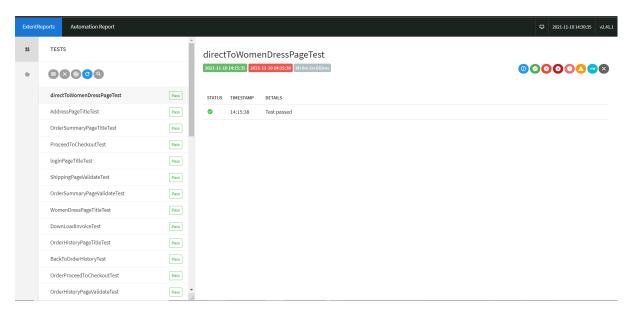
back to summary

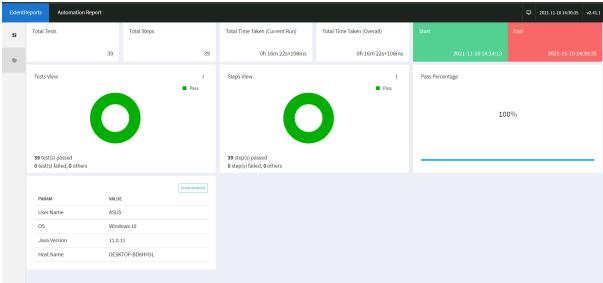
#### My Store Test Cases

Tests passed/Failed/Skipped:	39/0/0
Started on:	Wed Nov 10 14:14:05 IST 2021
Total time:	989 seconds (989627 ms)
Included groups:	
Excluded groups:	

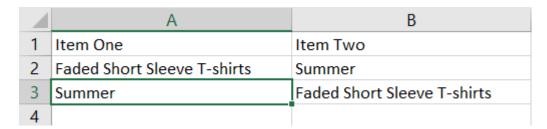
(Hover the method name to see the test class name)

PASSED TESTS				
Test method	Exception	Time (seconds)	Instance	
directToWomenDressPageTest Test class: com.mystore.qa.testcases.HomePageTest		2	com.mystore.qa.testcases.HomePageTest@239a307b	
AddressPageTitleTest Test class: com.mystore.qa.testcases.AddressPageTest		0	com.mystore.qa.testcases.AddressPageTest@5f8e8a9d	
OrderSummaryPageTitleTest Test class: com.mystore.qa.testcases.OrderSummaryPageTest		0	com.mystore.qa.testcases.OrderSummaryPageTest@3cce5371	
ProceedToCheckoutTest Test class: com.mystore.qa.testcases.ShippingPageTest		1	com.mystore.qa.testcases.ShippingPageTest@5745ca0e	
loginPageTitleTest Test class: com.mystore.qa.testcases.LoginPageTest		0	com.mystore.qa.testcases.LoginPageTest@740fb309	
ShippingPageValidateTest Test class: com.mystore.qa.testcases.ShippingPageTest		0	com.mystore.qa.testcases.ShippingPageTest@5745ca0e	
OrderSummaryPageValidateTest Test class: com.mystore.qa.testcases.OrderSummaryPageTest		0	com.mystore.qa.testcases.OrderSummaryPageTest@3cce5371	
WomenDressPageTitleTest Test class: com.mystore.qa.testcases.WomenDressPageTest		0	com.mystore.qa.testcases.WomenDressPageTest@2a8448fa	
DownLoadInvoiceTest Test class: com.mystore.qa.testcases.OrderHistoryPageTest		0	com.mystore.qa.testcases.OrderHistoryPageTest@6e535154	
OrderHistoryPageTitleTest Test class: com.mystore.qa.testcases.OrderHistoryPageTest		0	com.mystore.qa.testcases.OrderHistoryPageTest@6e535154	
BackToOrderHistoryTest		2	Confirmation Description Confirmation Description Confirmation Description Confirmation Confirma	





04). Execute Automation Scripts on Multiple times with capturing screen images of failure test cases by fetching the data from DB, excel, property file.



