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Quality Testing Of Bike E-Commerce Store

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Abstract

This project report is from a course on “Software Quality Assurance and Testing”. In this report, we go through the key components of the Software Quality Assurance and Testing and show how we are using testing tools to test our software. We promotes our software tools, “Bike E-Commerce Store”, which is flexible to test by following all the testing approach, though different testing media platforms. We discussed Renorex Studio, Apache JMeterTM, and Katalon Studio testing strategies in this report. We also uphold all the process and the analysis from the aspect of our software. Therefore, this study or report will be result of the testing plan for this Bike E-Commerce Store software and also indicate the guidelines of success.

Overview

The "Bike E-Commerce Store", software is an E-Commerce platform merchants can use to display and sell their bikes online. They will be able to upload information about their bikes and customers will be able to buy the bikes using the platform. The E-commerce store will have two user classes;

1. Customers
2. Admin

The customer will be able to browse through the different bikes, login/register and order a bike that he likes. The admin will be able to login, manage the different product information, view and manage the orders and create other admins accounts. The system will allow users to quickly and easily view the technical specifications of each bike and make a purchase from the comforts of their homes. They don't need to go to a showroom to view and buy the bikes. This saves the customer time and at the same time, the platform's owner can serve their customers 24/7. The Ecommerce platform will have a backend API and a React-based frontend which will consume the API and provide the functionality to the software. A no SQL database called mongoDB will be used as the database.

Chapter 1 Test Plan

1 Introduction

The Test Plan documents and tracks the necessary information required to effectively define the approach to be used in the testing of the project's product. The Test Plan document is created during the Planning Phase of the project. Its intended audience is the project manager, project team, and testing team. Some portions of this document may on occasion be shared with the client/user and other stakeholders whose input/approval into the testing process is needed.

1.1 Objectives

As a test plan consume the whole detailed of project into a document that usually describes the software testing areas and all types of activities.[\[2\]](#) Therefore the main objective for the test plan that is to produce documentation which normally describes how can the tester will be verify the project or software works as its intended. So, this document should be described whatever it needs to be tested, the process of testing and who are the responsible for doing test plan. Moreover the main outlines of the test strategy, test document, schedule is required resources, test deliverables and test estimation. For this reason the test plan is the base of every software testing portion. The three most essential automation tools which will be used they are:

The **Renorex Studio** is a GUI test automation framework which is used for testing of Web-based, Desktop, and also Mobile applications. Reorex Studio has not any own scripting language for automating application where it used the standard programming languages such as VB.NET, and OPP2. In short, the Reorex Studio is single package which get a powerful the Machine-trained Object Recognition Engine and also it is a fully set of easy to use rather than other automation tools. On the other hand it is known that Selenium WebDriver is built in to the Renorex Studio automation framework. For this reason Reorex Studio can deliver whole set of automation tools[\[5\]](#).

The **Apache JMeterTM** is a pure Java free open source software or application that gives facilities to user or developer for using the source code development of other software or applications. It has user friendly, simple, and interactive GUI. Apache JMeterTM support various testing like Load testing, Distribute testing, Functional testing , and so on. Apache JMeterTM accepts a Java virtual machine such as Windows, Linux, Mac and also supports various server named HTTP, HTTPS, SOAP, databases named JDBC, LDAP, JMS, and so on. Therefore it is multi- threading framework.

The third testing tool name **Katalon Studio** which is a modern, widely used framework which provides the blueprint of the test automation for the tester that is based on the TestNG and Selenium tools. Therefore by giving comprehensive quality management platform, Katalon Studio help the testing team of any kind or size deliver or give the highest quality of outcome of the digital experiences. Moreover, when Katalon Studio is become the part of Selenium based testing, tester choose frequently which offers the host of built-in features by simplify the test cases for users favor. API Testing, Web Testing, Desktop Testing, and Mobile Testing is done by using the Katalon Studio tools.

There are some identify objectives that supported by this test plan document:

- Fully explore the existing software or project details and the software to be tested.
- List down the proposed test requirements.
- Identify and explain all the testing strategies that will be used.
- List down possible defects of the software or project.
- Can schedule the evaluated work products or software.
- Verify all the requirements frequently.

1.2 Team Members

Resource Name	Role
Efaz Ahmed	Project Manager
Md. Mohiuddin Ahmed Efti	Test Engineer
Sheuly Akter	Development Manager
Md. Rifat-Uz-Zaman	Test Manager

Table 2: Table-1

2 Assumptions And Risks

The Test Plan documents and tracks the necessary information required to effectively define the approach to be used in the testing of the project's product. The Test Plan document is created during the Planning Phase of the project. Its intended audience is the project manager, project team, and testing team. Some portions of this document may on occasion be shared with the client/user and other stakeholders whose input/approval into the testing process is needed.

2.1 Assumptions

As assumptions includes different types of the environment with capability and its availability, and resource assumptions or test tool procurement. This section lists assumptions that made for the project named, "Bike Ecommerce Store".

Here, we have assumed that it will be running on a properly working web server and database system with an Internet connection that allows this system to perform all communications with clients.

- The admin account's username and password may be hard coded.
- The admin cannot be a customer.
- Any user cannot edit their account information.

2.2 Risks

Every software has some risks. As it is large type of software like it works multiple works, it will come with multiple risks. This test plan document helps to find out the tests of the software. Based on the framework, the testers can easily execute the tests and obtain relevant results by generating test reports. But selecting the right tool to automate Website depends on many key parameters. It is always important to compare the available tools based on key parameters like features, performance, extensibility, licensing cost, maintenance cost, and Training and support. Continuous changes for demands Regression so run regression test suits every day to keep track of the effects of change.

3 Test Approach

To continue the test approach or working on the software or project, every team maintains or follow indicate approach named waterfall, scrum, and so on. The Bike Ecommerce Store project uses an agile approach that gives weekly iterations. At the end of each week the requirements identified for that iteration will be delivered to the team and will be tested.// The Bike Ecommerce Store, a website/application works differently for different user profiles such as customers (both authorized and unauthorized), sales representatives, and online shop managers. It is, therefore, important to make sure that your website test cases cover the varied operations for all types of users such as filtering of items, adding/removing goods to the shopping cart, and so on. To offer a hassle-free experience to customers, it is pivotal to test the complete workflow of your web/mobile application that consists of login and signup options, sorting feature, search functionality, add/remove functionality in the shopping cart, check-out process, payment gateway, and payment processing among others. An increasing number of users are now using mobile devices, driving companies to reconsider their testing strategy, and take a mobile-first approach in their applications. The important aspect here is to test the responsive design of the application in mobile devices of different screen sizes.

3.1 Test Automation

Software testing is the process of analyzing software to find the difference between the required and existing condition. Software testing is done throughout the software development life cycle and also to create quality software, for this purpose two basic testing approaches are used which are white box testing and black box testing. . Main plan is to produce specification-based testing approaches along with some developing techniques which need to be applicable to some formal specification languages as well.

- There the automated end-to-end tests are part of the development process. Front-end tests will be done using Cypress automation tools.

For test Automation, this Bike Ecommerce Store project or software is gone through by the Renorex Studio (for regression testing), the Apache JMeterTM (for performance and load testing), and the Katalon Studio (for regression, and UX design testing) tools.

4 Test Environment

The following detail the environmental and infrastructure needs required for the testing of lastminute.com Test Items and execution of Regression Testing.

4.1 Hardware

- One Network Controller
- Six Networked PC's (See below)
- One DAP Workstation
- One Oracle Server
- One HP LaserJet 4v Printer
- All Testing Documents

4.2 PC Specifications

- The 6 PC's required for the test environment will include the following:
- 1 x P100, 1 GB SSD, and 16Mb RAM [Current Minimum Specification]
- 3 x P166, 1.5 GB SSD, and 32 Mb RAM [Current Standard Specification]
- 1 x P333, 2.5 GB SSD, and 64 Mb RAM [Current Maximum Specification]

These specifications are the various specifications currently in use in different branches. 1 x Pentium running Windows NT is also required as the Test center for controlling and executing the automated testing.

4.3 Software

- **Test Tool:** Ranorex Studio, Apache JMeterTM, and Katalon Studio for automated testing.
- **Server:** Oracle database server, MySQL Workbench, Install MySQL server and Apache server.
- **System:** Windows 10 professional with latest Microsoft 365 access..
- **Network:** Setup a LAN gigabit and 1 internet line with a least 10 MB/s.

4.4 Infrastructure

- Network connections are available on all Test Systems as required.
- Must have all documents.
- Be aware about all function of testing tools.
- Have knowledge about software or product features.

4.5 Test Repository

- <https://rangers-bikes.firebaseioapp.com>

5 Milestones And Deliverables

5.1 Test Schedule

The initial test schedule follows:

Task Name	Start	Finish	Effort	Comments
Test Planning	25/09/22	29/09/22	4d	N/A
Review Requirements documents	30/09/22	01/10/22	2d	N/A
Create initial test estimates	02/10/22	02/10/22	1d	N/A
Staff and train new test resources	03/10/22	06/10/22	3d	N/A
First deploy to QA test environment	07/10/22	11/10/22	4d	N/A
Functional testing – Iteration 1	12/10/22	14/10/22	2d	N/A
Iteration 2 deploy to QA test environment	15/10/22	16/10/22	1d	N/A
Functional testing – Iteration 2	17/10/22	24/10/22	7d	N/A
System testing	25/10/22	04/11/22	9d	N/A
Regression testing	05/11/22	13/11/22	8d	N/A
UAT	14/11/22	20/11/22	6d	N/A
Resolution of final defects and final build testing	21/11/22	25/11/22	4d	N/A
Deploy to Staging environment	26/11/22	27/11/22	2d	N/A
Performance testing	28/11/22	01/12/22	3d	N/A
Release to Production	02/12/22	05/12/22	3d	N/A

Table 3: Test Schedule

5.2 Gantt Chart of test schedule

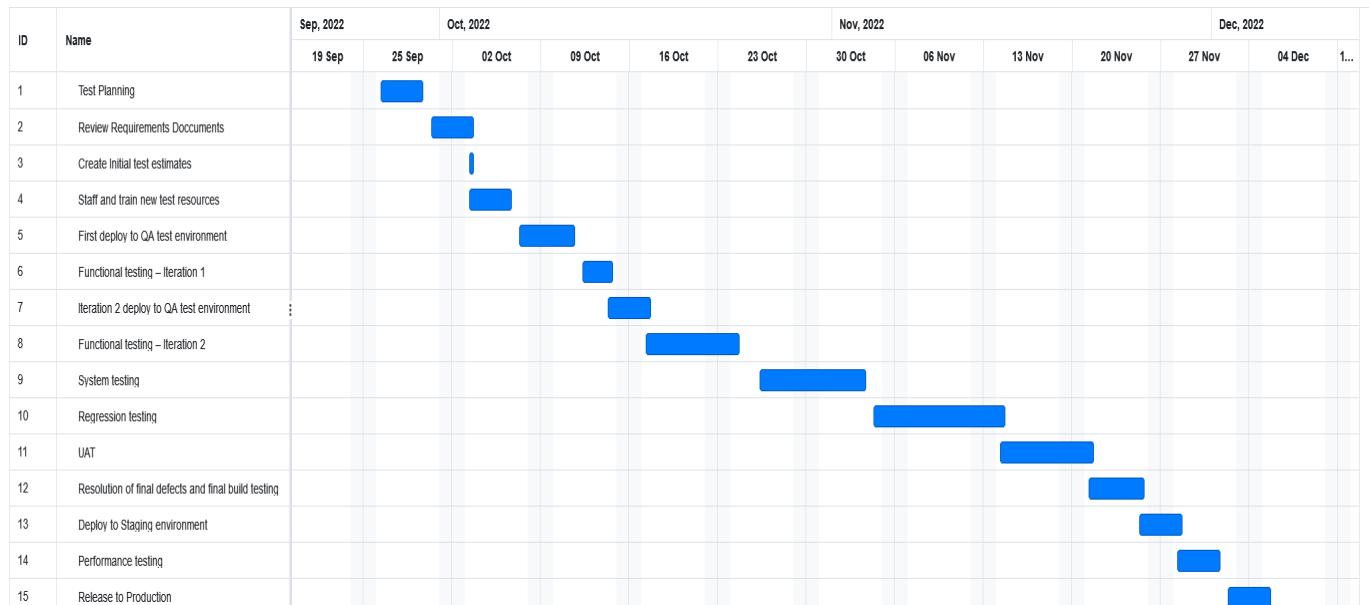


Figure 1: Gantt Chart

5.3 Deliverables

Deliverable	For	Date And Milestone
Test Plan	Project Manager; QA Director; Test Team	29/09/22
Traceability Matrix	Project Manager; QA Director	
Test Results	Project Manager	28/11/22
Test Status report	QA Manager, QA Director	30/11/22
Metrics	All team members	04/12/22

Table 4: Test Deliverables

CHAPTER 2 "Test Case Specification"

1 Introduction

"Test Case Specification Document" mainly explain whole details concisely that which project or software scenario will be tested, then how the project or software will be tested, and how repeatedly this project or software will be tested, and so on the procedure will be tested and also so forth for the given features. Therefore, the documents predominantly specifies the intention of the mentioned or specific test, recognizes the whole required inputs and also assume or expected outcome, where the procedure of executing of the testing is provided step by step, and the configuration or outlines of the pass or fail portion or criteria of the determined acceptance of the project or software. Moreover the Test Case Specification is also done separately for each unit of the project or software. However, the Test Case Specification is also act as an identifier that will be work as a unique identifier for both supplier of the project or software or application entities that to be tested continually. Here the test items can be involved in the two application entities that tested for the inter-operability. The Bike Ecommerce Store is web based software that has a backend API and a React-based frontend which will consume the API and provide the functionality to the software. A no SQL database called mongoDB will be used as the database.

1.1 Reason for "The Test Case Specification":

So "Test Case Specification Document" is mostly necessary for many reasons as aspect of the software, application or project. Therefore, there have two basic reason of the test case document that is specified before using or doing for the testing:

1. The Testing hold various limitations and also effectiveness which depends greatly or heavily on the accurate quality or temperament of the Test Case. If any given criterion or measurement of the actual nature or quality of the test case touch the effectiveness of the testing items.
2. II. To build or create an excellent Test Case Document it will be express the coming or having errors into the program of software that will be much creative about activity and also depends on the tester's activities. Therefore, it is very essential for ensure the set of test cases which used with high quality.

However, this is main reason to have the Test Case Specification in the form of the Document.

1.2 Overview

So in the beginnings, "Test Case Specification Document" generally intended for all respective stakeholders who belongs to the system and who are especially for the development team so that everyone is on the same page and clear visualization about the requirements of the system before development can start. Therefore, the Software Design Documentation gives a clear visualization to the user end as well as developer end. The requirements should reduce ambiguity as much as possible for the project to be successful. The stakeholders include the product owner, the various users, the project manager, the software engineers and designers. By using this user can easily make understand the concept to the developer[4]. This document is divided primarily into 6 parts. First part the Introduction provides an overall functional requirement of the system written in consultation with the owner of the system. Particularly in this portion it will gives a full scenario of all users and also shows how accurately the system will be used by the various stakeholders and any constraints of the system. Now, the other part of the outlines is the system architecture and data design. So, this section will primarily be used by the development team which includes designers, developers and testers to build the final version of the system. It also shows the visualization of component design and human interface design and finally ended with the requirement matrix.

2 Test Case Summary

At first the Test Case documents tracks or holds the necessary information required to effectively define the approach to be used in the testing of the project's or software's product. Here, the Test Case document is created during the Testing Phase of the project. So, its intended audience is the project manager, project team, and testing team. Some portions of this document may on occasion be shared with the client or user and other stakeholders whose input or approval into the testing process is needed. Moreover, based on the framework of the project or software, the testers can easily execute the tests and obtain relevant results by generating test reports[3]. But it is the matter of difficult for selecting the right tool to automate Website depends on many key parameters. It is always important to compare the available tools based on key parameters like features, performance, extensibility, licensing cost, maintenance cost, and Training and support. Therefore, continuous changes for demands of the Regression so run regression test suits every day to keep track of the effects of change.