#### Screenshots

- 1636137566831.png
- 1636202276497.png
- 1636203459721.png
- 1636204528235.png
- 1636211412039.png
- 1636216433936.png
- 1636220074204.png
- 1636396925730.png
- 1636397082235.png
- 1636397499511.png

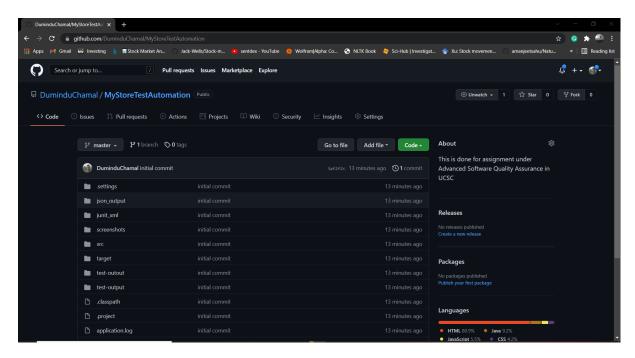
#### 05). Able to capture all the logs using log4j

```
1 #Set level
2 log4j.rootCategory=debug, console, file
3
4 # Appender which writes to console
5 log4j.appender.console=org.apache.log4j.ConsoleAppender
6 log4j.appender.console.layout=org.apache.log4j.PatternLayout
7 log4j.appender.console.layout.ConversionPattern=%d{MM-dd-yxyyx HH:mm:ss} %F %-5p [%t] %c{2} %L - %m%n
8
9 # Appender which writes to a file
10 log4j.appender.file=org.apache.log4j.RollingFileAppender
11 log4j.appender.file.File=application.log
12
13 # Defining maximum size of a log file
14 log4j.appender.file.MaxFileSize=10mb
15 log4j.appender.file.MaxBackupIndex=10
16 log4j.appender.file.layout=org.apache.log4j.PatternLayout
17 log4j.appender.file.layout.ConversionPattern=%d{ISO8601} %5p [%t] %c{1}:%L - %m%n
18 log4j.appender.file.Append=false
```

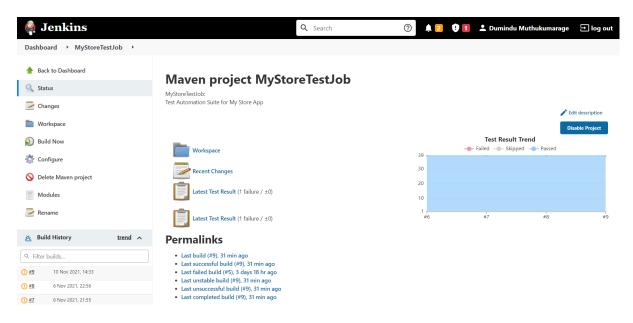
```
1 021-11-10 14:39:08,766 INFO [main] LandingPageTest:32 - Validating Landing Page!
2 2021-11-10 14:39:08,769 INFO [main] LandingPageTest:33 - Landing Page Title - My Store
3 2021-11-10 14:39:08,770 INFO [main] LandingPageTest:35 - This is a info log
4 2021-11-10 14:39:08,770 WARN [main] LandingPageTest:36 - This is a warn log
5 2021-11-10 14:39:08,770 FATAL [main] LandingPageTest:37 - This is a fata log
6 2021-11-10 14:39:08,770 DEBUG [main] LandingPageTest:38 - This is a debug log
```

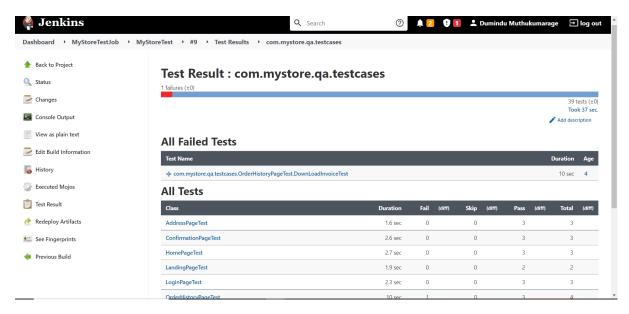
06). GitHub to store all the source code and any perform pushing and pulling operations