2.1 Registration Interface

Test Scenario ID	Registration-1	Test Case ID	Registration -1A
Test Case Description	Registration – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	NA

Table 5: Reg Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:44 AM]; Launch Successful
02	Enter correct Name, Email, Pass-word	Confirm Password and hit login button Name: Abc, Email Id : test@xyz.com, Password: *****, Confirm Password: *****	Registration Successful	Registration Successful	IE -01	Pass	26/09/2022 [10:45 AM]; Registration Successful

Table 6: Reg Test Eecution Steps(P)

Test Scenario ID	Registration -1	Test Case ID	Registration -1B
Test Case Description	Registration – Fail test case	Test Priority	High
Pre-Requisite	N/A	Post-Requisite	N/A

Table 7: Reg Fail

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:44 AM]; Launch Successful
02	Enter correct Name, Email, Pass-word	Confirm Password and hit login button Name: Abc, Email Id : invalid@xyz.com, Password: *****, Confirm Password: *****	The email address that user entered doesn't match any existing account or OTP is not given.	The email address that user entered doesn't match any existing account or OTP is not given.	IE -01	Fail	26/09/2022 [10:55 AM]: Invalid sign up or registration attempt stopped

Table 8: Reg Test Execution Steps(F)

2.2 Login Interface

Test Scenario ID	Login-1	Test Case ID	Login-2A
Test Case Description	Login – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 9: Login Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	29/09/2022 [10:24 AM]; Launch Successful
02	Enter invalid Email and any Password and hit login button	Email Id: invalid@xyz.com, Password: *****	The email address that user entered doesn't match any account. Sign up for an account.	The email address that user entered doesn't match any account. Sign up for an account.	IE -01	Pass	29/09/2022 [11:45 AM]: Invalid login attempt stopped
03	Enter valid Email and incorrect Password	Email Id : valid@xyz.com, Password: *****	The password that user entered is incorrect. Forgotten password?	The password that user entered is incorrect. Forgotten password?	IE-01	Pass	29/09/2022 [11:45 AM]: Invalid login attempt stopped

Table 10: Login Test Execution Steps(P)

2.3 View Profile Interface:

Test Scenario ID	View Profile-1	Test Case ID	View Profile -3A
Test Case Description	View Profile – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 11: View Profile Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful

02	Enter correct Email and Password and hit login button	Email Id : test@xyz.com, Password: *****	Login Successful	Login Successful	IE -01	Pass	29/09/2022 [10:27 AM]; Login Successful
03	Click Dashboard Option	https://rangers-bikes.firebaseio.com/dashboard	View Profile Successful	View Profile Successful	IE-01	Pass	01/10/2022 [10:02 AM]; View Profile Successful

Table 12: View Profile Test Execution Steps(P)

Test Scenario ID	View Profile-1	Test Case ID	View Profile -3B
Test Case Description	View Profile – Fail test case	Test Priority	High
Pre-Requisite	N/A	Post-Requisite	N/A

Table 13: View Profile Fail**Test Execution Steps:**

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter invalid Email and any Password and hit sign up button	Email Id : invalid@xyz.com, Password: *****	The email address that user entered doesn't match any account. Sign up for an account.	The email address that user entered doesn't match any account. Sign up for an account.	IE -01	Pass	29/09/2022 [11:45 AM]; Invalid login attempt stopped
03	Enter valid Email and incorrect Password	Email Id : valid@xyz.com Pass-word: *****	The password that user entered is incorrect. Forgotten password?	The password that user entered is incorrect. Forgotten password?	IE-01	Pass	29/09/2022 [11:55 AM]; Invalid login attempt stopped

Table 14: View Profile Test Execution Steps(F)

2.4 Make Order Interface

Test Scenario ID	Make Order-1	Test Case ID	Make Order -4A
Test Case Description	Make Order – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 15: Make Order Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter correct Email and Password and hit login button	Email Id : test@xyz.com Pass-word: *****	Login Successfull	Login Successfull	IE -01	Pass	29/09/2022 [10:27 AM]; Login Successfull
03	Click Order Now Option	https://rangers-bikes.firebaseio.com/checkout	Oder Now Successfull	Oder Now Successfull	IE-01	Pass	02/10/2022 [10:37 AM]; Oder Now Successfull
04	Click Place Order by entering valid Name, Phone and Credit Card Number	Name: Abc, Phone:01*****; Credit Card, Number:02*****	Place Order Successfull and go to https://rangers-bikes.firebaseio.com/orderConfirmed	The email address and password that user entered doesn't match any account. Update Profile of the account.Place Order Successfull and go to https://rangers-bikes.firebaseio.com/orderConfirmed	IE-01	Pass	02/10/2022 [10:56 AM]; Place Oder Successfull

Table 16: Make Order Test Execution Steps(P)

Test Scenario ID	Make Order-1	Test Case ID	Make Order -4B
Test Case Description	Make Order – Fail test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 17: Make Order Fail

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter invalid Email and any Password and hit sign up button	Email Id : invalid@xyz.com, Password: *****	The email address that user entered doesn't match any account. Sign up for an account.	The email address that user entered doesn't match any account. Sign up for an account.	IE -01	Pass	29/09/2022 [11:45 AM]: Invalid login attempt stopped
03	Enter valid Email and incorrect Password	Email Id : valid@xyz.com, Password: *****	The password that user entered is incorrect. Forgotten password?	The password that user entered is incorrect. Forgotten password?	IE-01	Pass	29/09/2022 [11:55 AM]: Invalid login attempt stopped
04	Enter invalid Phone and correct Credit Card Number	https://rangers-bikes.firebaseio.com/checkout	The Phone that user entered doesn't valid number. Check-out page remain of the account.	The Phone that user entered doesn't valid number. Check-out page remain of the account.	IE-01	Pass	02/10/2022 [11:20 AM]; Invalid Make Order Information Stored
05	Enter valid Phone and incorrect Credit Card Number	https://rangers-bikes.firebaseio.com/checkout	The Credit Card Number that user entered doesn't valid number. Check-out page remain of the account.	The Credit Card Number that user entered doesn't valid number. Check-out page remain of the account.	IE-01	Pass	02/10/2022 [11:32 AM]; Invalid Make Order Information Stored

Table 18: Make order Test Execution Steps(F)

2.5 View Order list Interface

Test Scenario ID	Order List -1	Test Case ID	Order List -5A
Test Case Description	Order List – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 19: Order List Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter correct Email and Password and hit login button	Email Id : test@xyz.com Pass-word: *****	Login Successfull	Login Successfull	IE -01	Pass	29/09/2022 [10:27 AM]; Login Successfull
03	Click My Order from the Dashboard	https://rangers-bikes.firebaseio.com/dashboard/myOrders	View Order List with details in tabular form	View Order List with details in tabular form	IE-01	Pass	03/10/2022 [12:32 PM]; View Order List Successfull

Table 20: Order List Test Execution Steps(P)

Test Scenario ID	Order List -1	Test Case ID	Order List -5B
Test Case Description	Order List – Fail test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 21: Order List Fail**Test Execution Steps:**

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter invalid Email and any Pass-word and hit sign up button	Email Id : invalid@xyz.com, Pass-word: *****	The email address that user entered doesn't match any account. Sign up for an account.	The email address that user entered doesn't match any account. Sign up for an account.	IE -01	Pass	29/09/2022 [11:45 AM]; Invalid login attempt stopped
03	Enter valid Email and incorrect Pass-word	Email Id : valid@xyz.com, Pass-word: *****	The pass-word that user entered is incorrect. Forgotten password?	The pass-word that user entered is incorrect. Forgotten password?	IE-01	Pass	29/09/2022 [11:55 AM]; Invalid login attempt stopped

04	Click Order Now Option with invalid information or no order clicked	https://rangers-bikes.firebaseio.com/checkout	The user doesn't entered valid order.My Order page remain of the account.	The user doesn't entered valid order.My Order page remain of the account.	IE-01	Pass	03/10/2022 [01:20 PM]; Invalid Order list Information Stored
----	---------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------	---------------------------------------------------------------------------	-------	------	--------------------------------------------------------------

Table 22: Order List Test Execution Steps(F)

2.6 Add New Products Interface

Test Scenario ID	Add New Product -1	Test Case ID	Add New Product -6A
Test Case Description	Add New Product – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 23: Add New Product Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter correct Email and Password and hit login button	Email Id : test@xyz.com Pass-word: *****	Login Successful	Login Successful	IE -01	Pass	29/09/2022 [10:27 AM]; Login Successful
03	Click Add Product from the Dashboard	https://rangers-bikes.firebaseio.com/dash-board/addProduct	Create a New Product page open successfully	Create a New Product page open successfully	IE-01	Pass	04/10/2022 [01:32 PM]; Add new product Successful

Table 24: Add Product Test Execution Steps(P)

2.7 Contract Interface

Test Scenario ID	Contract -1	Test Case ID	Contract -7A
Test Case Description	Contract – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 25: Contract Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Output	Test Browser	Test Result	Test Comments
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01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter correct Email and Password and hit login button	Email Id : test@xyz.com Password: *****	Login Successful	Login Successful	IE -01	Pass	29/09/2022 [10:27 AM]; Login Successful
03	Enter correct Name, Email, Message and hit submit button	https://rangers-bikes.firebaseio.com/contact	Contract Submit Successfully	Contract Submit Successfully	Pass	IE-01	06/10/2022 [30:27 PM]; Contract Submit Successful

Table 26: Contract Test Execution Steps(P)

Test Scenario ID	Contract -1	Test Case ID	Contract -7B
Test Case Description	Contract – Fail test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 27: Contract Fail**Test Execution Steps:**

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter invalid Email and any Password and hit sign up button	Email Id : invalid@xyz.com, Password: *****	The email address that user entered doesn't match any account. Sign up for an account.	The email address that user entered doesn't match any account. Sign up for an account.	IE -01	Pass	29/09/2022 [11:45 AM]: Invalid login attempt stopped
03	Enter valid Email and incorrect Password	Email Id : valid@xyz.com, Password: *****	The password that user entered is incorrect. Forgotten password?	The password that user entered is incorrect. Forgotten password?	IE-01	Pass	29/09/2022 [11:55 AM]: Invalid login attempt stopped

04	Enter Null Value	https://rangers-bikes.firebaseio.com/contact	The user doesn't enter any information. Contract page remain of the account.	The user doesn't enter any information. Contract page remain of the account.	IE-01	Pass	06/10/2022 [04:20 PM]; Invalid Contract information message
05	Not enter all information	https://rangers-bikes.firebaseio.com/contact	The user doesn't enter all information of the product. Contract page remain of the account.	The user doesn't enter all information of the product. Contract page remain of the account.	IE-01	Pass	06/10/2022 [04:44 PM]; Invalid Contract information shown

Table 28: Contract Test Execution Steps(F)

2.8 Make Another Admin Interface

Test Scenario ID	Make Another Admin -1	Test Case ID	Make Another Admin -8A
Test Case Description	Make Another Admin – Pass test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 29: Make Admin Pass

Test Execution Steps:

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter correct Email and Password and hit login button	Email Id : test@xyz.com Pass-word: *****	Login Success-ful	Login Success-ful	IE -01	Pass	29/09/2022 [10:27 AM]; Login Suc-cessful
03	Enter correct Name, Email, Message and hit submit button	https://rangers-bikes.firebaseio.com/dash-board/makeAdmin	Make User an Admin Success-ful	Make User an Admin Success-ful	Pass	IE-01	07/10/2022 [12:44 PM]; Another Admin add successful

Table 30: Make Admin Test Execution Steps(P)

Test Scenario ID	Make Another Admin -1	Test Case ID	Make Another Admin -8B
Test Case Description	Make Another Admin – Fail test case	Test Priority	High
Pre-Requisite	A valid user account	Post-Requisite	N/A

Table 31: Make Admin Fail**Test Execution Steps:**

S.No	Action	Inputs	Expected Output	Actual Out-put	Test Browser	Test Re-sult	Test Com-ments
01	Launch application	https://rangers-bikes.firebaseio.com	Bike Home Page	Bike Home Page	IE -01	Pass	26/09/2022 [10:24 AM]; Launch Successful
02	Enter invalid Email and any Password and hit sign up button	Email Id : invalid@xyz.com, Password: *****	The email address that user entered doesn't match any account. Sign up for an account.	The email address that user entered doesn't match any account. Sign up for an account.	IE -01	Pass	29/09/2022 [11:45 AM]: Invalid login attempt stopped
03	Enter valid Email and incorrect Password	Email Id : valid@xyz.com, Password: *****	The password that user entered is incorrect. Forgotten password?	The password that user entered is incorrect. Forgotten password?	IE-01	Pass	29/09/2022 [11:55 AM]: Invalid login attempt stopped
04	Enter Null Value	https://rangers-bikes.firebaseio.com/dash-board/makeAdmin	The user doesn't enter any information. Make Admin page remain of the account.	The user doesn't enter any information. Make Admin page remain of the account.	IE-01	Pass	09/10/2022 [10:20 AM]; Not added another admin message shown

Table 32: Make Admin Test Execution Steps(F)

3 Test Case Details

3.1 Test Objective

For Bike Ecommerce Store, testing will be avail to develop for testing all interfaces of this software or site all of the components on the side the low-level unit tests will be suitable to develop by testing methods of the initial classes in the components. Therefore, as a prerequisite of this software or site, the automatic test suite is to run by building server on a prebuild basis options. Mostly, the testing of software testing indicates a method that usually works on each units of the gained source code of the software (which sets of one or more software modules with associated control data, usage of procedures, and operating procedures) are tested to determine that suitable for an application or user. Moreover, "White-box" testing method is used in all the

Unit of testing, and most of the time it is generally done by the programmer. Then "Black-box" testing is used overall testing like Load testing, Performance testing and Regression testing that generates by the tester.

3.2 Inter-Case Dependencies

There have some inter-case dependencies of the Bike Ecommerce Store software. Those dependencies are mentioned the Test Case Summary portion.

3.3 Test Items

There have several test items of the Bike Ecommerce Store software. Among them some are tested by manually and automatically by using automation tools like Renorex Sudio, Apache JMeter, and Katalon Studio software. Therefore the test items are mentioned the Test Case Summary portion.

3.4 Expected Test Results

After doing testing, everyone expect outcome of the testing process. The coming expected or actual result of the Bike Ecommerce Store software is mentioned the Test Case Summary portion. According to the outcome there have some bugs or error that are finds by testing process.

3.5 The "Pass or Fail" Criteria

"Pass and Fail" criteria is mandatory in the Test Design specification. As we know when the system requirement matches the all requirement the test is considered as pass and when failure to meet requirement the test is considered as fail[1]. Here when components matches with the dedicated interfaces design then it will considered as pass. In testing time if component failure to meet the objectives of the object design specification, it will fail. Here Integration criteria pass when the interface environment team give a positive result after test and it is failed when failure to meet the objectives of both the object design specification and the system architecture specification.

- **Component Pass/Fail criteria:** The tests executed on components only pass when they pacify the signatures, constraints, and interfaces. This includes positive tests, negative, boundary tests, and stress test. If a test exhibition a product failure to meet the objectives of the object design specification, it will fail, and a defect or issue will be reported in the flaw tracking system for analysis by the team.
- **Integration Pass/Fail criteria:** The tests executed on combined components only pass when they satisfy the signatures, constraints, and interfaces dictated by both the object design, and the system architecture specification. This includes positive tests, negative test, stress tests that explicitly operate the interface atmosphere such as the physical connection to the database server.
- **System Pass/Fail criteria:** The tests executed against the system use the use cases, functional requirements, and the nonfunctional requirements as the oracle to detect pass or fail. If a test exhibition failure to meet the objectives of any of the functional requirements or any non-functional requirements, it will fail, and a defect problem will be informed in the defect tracking system for review by the team.

3.6 Test Approaches

A website or application or project works differently for different user profiles such as customers (both authorized and unauthorized), sales representatives, and online shop managers. It is, therefore, important to make sure that your website test cases cover the varied operations for all types of users such as filtering of items, adding or removing goods to the shopping cart, and so on. To offer a hassle-free experience to customers, it is pivotal to test the complete workflow of your web or mobile application that consists of login and signup options, sorting feature, search functionality, add/remove functionality in the shopping cart, check-out process, payment gateway, and payment processing among others.

Chapter 3 Test Design Specification

1 Overall Description of Software

1.1 Product Perspective

The software product is standalone cloud-based software which will be accessible via web browsers. Dependencies include the SMS API used for OTP during registration and login and email API used to send marketing and other confirmation emails.

1.1.1 System Interfaces

The system must integrate with a third part SMS API to provide OTP and other SMS notification to the users. Some of the options for an SMS API is given below

<https://www.twilio.com/docs/sms/api>

<https://rapidapi.com/blog/sms-apis-send-texts/>

The system should also integrate with an email API to send invoices and other email notifications to the users.

So third part Email APIs are given below

<https://sendgrid.com/solutions/email-api/>

<https://www.sendinblue.com/api/>

1.1.2 Hardware Interfaces

The users of the system can use any JavaScript enabled modern browser on a mobile or desktop device to access the web based application. No other specific hardware interfaces are required. A minimum of 1 GB RAM on the hardware device is recommended for smooth performance.

1.1.3 Software Interfaces

In the current situation customer does not have any specific software which should be interfaced with. So now system need to be standalone API and a front end interface. We only have to interact with the third-party email and SMS APIs to provide SMS and email functionality.

1.1.4 Communications Interfaces

Our web application will interface with the backend REST API using the standard TCP/IP over the internet. A basic overview of TCP/IP is linked below:

<https://www.fortinet.com/resources/cyberglossary/tcp-ip>

2 Test Design Specification identifier

2.1 Design Constraint

Like other software Bikes Ecommerce Store have some design or other constraints also. Therefore some arrival design constraints are given below:

- Usages of outside regulation: Usually, the data passes from client to server through TCP/IP system or protocol but this software is not used any type of public-key encryption service such as Secure Sockets Layer (SSL) certificate. For this reason, this software has constraints to passing user data and causes for confidentiality, and integrity causes.
- Bandwidth limitations: This constraint may lose some server connection for a few technical mistakes (Sometimes depends on Hardware or Internet connection). For this cause, it needs to run the query afresh.

2.2 Memory Constraint

To make sure the application is accessible to as many customers as possible the devices with low end RAM and processor should be able to smoothly run the application using a browser without any performance issues. Based on our focus groups the RAM requirements are 1 GB.

2.3 Product Functions

1. Register Interface
2. Login Interface
3. View profile Interface
4. Make orders Interface
5. View Order List Interface
6. Add New Products Interface
7. Contract Interface
8. Make Another Admin Interface

3 Features to be tested

S. No	Item to Test	Test Description	Status	Snapshot Link	Comment	Test Date
01	Registration	OTP will be sent to the given mobile number and the account	Pass	SS1	N/A	26/09/2022 [10:45 AM]
02	Log In	After successfully login by using user Id, password and can view dashboard	Pass	SS2	N/A	29/09/2022 [10:27 AM]
03	View Profile	System shows all given information in a tabular form with all details that saved	Pass	SS3	N/A	01/10/2022 [10:02 AM]
04	Make Order	Capable to make order without any types of hassle and as well as can get notification	Pass	SS4	N/A	02/10/2022 [10:56 AM]
05	View Order List	Given entire order store to the database and sends all details to admin	Fail	SS5	N/A	03/10/2022 [01:20 PM]
06	Add New Product	Newly products will be added by admin and saves details to the database as well as shown dashboard	Fail	SS6	N/A	04/10/2022 [02:20 PM]
07	Contract	System will take specific name, email and message and after submission, it will send to admin	Fail	SS7	N/A	06/10/2022 [04:44 PM]

08	Make Another Admin	System saves new admin details and sends notifications both admin	Pass	SS8	N/A	07/10/2022 [12:44 PM]
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Table 33: Feature To be tested

4 Test identification

Item to be Test	Test Description	Test Date Responsibility
Registration	The first way to enter this software is to do the registration. Tester will do demo data to complete the registration. Tester will check whether the OTP is being send to the mail. Tester will also check the mail account must include @gmail.com. If there have some problems in OTP like sometimes there has some network issue for that reason OTP send in delay then tester will provide notification.	26/09/2022 Tester
Login	For customer login, the provided data will be collected by the tester. Then the tester will give the input of that id and password. If the id and password matched with the system-defined admin I'd and password it will move to the system menu page. The tester will taste if it is working fine or not and also, he will check about the forget password option too. Whether the OTP is sending to the proper email or not. And If it is successful he will check whether it is notifying or not.	29/09/2022 Tester
View Profile	Completing the log in the tester will check is this the customer menu or a customer view. If there is some problem then it will move to the do phase again. Tester will check that in the profile every specified button is working properly or not. Will recheck that the customer can view all the system information and specifications.	01/10/2022 Tester
Make Order	To make an order, the Tester will place a demo order to the system. Then the tester will check that is the order placed successfully or not and also check that the order quantity order item ID and order details are matching with the placed order or not. And finally, after providing the order the tester will check whether the quantity decreased in the system or not.	02/10/2022 Tester
View Order List	For the customer, the view order tester will check whether the tester is logged as a customer or not. In order to view the order, the list tester will taste whether the order I'd and the product information is the same or not. The tester will also go through that the specific order is showing to the specific customer and the row should be appropriately stored. The tester will also check the order date and mage it with the order information.	03/10/2022 Tester
Add New Products	To add a new product to the system Tester will check whether it is overlapping with the existing products. Then the tester will check the availability of the quantity of that product also and Will also check that after adding products, it is visible to the system or not.	04/10/2022 Tester
Contract	To contract with the system Tester will check whether the user has given valid name and mail or not. If it is valid then Tester will check that the massage part is not empty. If all of these ok then Tester will recheck that the massage is saved in database and notify to the admin.	06/10/2022 Tester
Make Another Admin	In this testing phase tester will identify whether the person is trying to make another admin is this the predefined system admin or not. And before making another admin tester will see whether the admin has filled all necessary information about the new admin or not. If it is successful then the tester will check is it working to update the admin panel in the system or not.	07/10/2022 Tester

Table 35: Test Identification

Chapter 4 Testing Strategy

1 Test Strategy Identifier

The Test Strategy Identifier is indicated an outline which can describe the testing technique or approaches for the Software Development Cycle that purpose to provide an intelligent deduction from company or organization. This test strategy identifier holds high-level intension that gives actual activities which meet all objectives or intension from the quality assurance test perspective portion.

2 Introduction

The advent of the internet based Ecommerce has created a revolution in the field of retail commerce. Ecommerce allows different companies and individuals to buy and sell their services or products through the internet. So, this Testing Strategy document is written for an e-commerce system named Rangers-bikes. This software will be used for selling bikes through a react based modern ecommerce store. This Testing Strategy document outlines the testing ways that the system has which will help the design and development team during development.

2.1 Purpose

This Testing Strategy document is intended for all the stakeholders of the system so that everyone is on the same page and clear about the quality testing of the system after development can start and before releasing the software or product. The testing should reduce ambiguity as much as possible for the project to be successful. The stakeholders include the product owner, the various users, the project manager, the software engineers, designers, and testers.

3 Test Items

Item to be Test	Test Description	Responsibility
Registration	Must full fill all valid information and must sent OTP to assign number for confirming account.	Tester
Login	Using valid user id and password avail to see dashboard.	Tester
View Profile	Can avail to see their given information in a tabular form that saves into the database.	Tester
Make Order	Without any hassle, capable to make order and also get notify.	Tester
View Order List	Avail to see place order with exact time, date, place by storing a tabular form.	Tester
Add New Products	Adding newly products saves into the database and shown into the dashboard.	Tester
Contract	Contract information visible successfully.	Tester
Make Another Admin	Capable to save new admin information and get notify both admin.	Tester

Table 36: Test Item

Item to be Test	Test Description	Test Date	Responsibility
API	API will be tested to check ability to serve 1000 users simultaneously	10/10/2022	Tester
React Front end	Check responsiveness of the react app under 1000 user load	12/10/2022	Tester

Table 37: Test Description

4 Features to be tested/ not tested

5 Approach

As all of us known that a website or application works differently for its different user profiles such as customers (both authorized and unauthorized), sales representatives, and online shop managers. Therefore, it is very important to make sure that the website test cases cover the varied operations for all types of users such as filtering of items, adding or removing goods to the shopping cart, and so on. For this reason, for offering a hassle-free experience to customers, testing approach is pivotal to test the complete workflow of user web or mobile application that consists of the signup options and login, the sorting feature, the search functionality, the add or remove functionality in the shopping cart, check-out process, payment gateway, and payment processing among others. An increasing number of users are now using mobile devices, driving companies to reconsider their testing strategy, and take a mobile-first approach in their applications. The important aspect here is to test the responsive design of the application in mobile devices of different screen sizes.

5.1 Analysis Planning Phase Entry/Exit Criteria

- Registration:** Registration will be entered by providing necessary information. Like it will continue if the name is valid, the email contains the @gmail portion. User all information and mail have to valid then it will enter. And if the name, email, or any information is valid, it will exit. The system will allow 2 chances to full fill the information if the user failed in between those two chances then the system will exit.
- Login:** Login will enter with registered user id and user password. If the given password and username are not matched the system will exit. The system will provide a chance to change the password by clicking the forget password option if it is clicked then the system will enter again and send OTP to the specific Gmail. And if it failed then it will exit again.
- View Profile:** After successful login, the user can enter the view profile option. There have some options by clicking that user can enter the system-specific features. And if it does not work or the login time expired then the test will be exit.
- Make Order:** With the appropriate user id and password, the text will enter the order phase. If the user provides the right quantity and makes payment then it will enter a new phase or the test will exit. The exit could be again if the session is expired.
- View Order List:** Test will enter to the view order where the user will find placed order. If they click in the right order then it will enter again otherwise reason for the session expired will exit.
- Add New Products:** Test able to enter if it is matched session of admin. Then it will enter to add product phase to add product. Then if the admin full fills the product information right, then it will add that product and if it does not then the test will exit.

7. **Contract:** The test will make entry when the customer provides valid name and email to the form and also the message option has to be filled. The Test will immediately exit if the name and email is invalid and on the other perspective the test will exit if the name and email valid but the message option is empty.
8. **Make Another Admin:** The test will make entry when an admin provides registered id pass and then if new admin requirements is fully filed up the system will enter and if there is some missing then the test will exit even the test will exit If admin password or id is wrong

5.2 Test Phase Entry/Exit Criteria

1. **Entry Criteria:** Test automation tool will simulate 1000 users and start performing different actions on the system.
2. **Exit Criteria:** If the system remains responsive for 10 minutes or if the system becomes unresponsive.

For example:

The testing entry criteria are the user Register so that users can login into the system will be sent to the given mobile number and will be confirmed by the account.

The testing exit criteria is user manage product that user can manage products such as its price, details, stock and so on.

5.3 Change Management

Change Management Process is a process that depends on system or software changes or additions. If the Bike Ecommerce Store changes its management process it will not hamper its performance and other things. It still capable,

- To make satisfy the clients.
- To consume time.
- To finds brand new bikes.
- To help reduce the usage of labor, as tasks such as having to take orders.

from customers is eliminated.

- To less chances of data being lost or incorrect data entry.
- To efficient, smooth and easy procedure of running a e-commerce site.
- To make faster orders.

The admin (owner) can monitor the Bike Ecommerce Store easily from any location. Therefore by adopting change management process testing process will be change by its features, and newly testing portion will be added.

5.4 Phase: 2 Testing Deliverables

Items Name	Date
System Test Results Document	October 2022
Acceptance Test Results Document	November 2022

6 Responsibility Matrix

The table below outlines the main responsibilities in brief for test activities:

Activity	Project Manager	Development Manager	Test Manager	Test Engineer
Provision of Technical Documents	X	X		
Test Planning and Estimation			X	X
Review and Sign off Test Plan	X	X	X	
Testing Documentation			X	X
Test Preparation and Execution				X
Test Environment Set-up				X
Change Control of Test Environments			X	X
Provision of Unit Tested Test Items		X		
Bug fixes and return to the Test Team for re-test		X		
Product Change Control	X	X	X	
Ongoing Test Reporting			X	X
Test Summary Reporting			X	

Table 38: Responsibility Matrix

7 Staffing and Training Needs

There will be at least one full time tester need to the project for the system and acceptance testing phases of the project. Staffing is fixed for the duration of this project. Test will be performed on a clone of the live server so that the live application isn't affected. A tester will use automation tools to simulate 1000 users performing standard tasks on the application like registering, login, ordering etc.

8 Schedules and Resource Plans

- **Team Plan**

The Test Team will maintain a Team Plan which records individual assignment to testing tasks against assignable days. This will also record time planned and delivered against the tasks which will be used to update relevant Project Schedules and be used in periodic reporting.

- **Test Schedule**

The Test Schedule for the Release will be located within.

9 Risks and Contingencies

SL No	Risk	Mitigation Strategy	Impact
1	Delays in delivering completed Test Items from Development would impact test timescales and final Release quality	Product Management and Development to advise of any delays and adjust Release Scope of Resources to allow the test activities to be performed.	High
2	Delays in the turnaround time for fixing critical bugs, which would require re-testing, could have an impact on the project dates.	Strong management of bug resolution would be required from Development to ensure bugs are fixed and available for re-testing in the scheduled time.	High
3	The Test Team, Development or PM teams require domain guidance from one or the other and they are not available. This would delay project activities.	The Test Team, Development and PM teams to ensure they are available at critical points or contactable during the project activities.	Medium
4	Features of Test Items will not be testable.	The Test Team will record untested features and request the PM to assess business risk in support of the release of untested features.	Low
5	Unexpected dependencies between Test Items and service components are encountered that require revision of Test Scenarios and related Test Cases.	Information about dependencies is updated and communicated promptly to allow timely revision of Test Scenarios and Test Cases.	Low

Table 39: Risks and Contingencies

Chapter 5 Testing Scripts

1 Testing Scripts Identifier

The Testing Scripts Identifier document indicates that which things are going to be tested according to the customers' instruction and developers' indication. Therefore, according those valuable guidelines tester can perform well performance for the project testing.

2 Test Script Table

S.No	Functional Area	Test Name	Test Steps	Expected Results
01	Registration	<ul style="list-style-type: none"> • Registration Successful 	<ul style="list-style-type: none"> • Enter valid user-name, Gmail and password • Click sign up 	User is registered in successfully
		<ul style="list-style-type: none"> • Registration with incorrect password 	<ul style="list-style-type: none"> • Enter valid user-name • Enter invalid password • Enter invalid Gmail • Click Login 	User is returned to sign up page with a message explaining the user-name or Gmail or password is incorrect.
02	Login	<ul style="list-style-type: none"> • Login Successful 	<ul style="list-style-type: none"> • Enter valid user-name, and password • Click sign up 	User is logged in successfully
		<ul style="list-style-type: none"> • Login with incorrect password 	<ul style="list-style-type: none"> • Enter valid user-name • Enter invalid password • Click Login 	User is returned to login page with a message explaining the username or password is incorrect.

03	View Profile	<ul style="list-style-type: none"> • View Profile Successful 	<ul style="list-style-type: none"> • Enter valid user-name, and password • Click Login • Click view profile 	User can see his/her profile successfully
		<ul style="list-style-type: none"> • View Profile unsuccessful 	<ul style="list-style-type: none"> • Enter valid user-name • Enter invalid password • Click Login 	User is returned to login page with a message explaining the username or password is incorrect. And fail to see view profile.
04	Make Order	<ul style="list-style-type: none"> • Make Order successful 	<ul style="list-style-type: none"> • 1 Enter valid user-name, and password • Click Login • Click make order 	User make order successfully

Table 40: Test Script

Chapter 6 Test Data

1 Test Data Identifier

When a software application is being tested, test data is the input provided. It shows the data that is impacted or impacted when testing software. Test results are used for both positive and negative testing, which checks the software's capacity to handle unique, exceptional, or unexpected inputs. Positive testing verifies that functions provide the expected outputs for the inputs provided. The quality of the program will suffer if testing data is poorly designed and does not cover all potential test situations.

Because test data is so important, the vast majority of software owners refuse to use applications that have been tested with false data or fewer security precautions. We require information that is utilized as input to execute the tests for identifying and locating the problems before we can begin building our test cases to check and validate the provided features and produced scenarios of the application under test.

A test setup includes generating accurate input data. The term "testbed setup" is frequently used by testers. Through the use of specified data values, testbed's hardware and software requirements are established.

2 Purpose

There is a danger that certain crucial test cases will go unnoticed if we don't follow a systematic strategy to gathering data while designing and running test cases. In accordance with testing requirements, testers might produce their own data.

Everyone is aware that testing is a data-intensive method that generates and uses a lot of data. The initial conditions for a test are described by the data utilized in testing, which also serves as the medium by which the tester controls the software. It is a fundamental component of the majority of functional tests. Depending on the context in which we are testing, we may be required to CREATE Test Data or at the very least find some appropriate test data for our test cases. Usually, test data is generated simultaneously with the test case for which it is expected to be used.

Test data might be produced –

1. Manually.
2. Copying test data in bulk from outdated client systems.
3. Copying production data in bulk from testing environment.
4. Tools for Automatically Generating Test Data.

It is usually best to produce data samples before we start running tests because managing test data otherwise might be challenging.

3 Test Data Approach

Test Data for Black Box Testing: The tester cannot see the code during Black Box Testing. Test data for our functional test cases may match the following requirements –

1. No data: Any files with no data are referred to as having no data. The absence of input demonstrates that the program handles these situations and correctly throws errors.
2. Valid data: The term "valid set of test data" refers to files that the application recognizes as legitimate or authorized. Using these as inputs ought to produce the desired results.

3. Invalid data: The term "invalid set of test data" references to the entirety of the unsupported file formats in order to check whether the program can manage these all without failing and can alert the user with the appropriate error message.
4. Illegal data format: If the test data is formatted improperly, the system response will be examined.
5. Boundary Condition Data set: Data with all conceivable variations of boundary values is used as test data to verify all boundary conditions. For instance, if a text box may accept values between 2 and 20, enter the lowest value of 2 and the maximum value of 20. Boundary values are essentially all those values that the program can manage but not more; if the tester goes beyond them, the application will fail.
6. Equivalence Partition Data Set: Our equivalence partitions have been validated by test data.
7. Decision Table Data Set: Test results validating our testing methodology for the decision table.
8. State Transition Test Data Set: Our state transition testing strategy was met by the test data.
9. Use Case Test Data: Test Data that matches our use cases.

Our Test Data are given below:

Test Data		
Name	Email ID	Password
Abc	test@xyz.com	AbcTest12
Lmn	invalid@xyz.com	LmnInvalid34
Pqr	valid@xyz.com	PqrValid56
Rifat Zaman	rifat.zaman@xyz.com	RifatZaman12
Salman Efti	salman.efti@xyz.com	SalmanEfti12
Efaz Ahmed	efaz.ahmed@xyz.com	EfazAhmed12
Sheuly Akter	sheuly.akter@xyz.com	SheulyAkter12

Figure 2: Test Data

Chapter 7 Test Incident Report

1 Introduction

1.1 Purpose

A particular IT event that typically happens in an organization is detailed step in the incident report during testing.