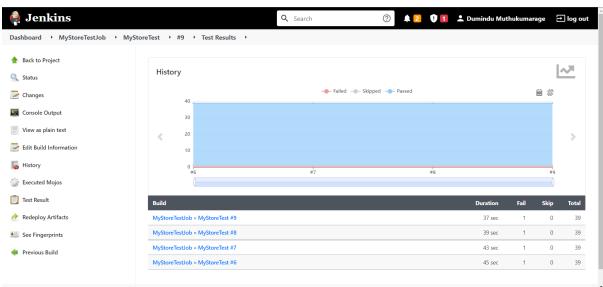
# https://github.com/DuminduChamal/MyStoreTestAutomation

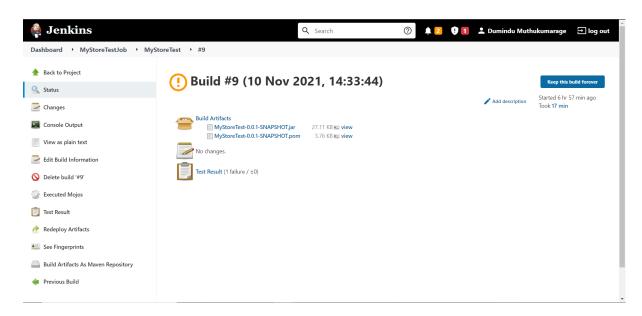


07). Jenkins for Continuous integration, execute scripts via Jenkins









#### 08). Selenium Integration with Cucumber and BDD Framework using Cucumber

#### ▼ Feature: My Store Add Two Items

▼ Scenario Outline: My Store Add Two Items

Given user is already on Landing Page

When title of landing page is My Store

Then user clicks on sign in button

When title of login page is My Store Login

Then user enters "<username>" and "<password>"

Then user clicks on login button

Then user is on home page

Then user clicks on WOMEN button

When title of women page is Women My Store

Then user clicks on faded tshirt button

Then user clicks on add to cart

Then user clicks on continue shopping

Then user clicks on printed dress

Then user clicks on more button

When title of printed dress page is Printed Chiffon Dress My Store

Then user clicks on add to cart button

**Then** user clicks on proceed to checkout button

When title of order page is Order My Store

Then user clicks on proceed to checkout button on order page

When title of address page is Order My Store

Then user clicks on proceed to checkout button on address page

When title of shipping page is Order My Store

Then user clicks on check box

**Then** user clicks on proceed to checkout button on shipping page

When title of payment page is Order My Store

Then user clicks on pay by check button

When title of order summary page is My Store

Then user clicks on confirm button

When title of order confirmation page is Order confirmation My Store

Then user clicks on back button

When title of order history page is Order history My Store

Then user clicks on pdf button

Then Close the browser

## **▼** Examples:

username	password
is4102@ucsctest.com	test@123

▼ Scenario Outline: My Store Add Two Items

Given user is already on Landing Page

When title of landing page is My Store

Then user clicks on sign in button

When title of login page is My Store Login

Then user enters "is4102@ucsctest.com" and "test@123"