Test Incident Reports are typically created during the software testing phase and they provide a list of all the bugs, defects, and other anomalies that the QA software testers discovered while evaluating the product.

The defect report not only identifies and describes the software testing fault, but also other product features and occurrences that prohibit users from receiving the desired results.

We additionally require a means for managing, reporting, and tracking incidents after logging those that occur in the field or after the platform is deployed. Finding flaws in the code or framework itself that have been disclosed is common. Anyhow, there are circumstances where defect control is taken into account in collaboration with design specifications, requirements, operator and user manuals, and tests.

At the top of the priority list while preparing an incident report in testing are specific plans.

Test incident report is given below:

Bug ID	FTBT05	FTBT06	FTBT07
Project Name	Software Quality Testing of Bike Ecommerce Store	Software Quality Testing of Bike Ecommerce Store	Software Quality Testing of Bike Ecommerce Store
Module Name	View Order List Interface	Add New Product Interface	Contract Interface
Defect Type	Bug is related to “View Order List” interface function.	Bug is related to “Add New Product” interface function.	Bug is related to “Contract” interface function.
Severity	“Order Now” option does not work properly. “My Order” page remain of the account.	Null value cannot handle properly on “Add New Product” interface. “Add Product” page remain of the account.	Null value cannot handle properly on “Contact” interface. “Contact” page remain of the account.
Priority	Urgency or High	Urgency or High	Urgency or High
Description	Given entire order store to the database but could not send all details to admin.	Newly products will be added by admin and saves details to the database but could not show dashboard.	System will take specific name, email and message and after submission, it will send to admin but only “message” part can not send to admin.
Status	Bug Status: Open	Bug Status: Open	Bug Status: Open

Table 41: Test incident report

Chapter 8 Test Traceability Matrix

1 Introduction

1.1 Purpose

The purpose of a traceability matrix is to guarantee that the specifications for a platform are connected at each stage of the authentication phase. Additionally, it guarantees that they receive the proper testing in accordance with test criteria and methods. There are various to and fro linkages between use cases and test cases defined in this tabular text.

100 percent test coverage is a constant goal for organizations. Every time, they make an effort to cover nearly all facets and functions of the software product being tested. Because test cases are fully covered, all potential flaws are found, improving product quality. Guaranteeing complete test coverage is the key goal of the traceability matrix. In this way, it assists in verifying that all test requirements have been satisfied.

S. No	Item to Test	Test Description	Status	Snapshot Link	Comment	Test Date
01	Registration	OTP will be sent to the given mobile number and the account	Pass	SS1	N/A	26/09/2022 [10:45 AM]
02	Log In	After successfully login by using user Id, password and can view dashboard	Pass	SS2	N/A	29/09/2022 [10:27 AM]
03	View Profile	System shows all given information in a tabular form with all details that saved	Pass	SS3	N/A	01/10/2022 [10:02 AM]
04	Make Order	Capable to make order without any types of hassle and as well as can get notification	Pass	SS4	N/A	02/10/2022 [10:56 AM]
05	View Order List	Given entire order store to the database and sends all details to admin	Fail	SS5	N/A	03/10/2022 [01:20 PM]
06	Add New Product	Newly products will be added by admin and saves details to the database as well as shown dashboard	Fail	SS6	N/A	04/10/2022 [02:20 PM]

07	Contract	System will take specific name, email and message and after submission, it will send to admin	Fail	SS7	N/A	06/10/2022 [04:44 PM]
08	Make Another Admin	System saves new admin details and sends notifications both admin	Pass	SS8	N/A	07/10/2022 [12:44 PM]

Table 42: Traceability matrix

Chapter 9 Test Logs Procedure

1 Introduction

At first the Test Logs Procedure mainly a type of testing artifact which is generate during the type of test execution. Therefore, it actually provided the extensive or widespread information that is about each of the test which runs with success that validate quality, performance, and functionality of the software or project and also talks about fails options.

2 Testing Logs Procedure

Requirement Number Tested	Test Case Num-ber	Test Case De-scription	Date Tested	Test Stage Tested	Pass(P)	Fail(F)
03	101	Registration information shown successful	26/09/2022	Regression stage	P	0
02	102	Login database works successfully	29/09/2022	Performance stage	P	0
03	103	Invalid result attempt stopped	29/09/2022	Regression stage	0	F
04	104	Make Order portion Successful	02/10/2022	Load stage test	P	0
03	105	Invalid Order List stored	03/10/2022	Load stage test	0	F
03	106	Stored Add New Product by tabular form	04/10/2022	Performance stage	P	0
03	107	Invalid Contract information stored	06/10/2022	Performance stage	0	F
03	108	Make Another Admin successful	07/10/2022	Regression stage	P	0
				Total (Pass/Fail)	5	3

Table 43: Testing Logs

Chapter 10 Tools Instillation Guide

1 Renorex Installation Guide

- **Step 1:** Create your account on <https://www.ranorex.com/free-trial/> and click on submit.

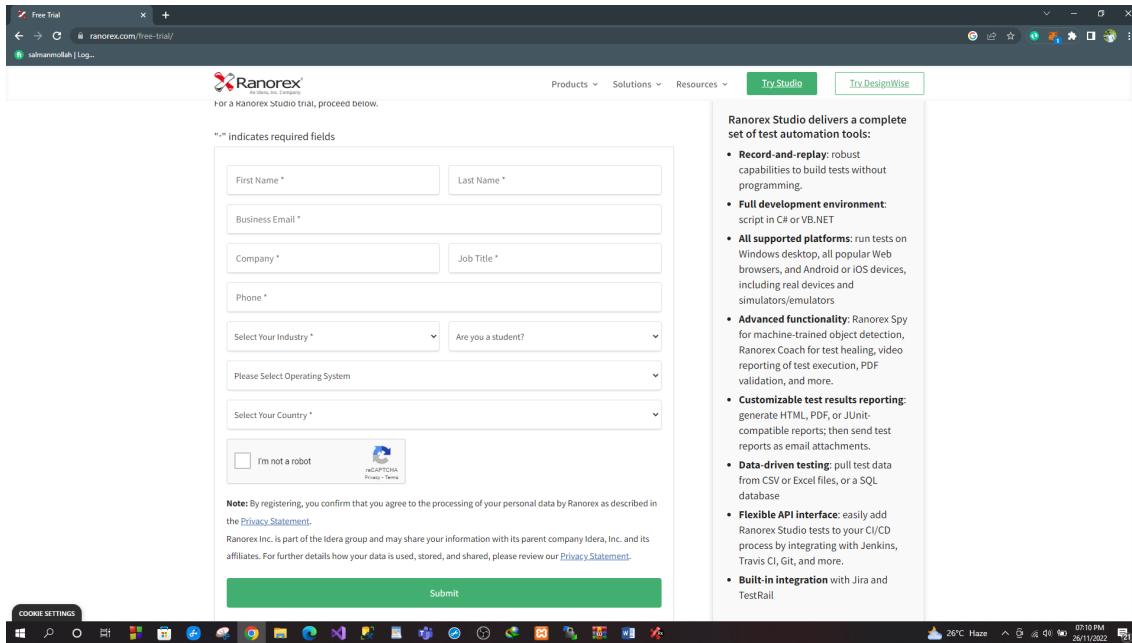


Figure 3: Renorex Create Account

- **Step 2:** After submitting your information an email will be send for downloading the Renorex application (14 days trial version), Download the application and install it to your Pc.

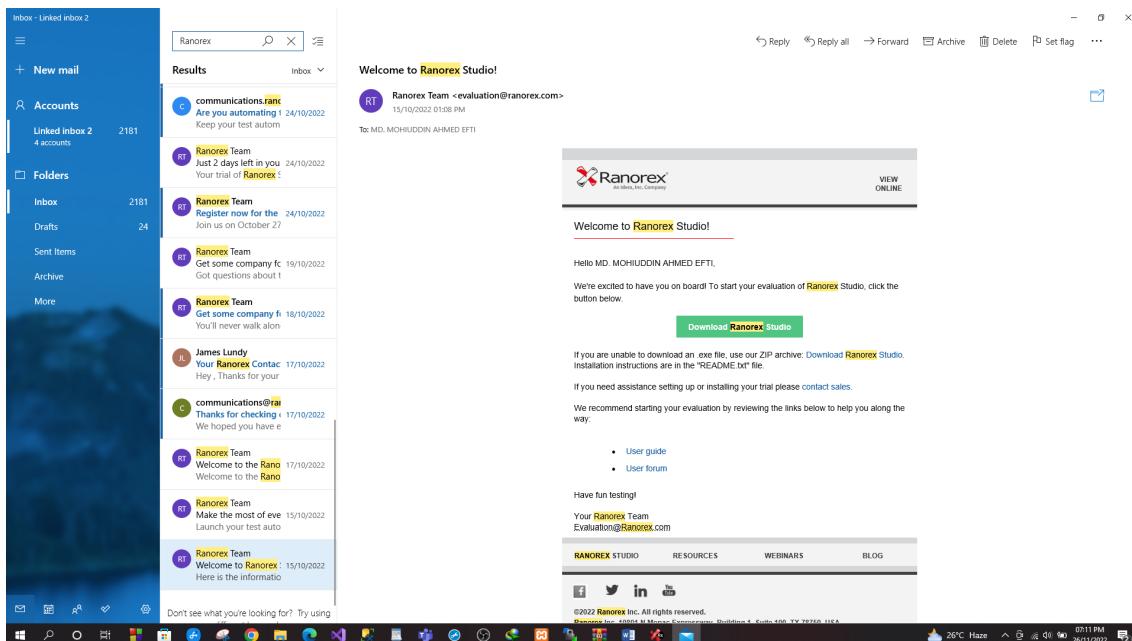


Figure 4: Renorex Mail

- Step 3:** Press next for installation process, than read the user agreement and click on next then choose your desire location where you want to install your application after than check mark all the features to install with it then press next and after installation click finish.

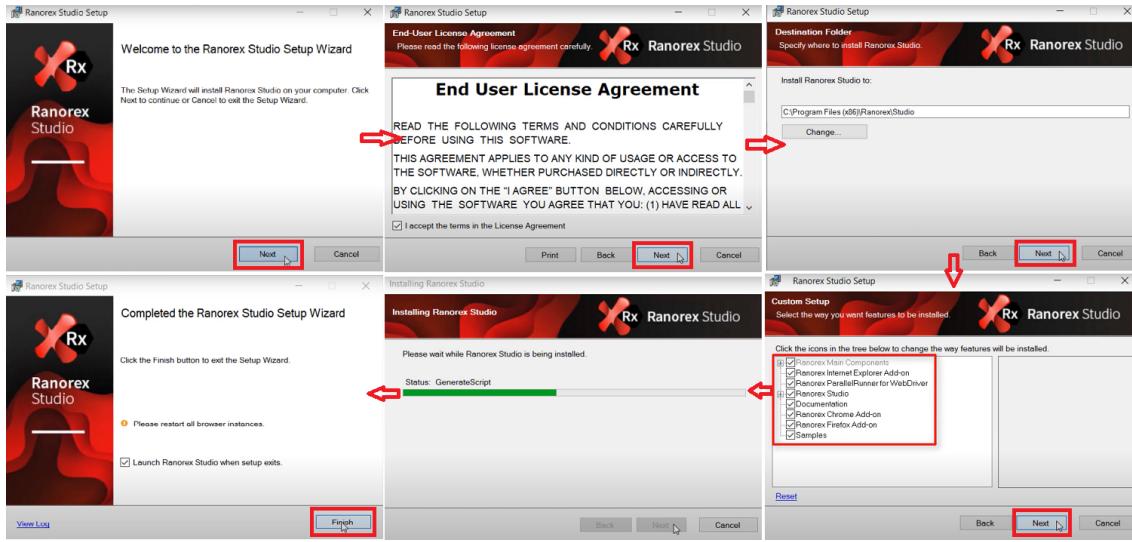


Figure 5: Renorex Installation

2 Jmeter Installation Guide

- Step 1:** At first go to [Website](#) and download Binaries apache jmeter zip version, then after downloading unzip the file and open the folder then bin folder then click on jmeter after your jmeter will be open.

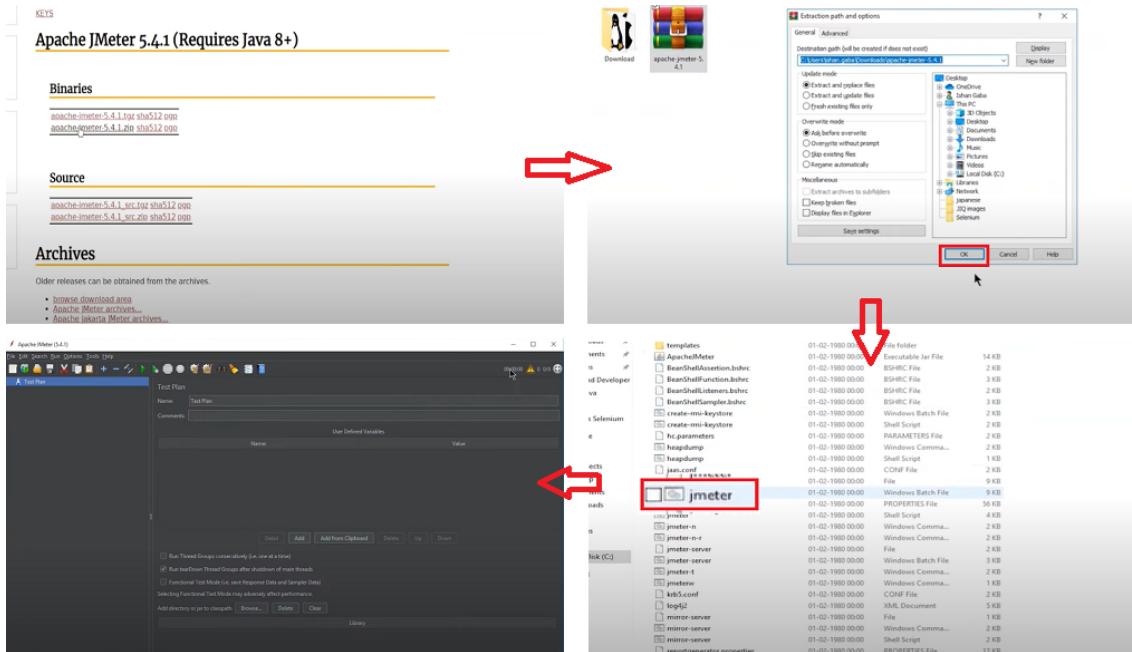


Figure 6: Renorex Create Account

3 Katalon Installation Guide

- **Step 1:** At first go to [Website](#) and download Katalon for your operating system version, then after downloading open the folder and double click on Katalon.exe file now your Katalon Studio is ready to use.

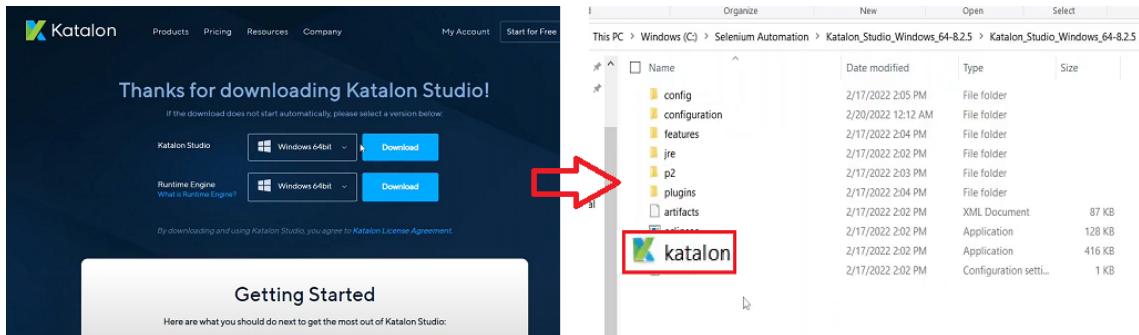


Figure 7: Katalon Installation Guide

Chapter 11 Test result

1 Overview

To achieve best result of testing, this project used three different types of testing tools named the Renorex Studio, the Apache JMeterTM, and the Katalon Studio. Those three software testing tools works different from one to another. Therefore the using process are:

1.1 Renorex Studio (Regression testing)

- **Step 1:** After successfully installing the application click on “New solution via wizard”.

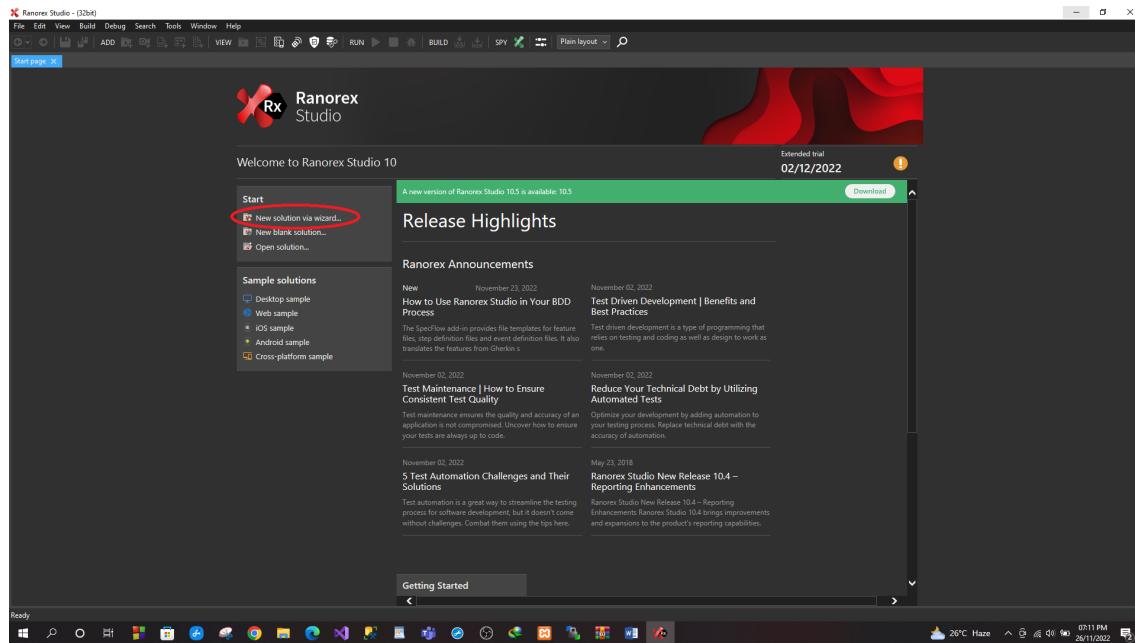


Figure 8: Create New Solution

- **Step 2:** Than select what you want to test, there are total 4 way of testing 1. Desktop application testing, 2. Web application testing, 3. Mobile application testing and 4. Test anything from scratch. For our testing purpose we selected Web application testing.

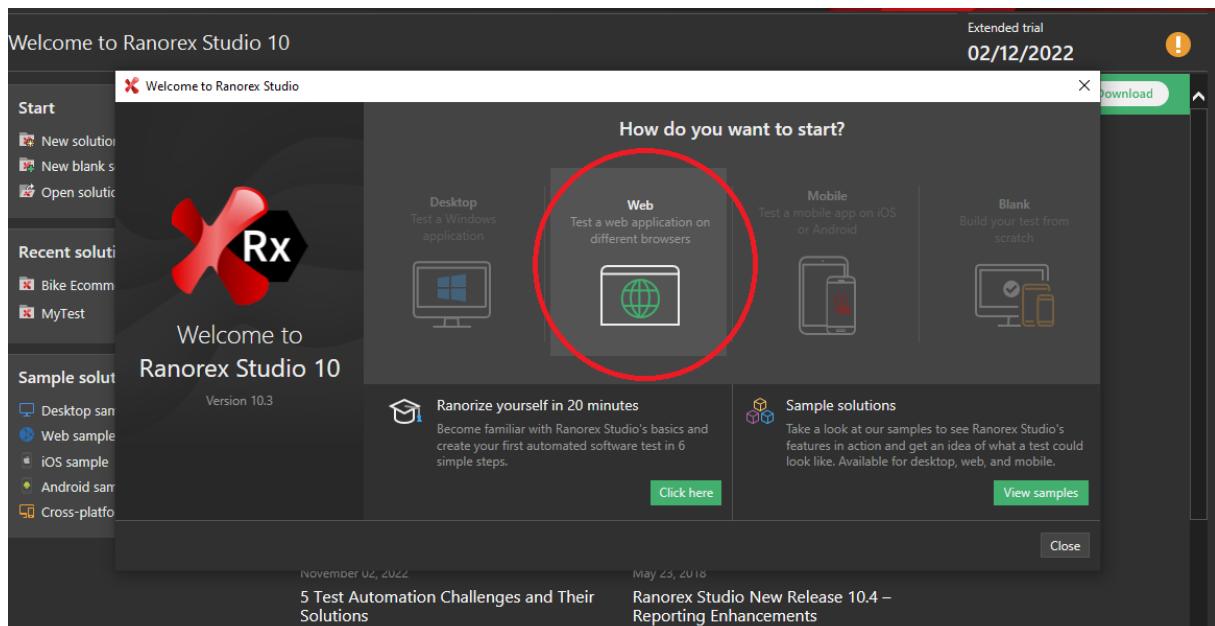


Figure 9: Renorex Studio

- **Step 3:** Give your desire testing solution name and select your desire location where you want to save your testing progress, then press continue and select your browser where you want to start your testing we have selected chrome as our browser after that choose how your application behave with the browser there are two option 1. Add browsers to whitelist, 2. Do not use whitelisting. In our testing we used Do not use whitelisting because it shows all process including the supported browsers. After completing all the configuration click finish.

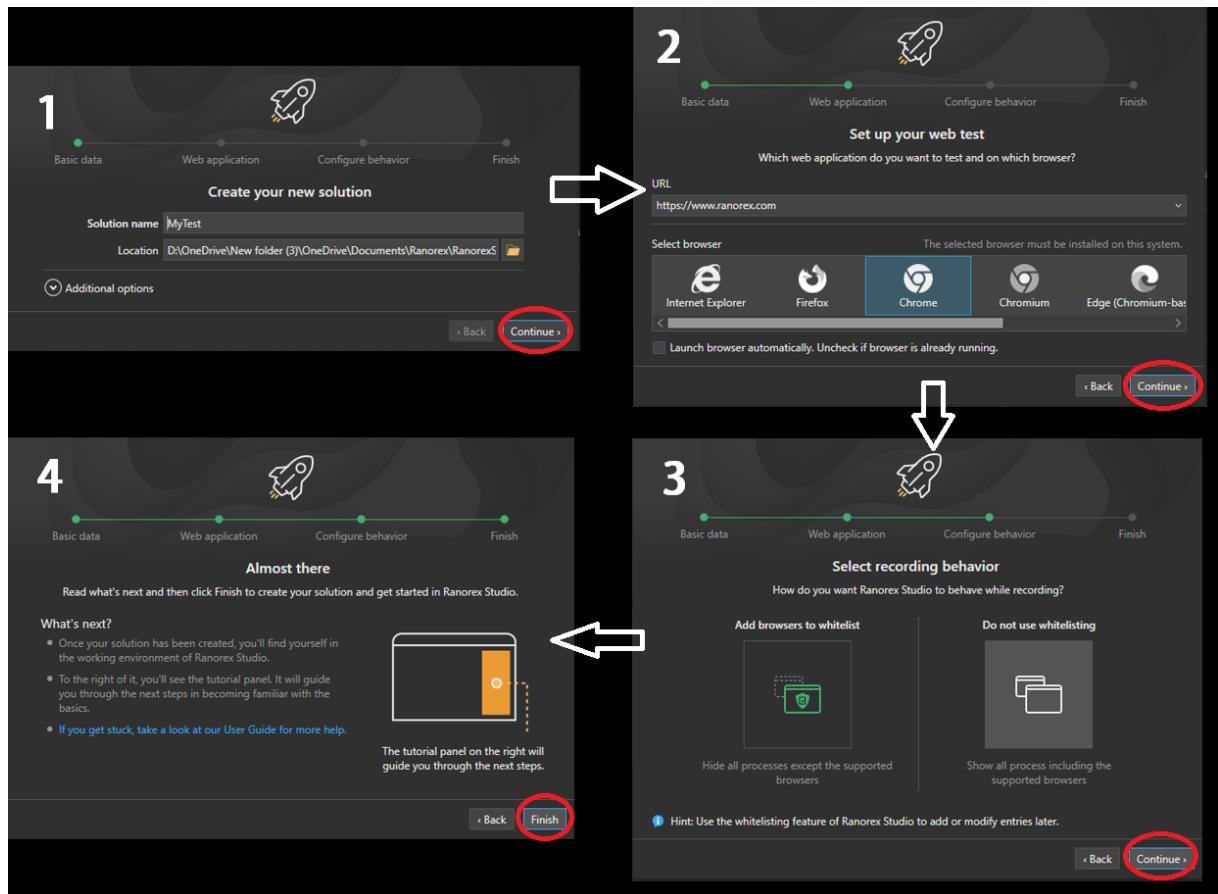


Figure 10: Renorex New Project

- **Step 4:** Click on RECORD and start your testing, for testing we are using <https://rangers-bikes.firebaseio.com/> website. After completing the test click on stop testing to stop your records.

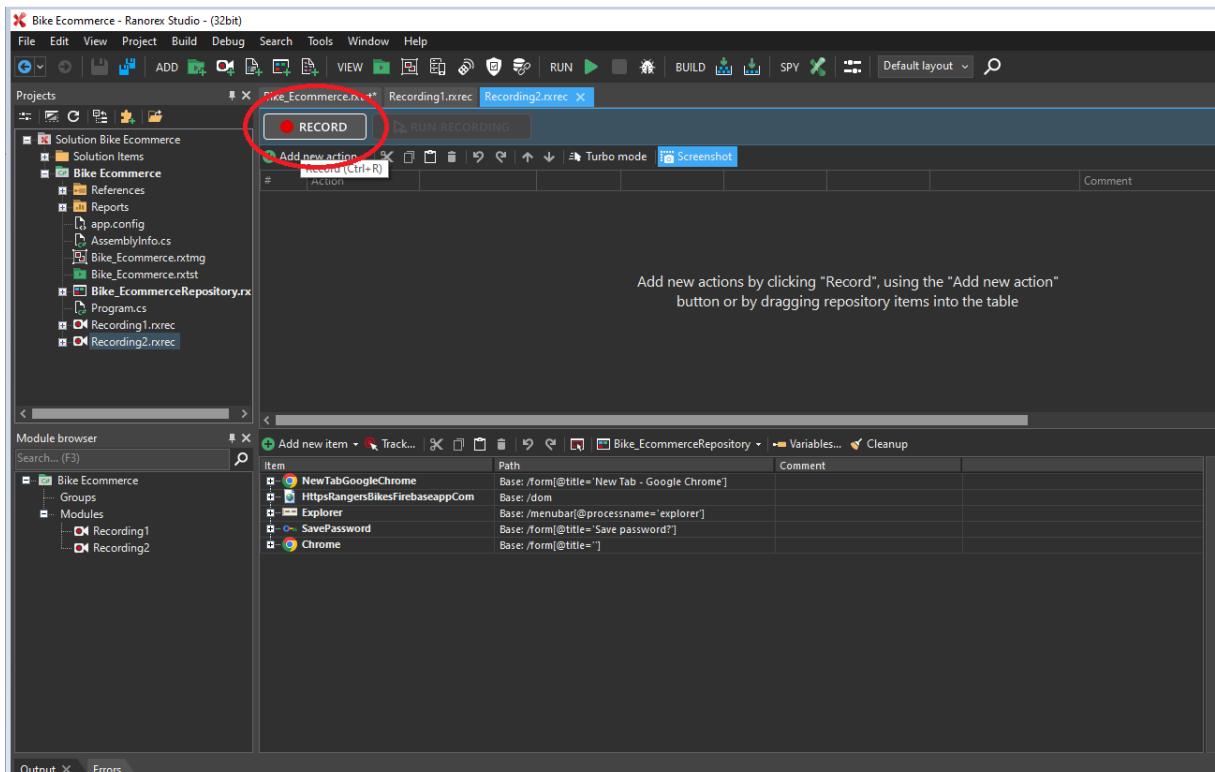


Figure 11: Renorex Record

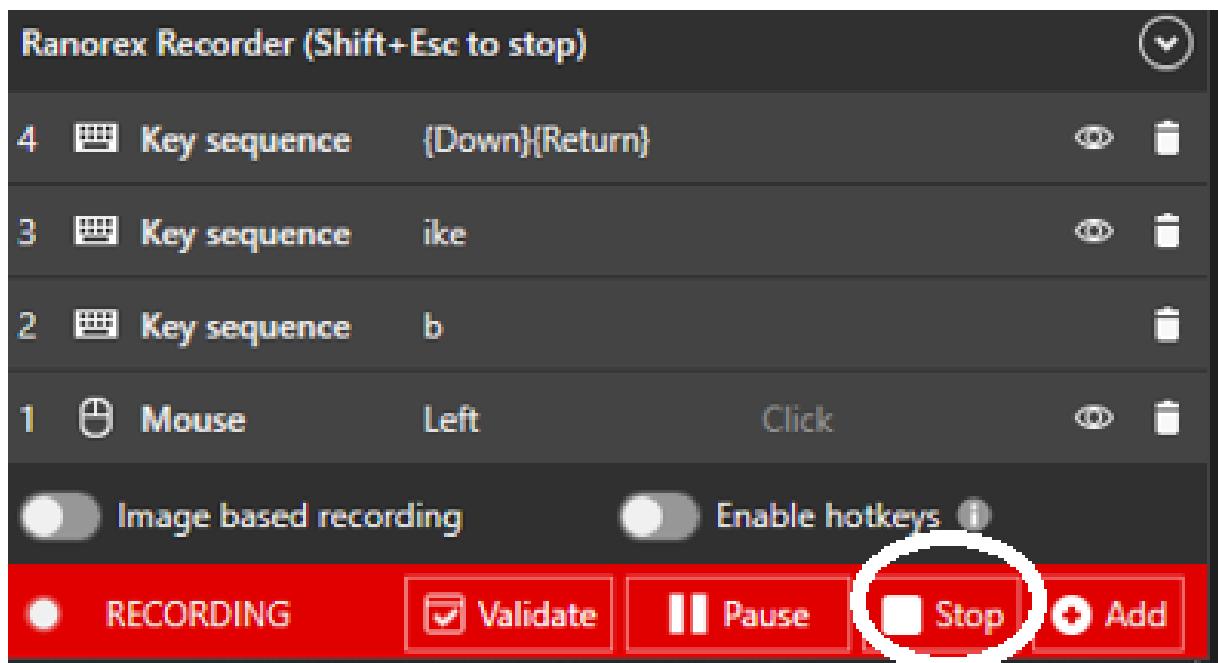


Figure 12: Renorex Stop Record

- **Step 5:** To run the testing which has been recorded click on Run and then click on Continue evaluation, the testing will be automatically started and after finish the test the application creates a document with the details of testing and with pass fail result.