Then user clicks on login button

Then user is on home page

Then user clicks on WOMEN button

When title of women page is Women My Store

Then user clicks on faded tshirt button

Then user clicks on add to cart

**Then** user clicks on continue shopping

Then user clicks on printed dress

**Then** user clicks on more button

When title of printed dress page is Printed Chiffon Dress My Store

Then user clicks on add to cart button

Then user clicks on proceed to checkout button

When title of order page is Order My Store

Then user clicks on proceed to checkout button on order page

When title of address page is Order My Store

Then user clicks on proceed to checkout button on address page

When title of shipping page is Order My Store

Then user clicks on check box

**Then** user clicks on proceed to checkout button on shipping page

When title of payment page is Order My Store

Then user clicks on pay by check button

When title of order summary page is My Store

Then user clicks on confirm button

When title of order confirmation page is Order confirmation My Store

Then user clicks on back button

When title of order history page is Order history My Store

Then user clicks on pdf button

Then Close the browser

#### a. Feature File using Gherkin Language

```
1 ○ Feature: My Store Add Two Items
 30 Scenario Outline: My Store Add Two Items
 5 Given user is already on Landing Page
 6 When title of landing page is My Store
 7 Then user clicks on sign in button
 8 When title of login page is My Store Login
 9 Then user enters "<username>" and "<password>"
10 Then user clicks on login button
11 Then user is on home page
12 Then user clicks on WOMEN button
13 When title of women page is Women My Store
14 Then user clicks on faded tshirt button
15 Then user clicks on add to cart
16 Then user clicks on continue shopping
17 Then user clicks on printed dress
18 Then user clicks on more button
19 When title of printed dress page is Printed Chiffon Dress My Store
20 Then user clicks on add to cart button
21 Then user clicks on proceed to checkout button
22 When title of order page is Order My Store
23 Then user clicks on proceed to checkout button on order page
24 When title of address page is Order My Store
25 Then user clicks on proceed to checkout button on address page
26 When title of shipping page is Order My Store
27 Then user clicks on check box
28 Then user clicks on proceed to checkout button on shipping page
29 When title of payment page is Order My Store
30 Then user clicks on pay by check button
31 When title of order summary page is My Store
32 Then user clicks on confirm button
33 When title of order confirmation page is Order confirmation My Store
34 Then user clicks on back button
35 When title of order history page is Order history My Store
36 Then user clicks on pdf button
37 Then Close the browser
38
39⊖ Examples:
     username
                             | password |
     | is4102@ucsctest.com | test@123 |
41
```

### b. Step Definition file using cucumber Gherkin annotations

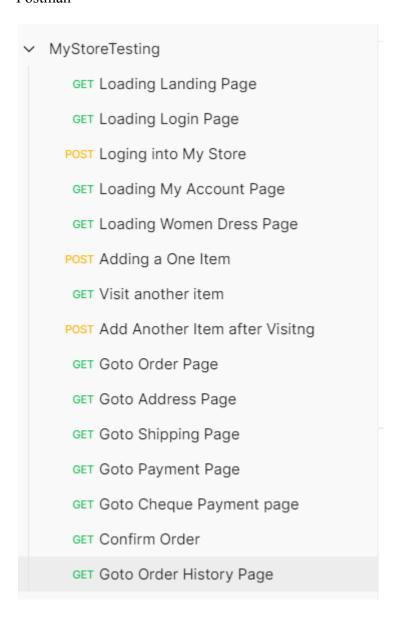
```
package stepDefinitions;
 4 import org.junit.Assert;
14
16 public class AddTwoItemStepDefinition {
17
18
       WebDriver driver;
19
       @Given("^user is already on Landing Page$")
20⊝
21
       public void user_is_already_on_Landing_Page() {
22
            System.setProperty("webdriver.chrome.driver","F:\\SQA\\chromedriver.exe");
            driver = new ChromeDriver();
23
24
            driver.get("http://automationpractice.com/index.php?");
25
       }
26
       @When("^title of landing page is My Store$")
27⊝
       public void title_of_landing_page_is_My_Store() {
28
           String title1 = driver.getTitle();
29
30
           System.out.println(title1);
31
           Assert.assertEquals("My Store", title1);
32
       }
33
34⊝
       @Then("^user clicks on sign in button$")
35
       public void user_clicks_on_sign_in_button() {
36
           WebElement signinBtn =
37
           driver.findElement(By.xpath("//*[@id=\"header\"]/div[2]/div/div/nav/div[1]/a"));
38
           JavascriptExecutor js = (JavascriptExecutor)driver;
39
           js.executeScript("arguments[0].click();", signinBtn);
40
       }
41
       @When("^title of login page is My Store Login$")
42⊖
43
       public void title_of_login_page_is_My_Store_Login() {
44
           String title2 = driver.getTitle();
           System.out.println(title2);
45
46
           Assert.assertEquals("Login - My Store", title2);
47
48
       @Then("^user enters \"(.*)\" and \"(.*)\"$")
49⊜
50
        public void user_enters_username_and_password(String username, String password){
        driver.findElement(By.name("email")).sendKeys(username);
51
        driver.findElement(By.name("passwd")).sendKeys(password);
52
```