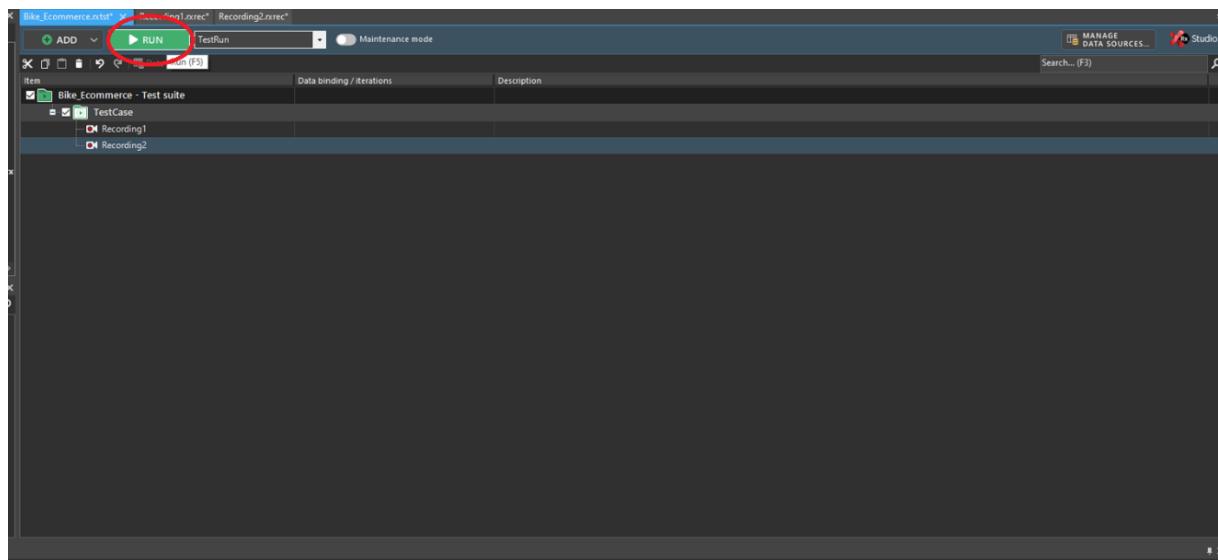


Figure 13: Renorex Run Testing

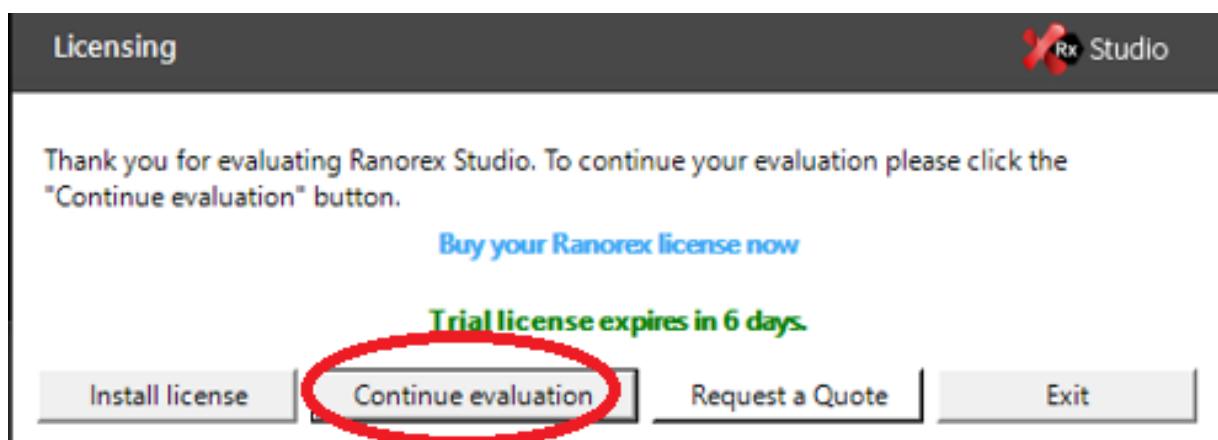


Figure 14: Renorex Starting

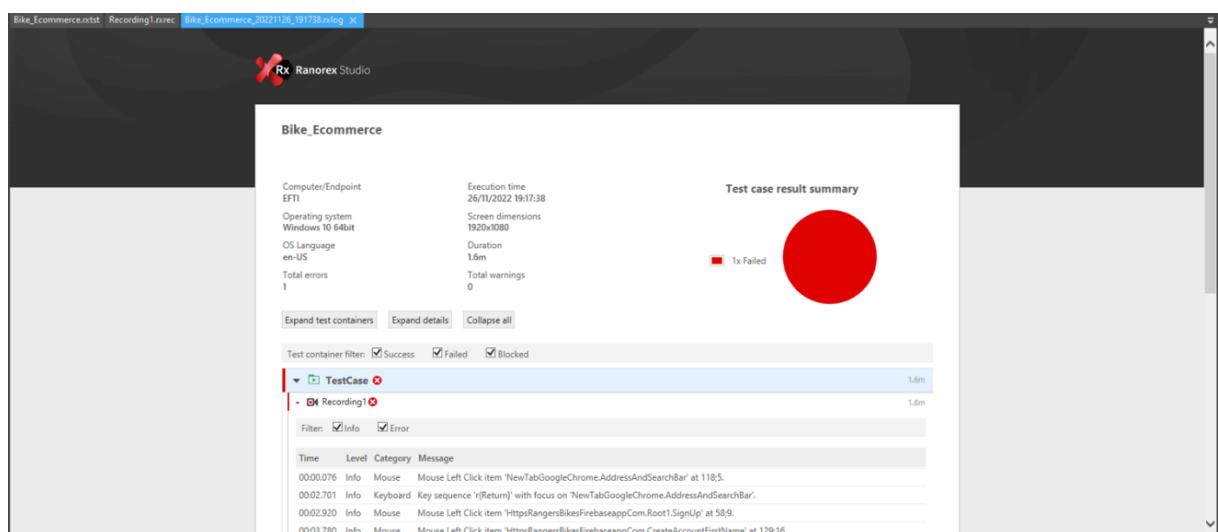


Figure 15: Renorex Bug Report

1.2 Apache JMeter™ (Load Testing)

- **Step 1:** Download Jmeter from <https://dlcdn.apache.org/jmeter/source/apache-jmeter-5.5-src.tgz> official website, after successfully installing the application open it on your pc. After that Right click on the Test Plan » +Add » +Threads (Users) » +Thread Group, by this the thread group will be created on the application.

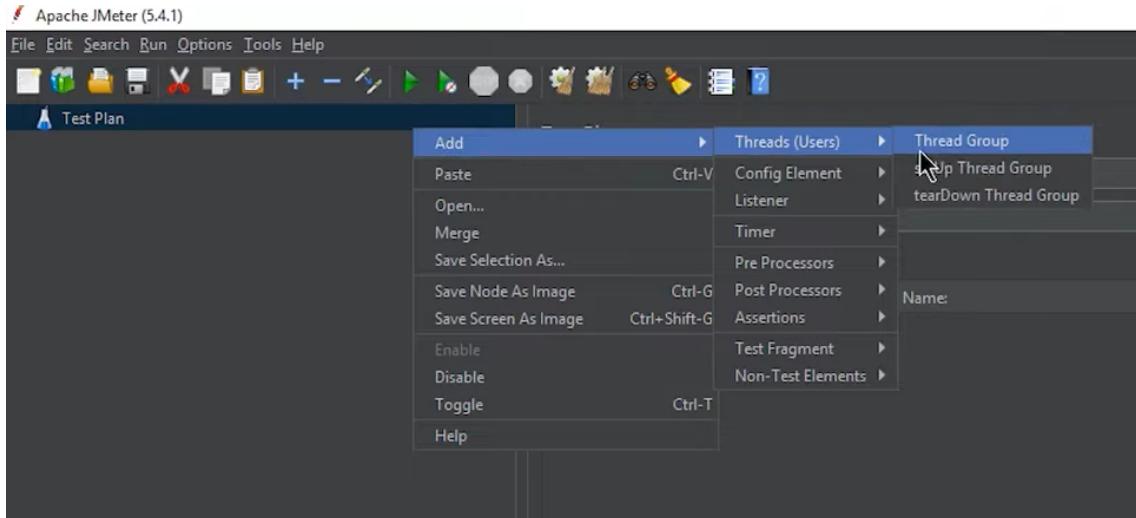


Figure 16: Add Thread Group

- **Step 2:** Now Click the right on the "Thread Group" » +"Add" » +"Sampler" » +"HTTP Request", by this step a "HTTP Request" created

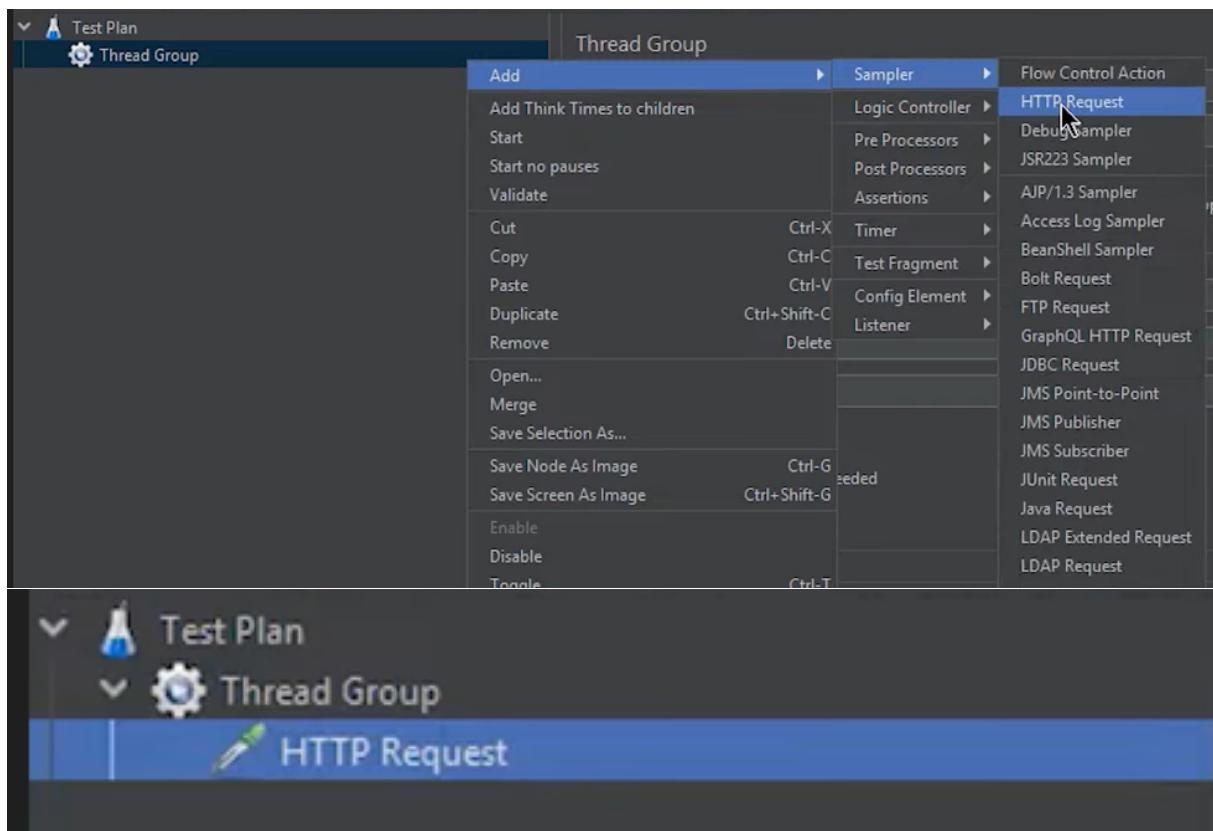


Figure 17: Http Request

- **Step 3:** Copy the URL of your desire website for load testing, Than paste on the HTTP Request » Server Name or IP: <https://rangers-bikes.firebaseio.com/> while pasting remove the links “https://” and type “/” on Path then change Thread Properties by your need, We are using total no of User) = 12, total "Ramp-up period"(seconds) = 2 total "Loop Count": 5.

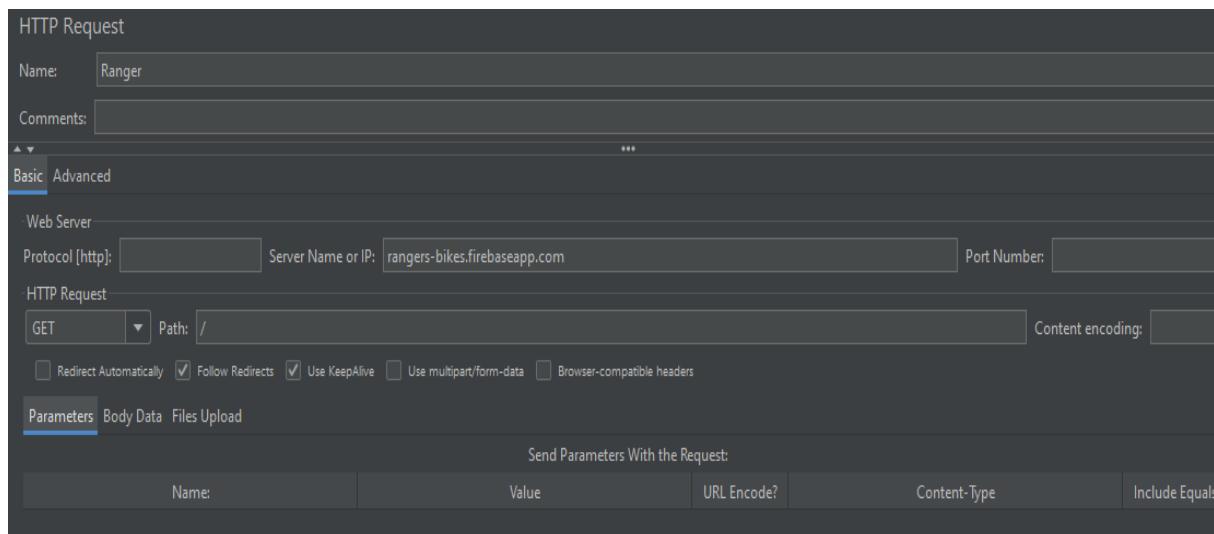


Figure 18: "HTTP Request" setup

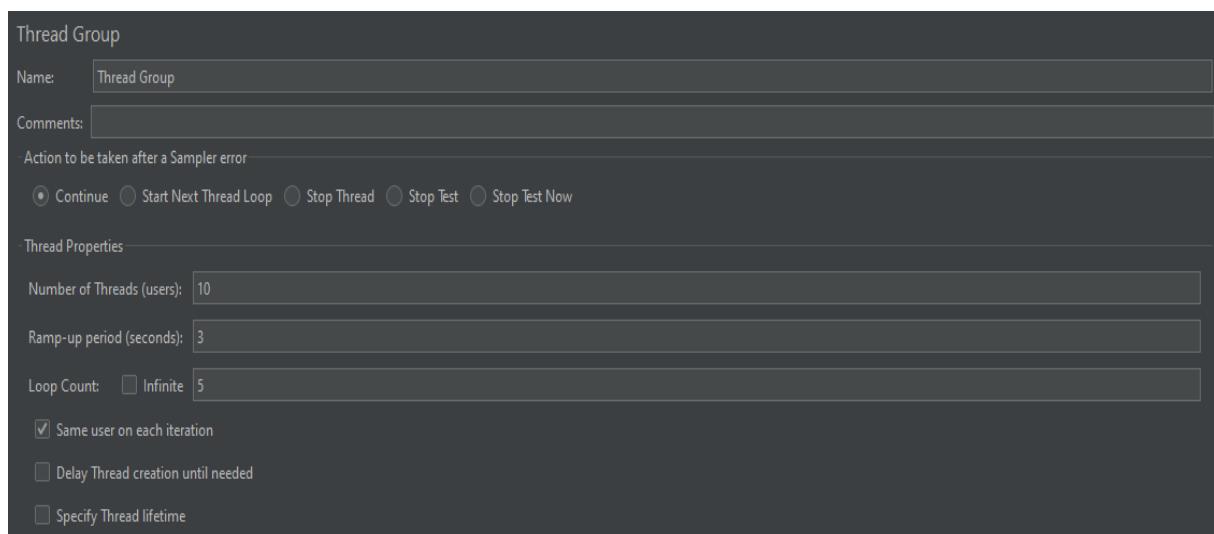


Figure 19: Thread item setup

- **Step 4:** At last Right click on Add » Listener » View Result Tree and press on Start option to start the load testing.

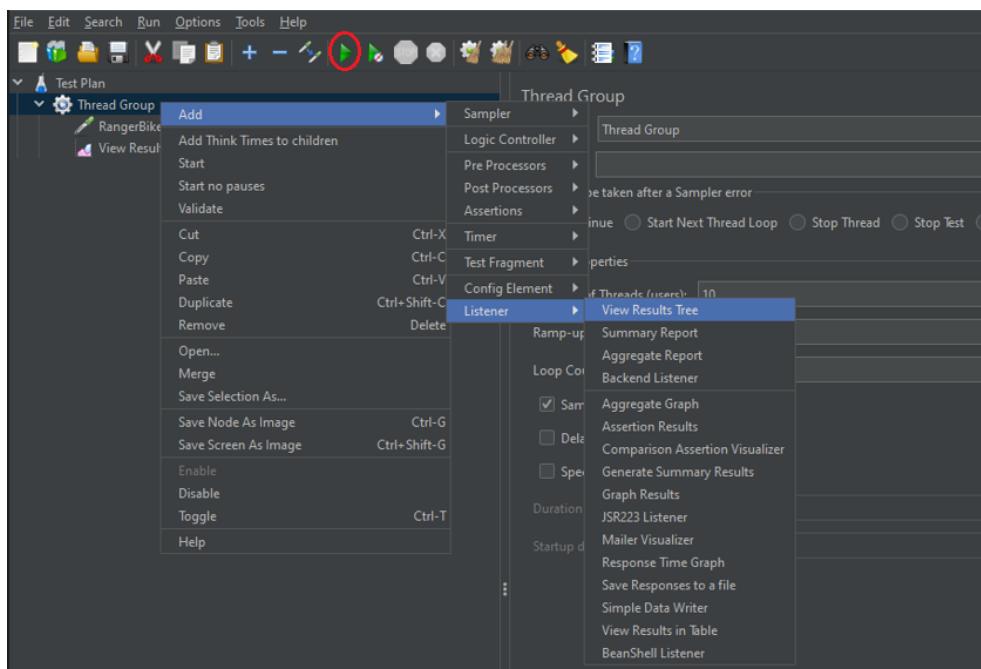


Figure 20: Add Tree as a listener

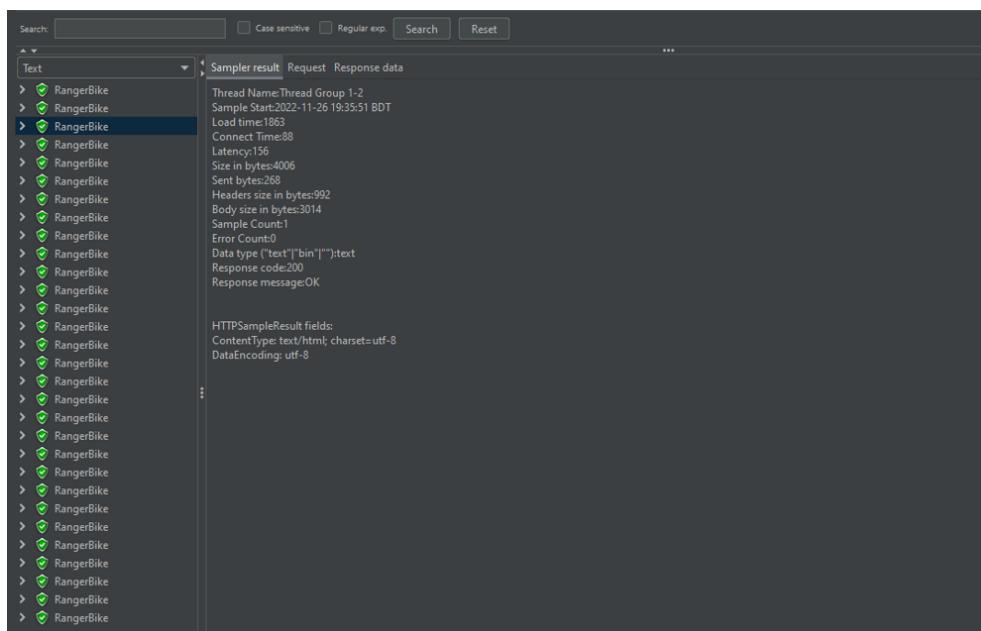
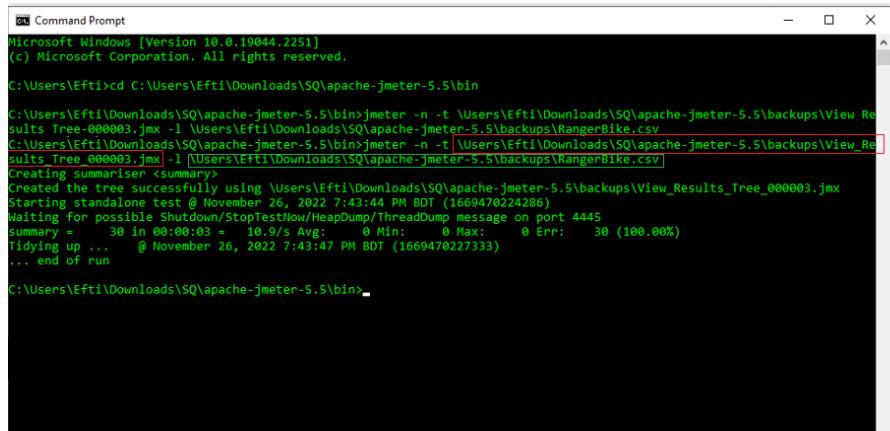


Figure 21: View Sampler results in Tree

- **Step 5:** For seeing the load testing result (Human Readable) need to open cmd then paste the jmeter location on it then press enter then create a csv file then paste your csv file location as like as the screen shot given below, after the in excel the result will be shown.



File created by jmeter location
csv file location that being created by us where the jmeter file will be converted to excel

```

C:\ Command Prompt
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

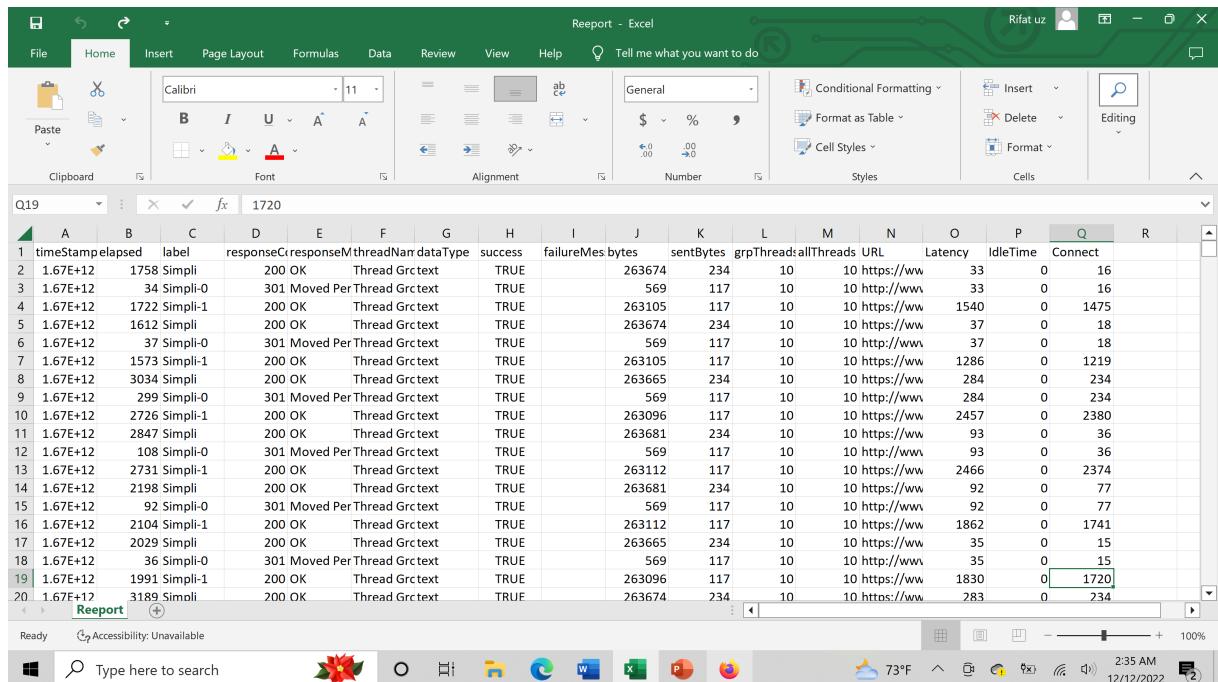
C:\Users\Efti>cd C:\Users\Efti\Downloads\SO\apache-jmeter-5.5\bin

C:\Users\Efti\Downloads\SO\apache-jmeter-5.5\bin>jmeter -n -t \Users\Efti\Downloads\SO\apache-jmeter-5.5\backups\View_Results_Tree-000003.jmx -l \Users\Efti\Downloads\SO\apache-jmeter-5.5\backups\RangerBike.csv
C:\Users\Efti\Downloads\SO\apache-jmeter-5.5\bin>jmeter -n -t \Users\Efti\Downloads\SO\apache-jmeter-5.5\backups\View_Results_Tree-000003.jmx -l \Users\Efti\Downloads\SO\apache-jmeter-5.5\backups\RangerBike.csv
Creating summariser <summary>
Created the tree successfully using \Users\Efti\Downloads\SO\apache-jmeter-5.5\backups\View_Results_Tree-000003.jmx
Starting standalone test @ November 26, 2022 7:43:44 PM BDT (1669470224286)
Waiting for possible Shutdown/StopTestNow/HeapDump/ThreadDump message on port 4445
summary =   30 in 00:00:03 =  10.9/s Avg:    0 Min:    0 Max:    0 Err: 30 (100.00%)
Tidying up ... @ November 26, 2022 7:43:47 PM BDT (1669470227333)
... end of run

C:\Users\Efti\Downloads\SO\apache-jmeter-5.5\bin>

```

Figure 22: Gui Mode in CMD



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	timeStamp	elapsed	label	responseCode	threadNan	dataType	success	failureMes	bytes	sentBytes	grpThreads	allThreads	URL	Latency	IdleTime	Connect		
2	1.67E+12	1758	Simpli	200 OK	Thread Grctext	TRUE	263674	234	10	10 https://ww				33	0	16		
3	1.67E+12	34	Simpli-0	301 Moved Per Thread Grctext	TRUE		569	117	10	10 http://ww				33	0	16		
4	1.67E+12	1722	Simpli-1	200 OK	Thread Grctext	TRUE	263105	117	10	10 https://ww				1540	0	1475		
5	1.67E+12	1612	Simpli	200 OK	Thread Grctext	TRUE	263674	234	10	10 https://ww				37	0	18		
6	1.67E+12	37	Simpli-0	301 Moved Per Thread Grctext	TRUE		569	117	10	10 http://ww				37	0	18		
7	1.67E+12	1573	Simpli-1	200 OK	Thread Grctext	TRUE	263105	117	10	10 https://ww				1286	0	1219		
8	1.67E+12	3034	Simpli	200 OK	Thread Grctext	TRUE	263665	234	10	10 https://ww				284	0	234		
9	1.67E+12	299	Simpli-0	301 Moved Per Thread Grctext	TRUE		569	117	10	10 http://ww				284	0	234		
10	1.67E+12	2726	Simpli-1	200 OK	Thread Grctext	TRUE	263096	117	10	10 https://ww				2457	0	2380		
11	1.67E+12	2847	Simpli	200 OK	Thread Grctext	TRUE	263681	234	10	10 https://ww				93	0	36		
12	1.67E+12	108	Simpli-0	301 Moved Per Thread Grctext	TRUE		569	117	10	10 http://ww				93	0	36		
13	1.67E+12	2731	Simpli-1	200 OK	Thread Grctext	TRUE	263112	117	10	10 https://ww				2466	0	2374		
14	1.67E+12	2198	Simpli	200 OK	Thread Grctext	TRUE	263681	234	10	10 https://ww				92	0	77		
15	1.67E+12	92	Simpli-0	301 Moved Per Thread Grctext	TRUE		569	117	10	10 http://ww				92	0	77		
16	1.67E+12	2104	Simpli-1	200 OK	Thread Grctext	TRUE	263112	117	10	10 https://ww				1862	0	1741		
17	1.67E+12	2029	Simpli	200 OK	Thread Grctext	TRUE	263665	234	10	10 https://ww				35	0	15		
18	1.67E+12	36	Simpli-0	301 Moved Per Thread Grctext	TRUE		569	117	10	10 http://ww				35	0	15		
19	1.67E+12	1991	Simpli-1	200 OK	Thread Grctext	TRUE	263096	117	10	10 https://ww				1830	0	1720		
20	1.67E+12	3189	Simpli	200 OK	Thread Grctext	TRUE	263674	234	10	10 https://ww				283	0	234		

Figure 23: Load Test Result in CSV file

1.3 Apache JMeter™ (Performance Testing)

- **Step 1:** Click the right side of the mouse in "Thread Group" » +"Add" » +"Listener" » +"Summary Report", Summary report will be created

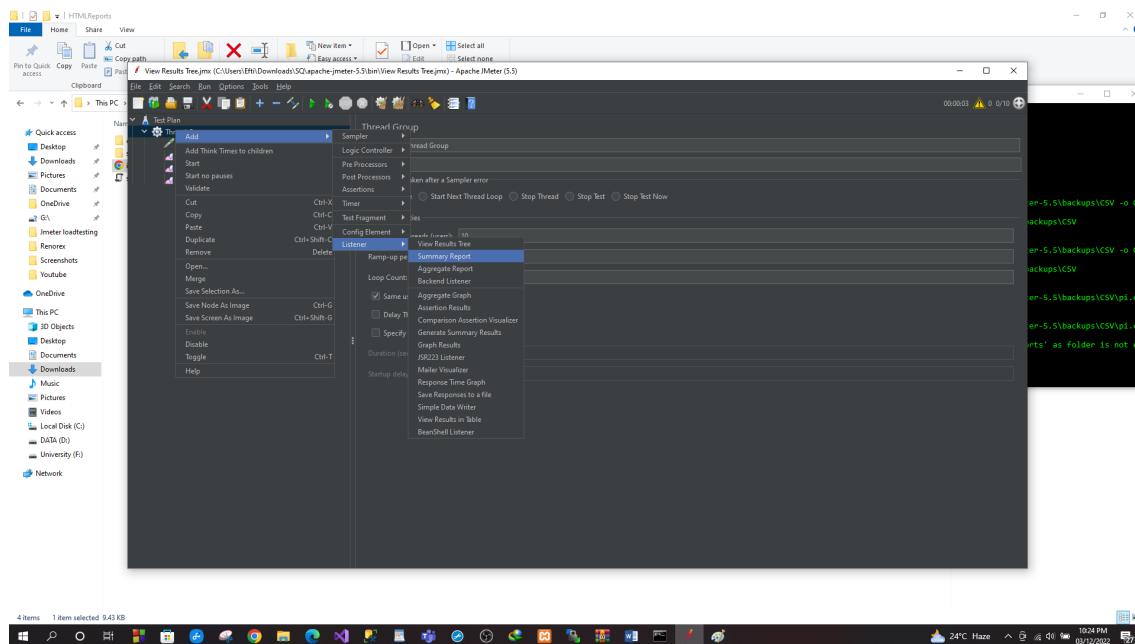


Figure 24: Create New Solution

- **Step 2:** Click on the "Thread Group" » +"Add" » +"Listener" » +"Simple Data Writer", Simple Data Writer will be created.

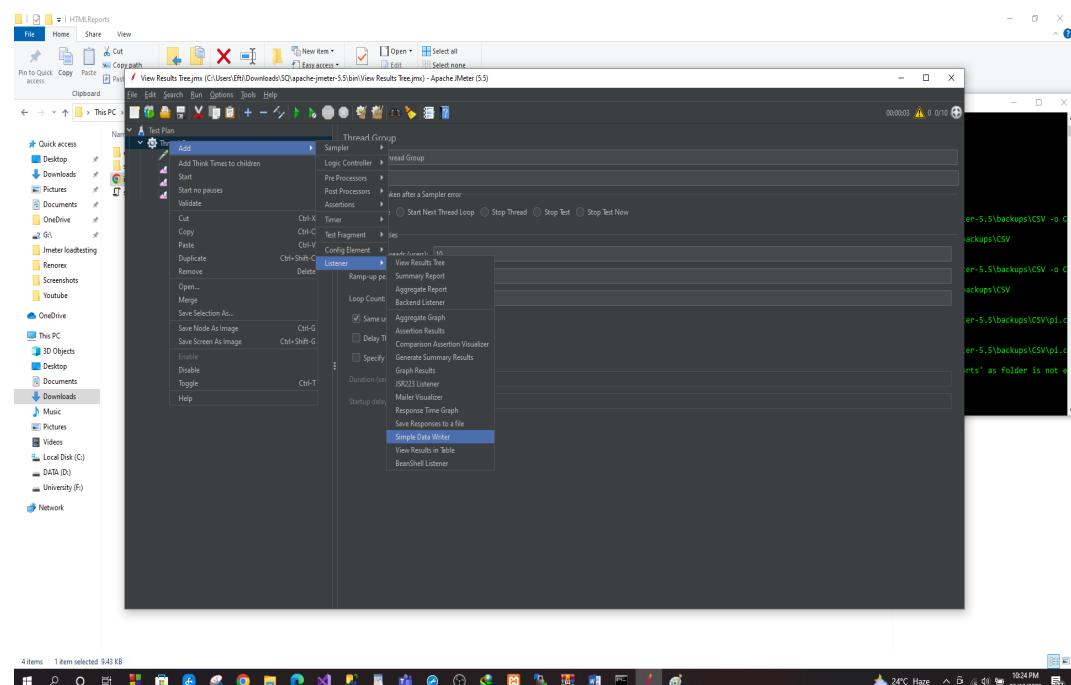
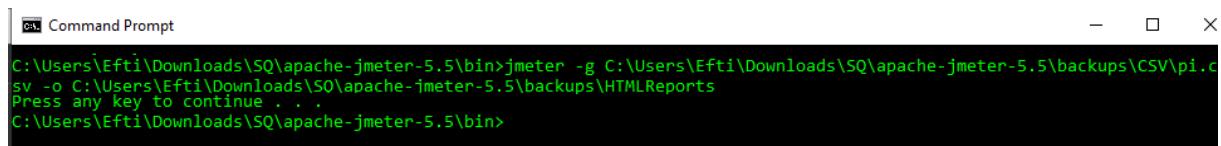


Figure 25: Simple Data Writer

- **Step 3:** Paste the path of your csv file on Simple data writer than run the program and performance data will be generated on the CSV file.



```
C:\Users\Efti\Downloads\SQL\apache-jmeter-5.5\bin>jmeter -g C:\Users\Efti\Downloads\SQL\apache-jmeter-5.5\backups\CSV\pi.csv -o C:\Users\Efti\Downloads\SQL\apache-jmeter-5.5\backups\HTMLReports
Press any key to continue . . .
C:\Users\Efti\Downloads\SQL\apache-jmeter-5.5\bin>
```

Figure 26: Converting to Graphical command

- **Step 4:** For graphical interface paste the CSV file location and then paste where you want to add the Graphical interface location using HTML the will be like this “jmeter -g (CSV File location)filename.csv -o (Location of where you want to save your html file)”