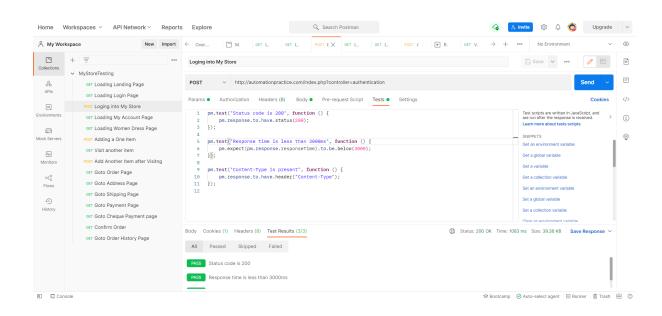
#### c. Test Runner class Cucumber

```
package Runner;

| package Runner;
| package Runner;
| package Runner;
| package Runner;
| package Runner;
| package Runner |
```

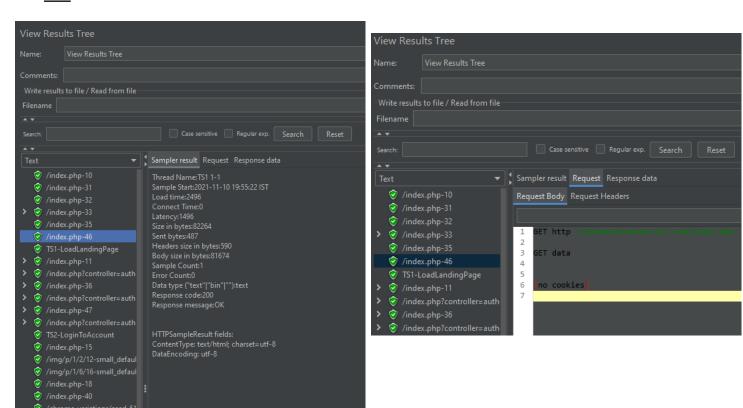
09). Identify web services available for the above-identified test scenarios and test them using Postman

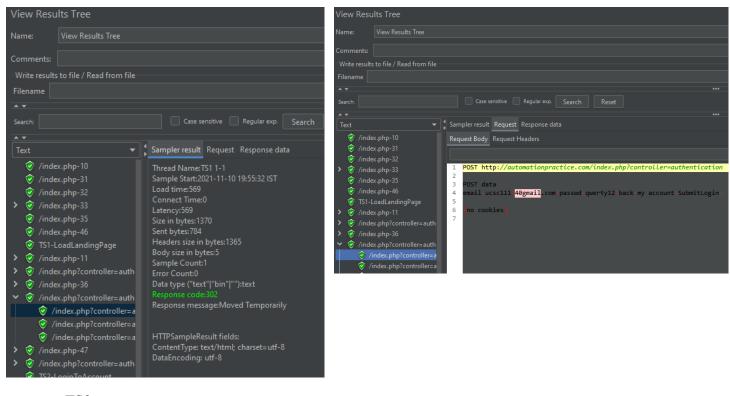




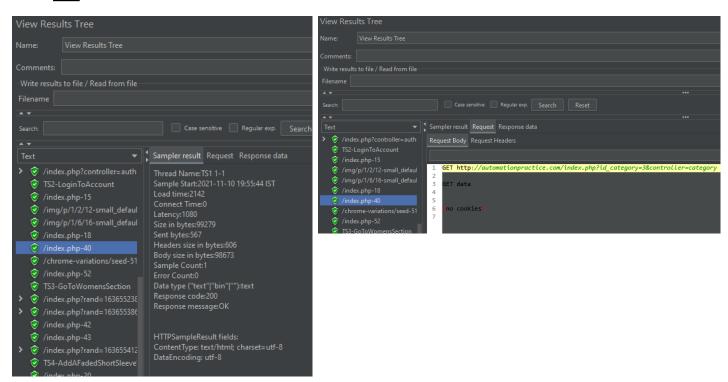
10). Develop performance test script using JMETER for above-identified test scenarios and measure response time

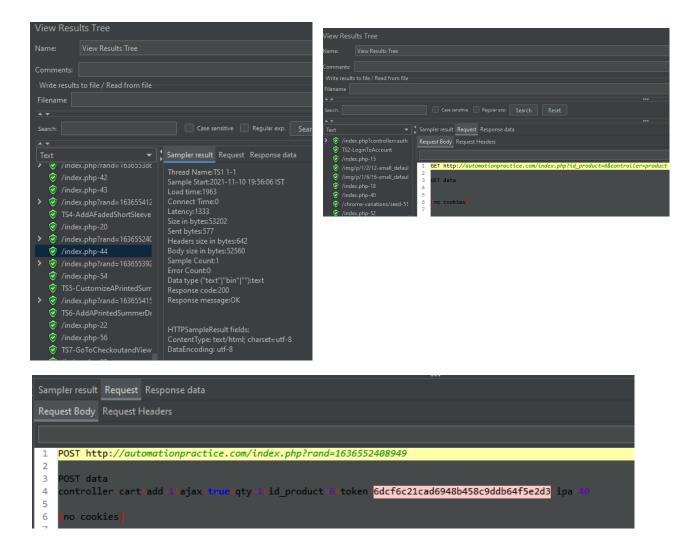
Some screenshots of Sampler Results and Request Bodies for the 13 steps are added. And the Test fragment of the View Results Tree and the Summary report is also provided.

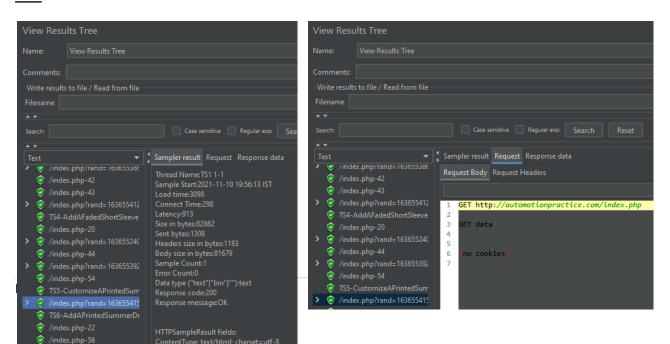




#### <u>TS3</u>





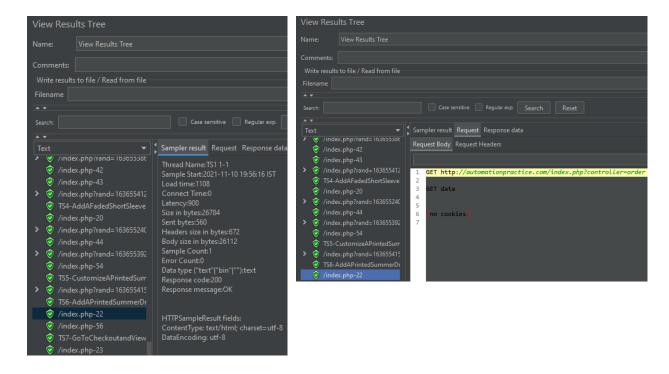


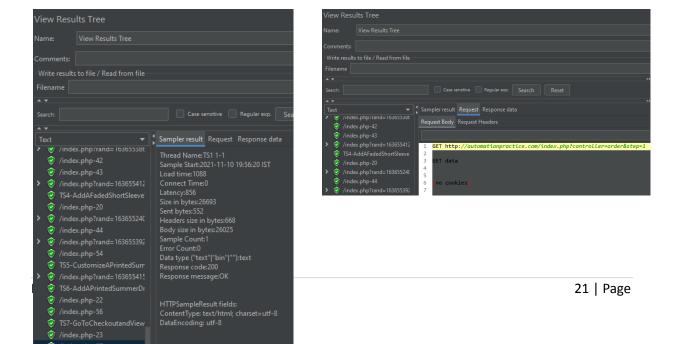
```
Request Body Request Headers

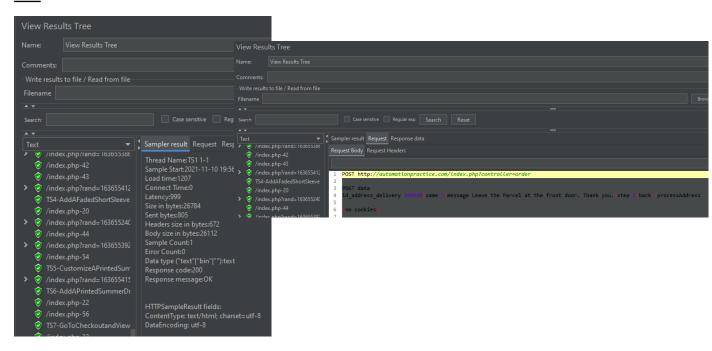
1 POST http://automationpractice.com/index.php?rand=1636554154892

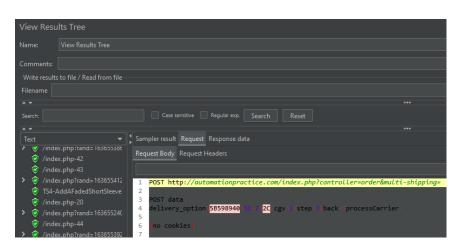
2 POST data:
4 controller cart@add 1@ajax true@qty=1@id_product 6@token 6dcf6c21cad6948b458c9ddb64f5e2d3@ipa=42

5 no cookies
7
```









#### **TS11**

```
Sampler result Request Response data

Request Body Request Headers

1 GET http://automationpractice.com/index.php?controller=authentication&back=history

2 GET data

4 Ino cookies
```

#### **TS12**

```
Sampler result Request Response data

Request Body Request Headers

1 GET http://automationpractice.com/index.php?controller=pdf-invoice&id_order=376323

2 GET data
4 Ino cookies
```

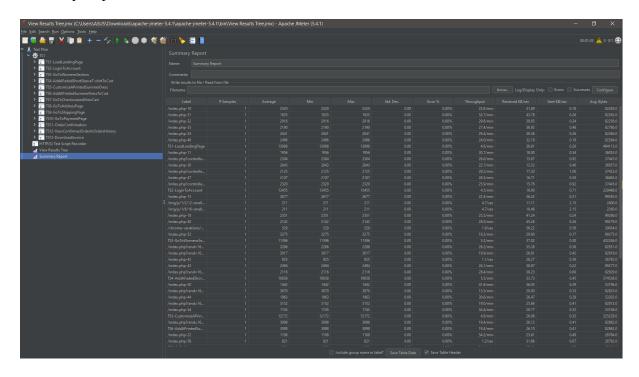
```
Sampler result Request Response data

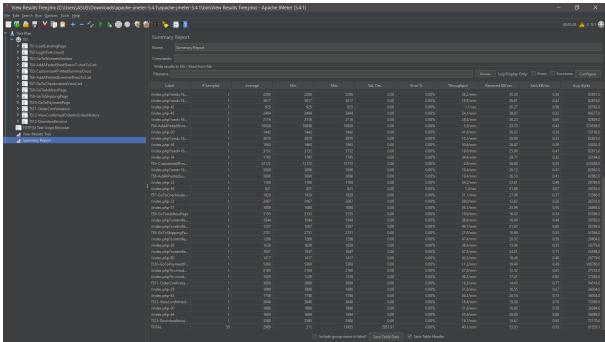
Request Body Request Headers

1 GET http://automationpractice.com/index.php?controller=authentication&back=pdf-invoice

2 GET data
4 In cookies
```

# Summary Report





\*\*\*\*