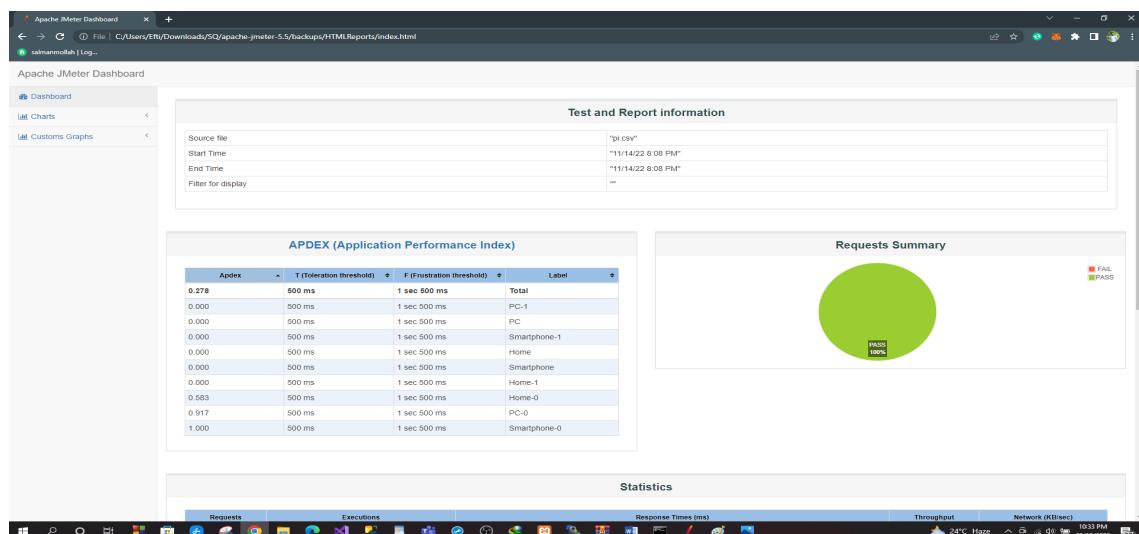


Figure 27: Dashboard result of Performance Testing

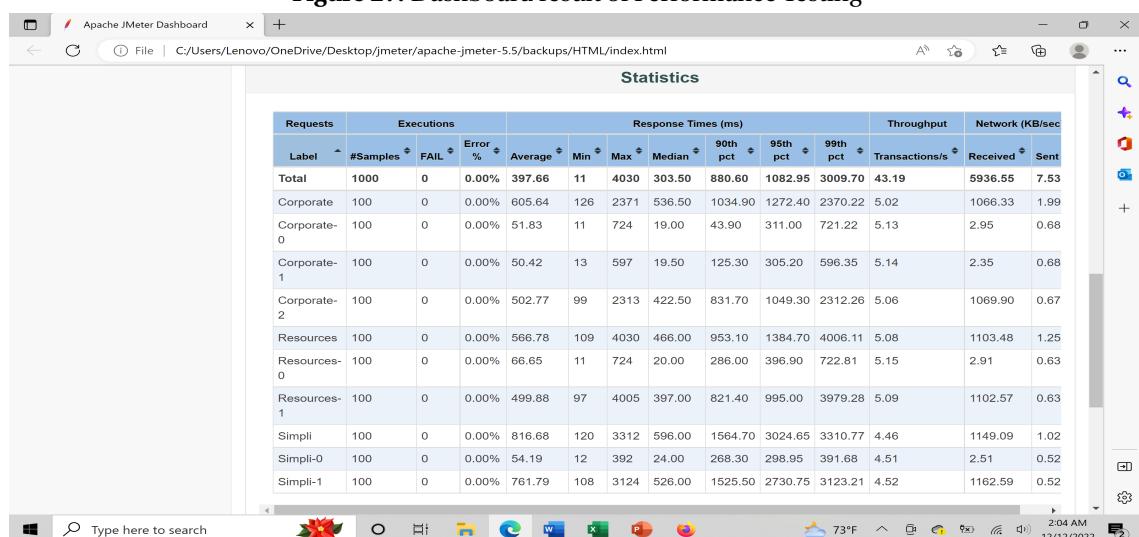


Figure 28: Statistic result of Performance Testing

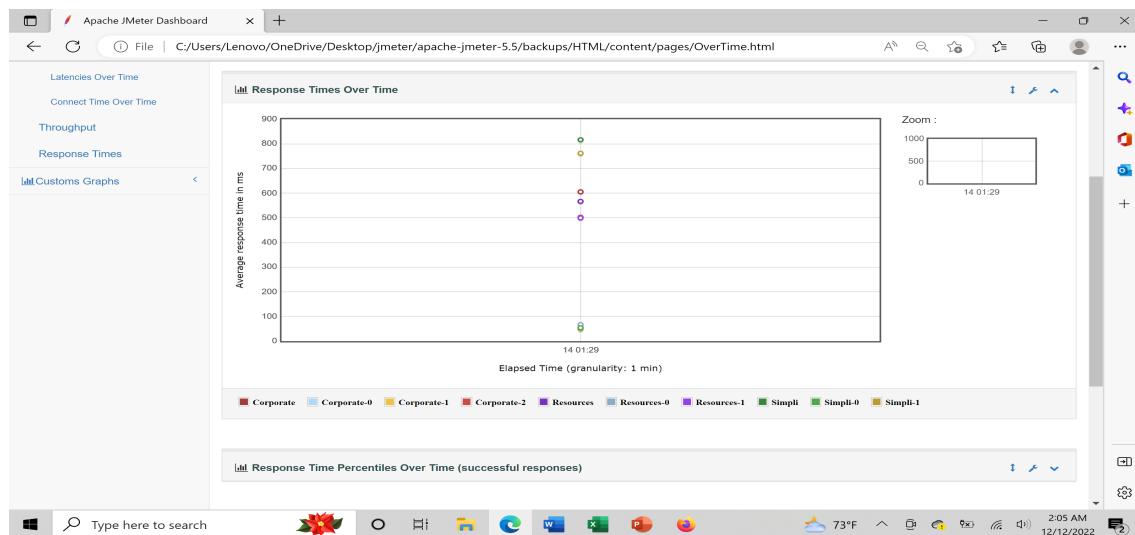


Figure 29: Elapsed result of Performance Testing

1.4 Katalon Regression Testing

- Step 1: Create your account from this website [Katalon](#)

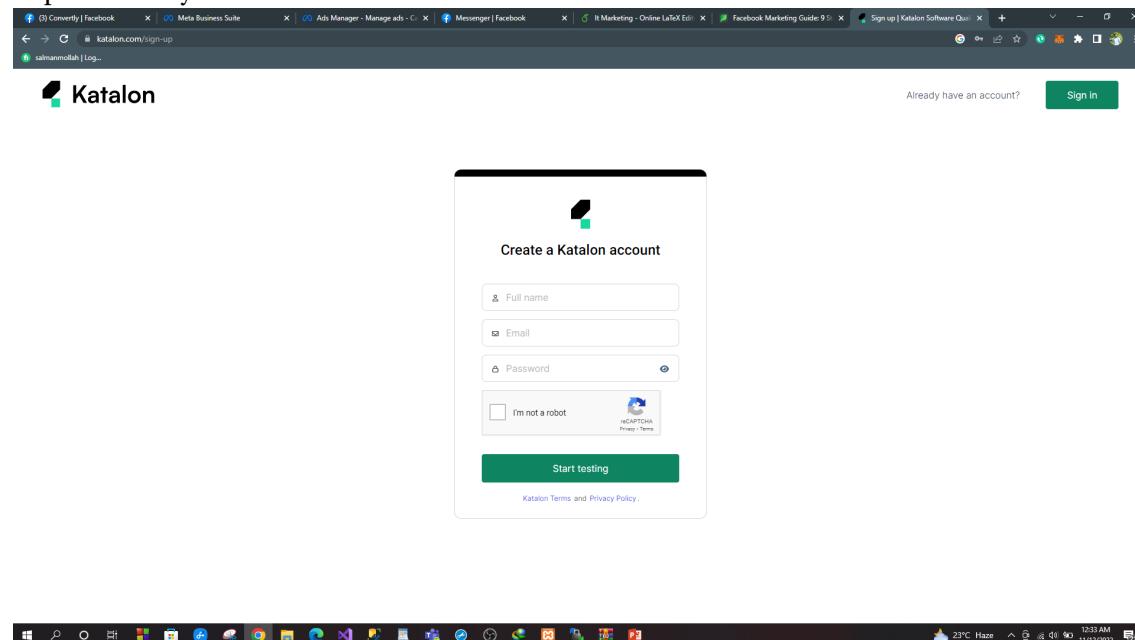


Figure 30: Create Account Katalon

- **Step 2:** Download your desired version of katalon, we have download Standalone Edition.

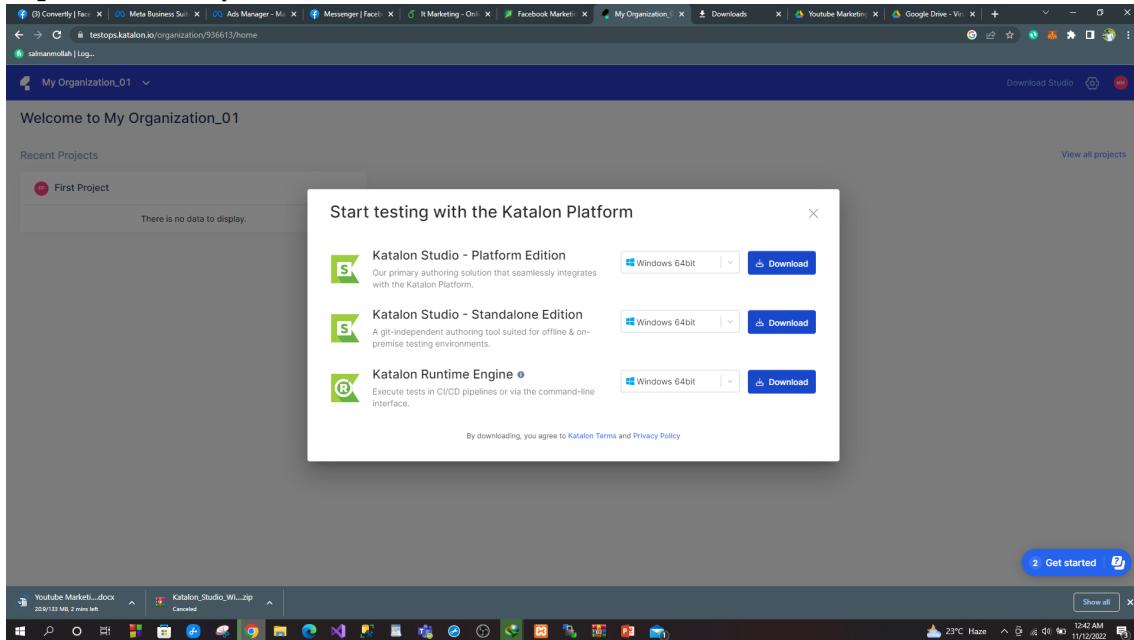


Figure 31: Download Katalon

- **Step 3:** After downloading Open katalon and click on **New Project** then Name your project and add the location where you want to save your progress than press OK to complete your new project creation.

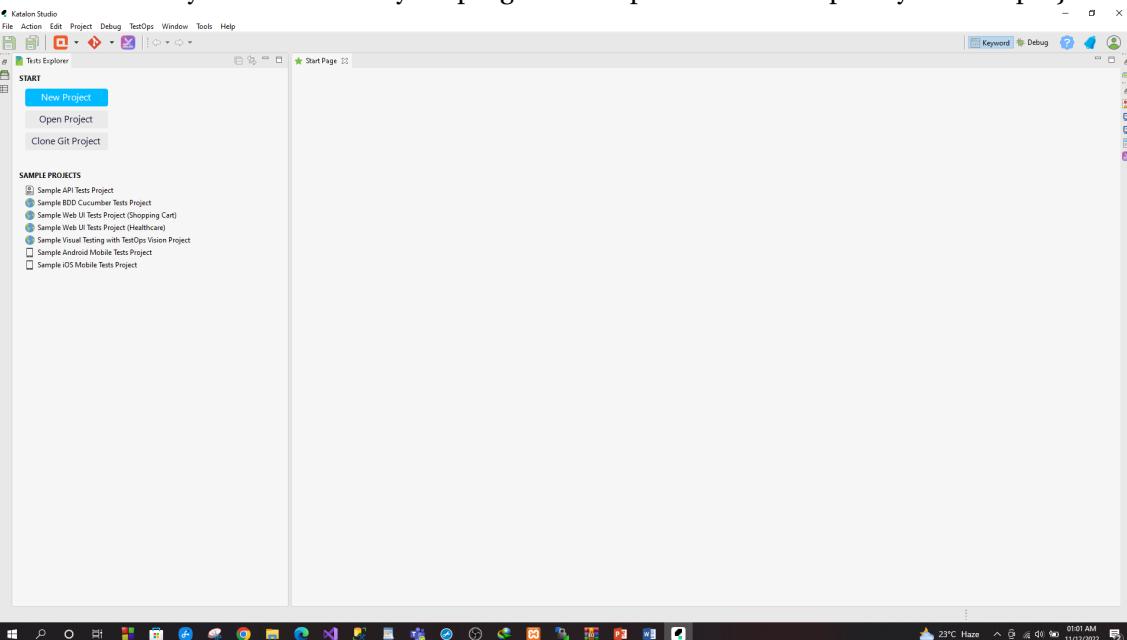


Figure 32: Create New Project

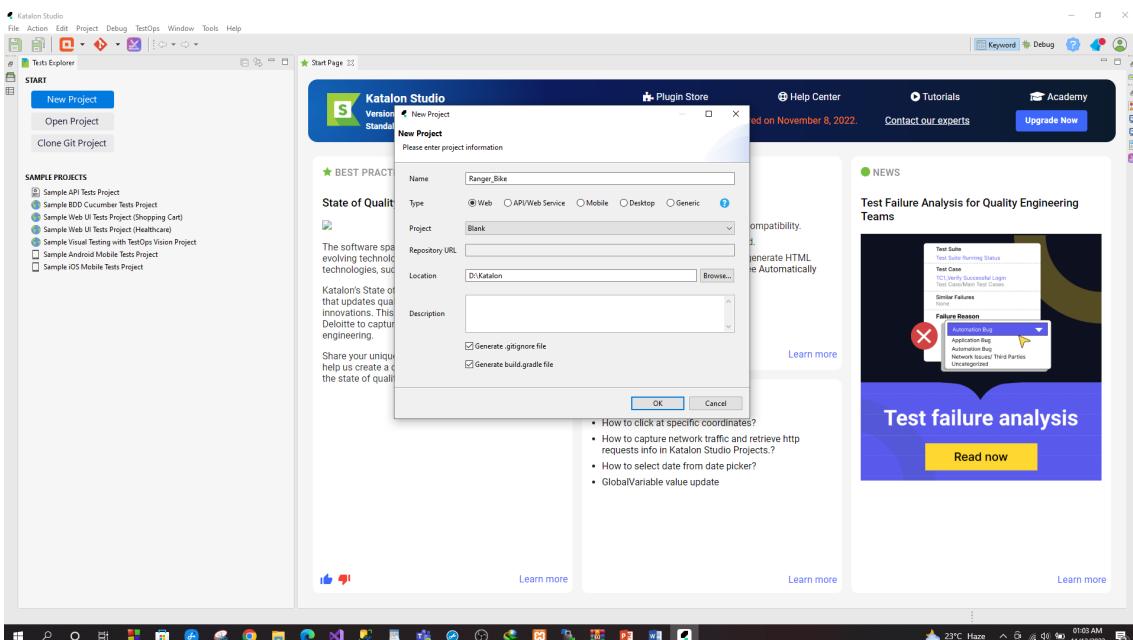


Figure 33: Configure Project

- **Step 4:** After Creating the new project press on record to record your testing and then paste your url to url section and run the record after that stop your record and press run to execute your testing than you will get your result.

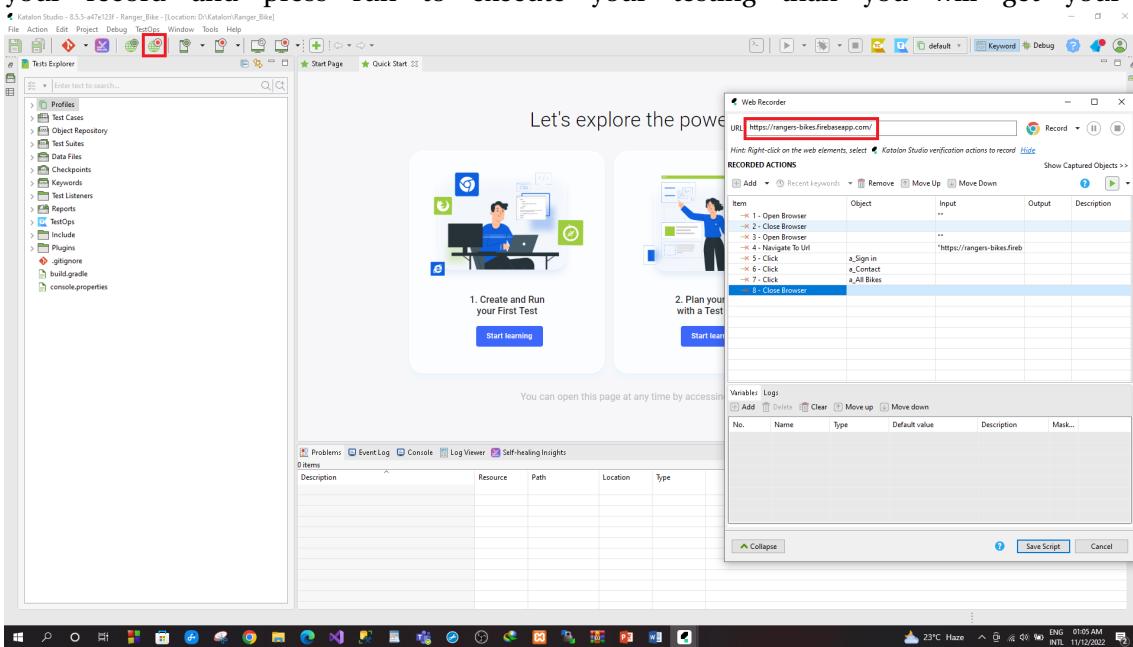


Figure 34: Record Test

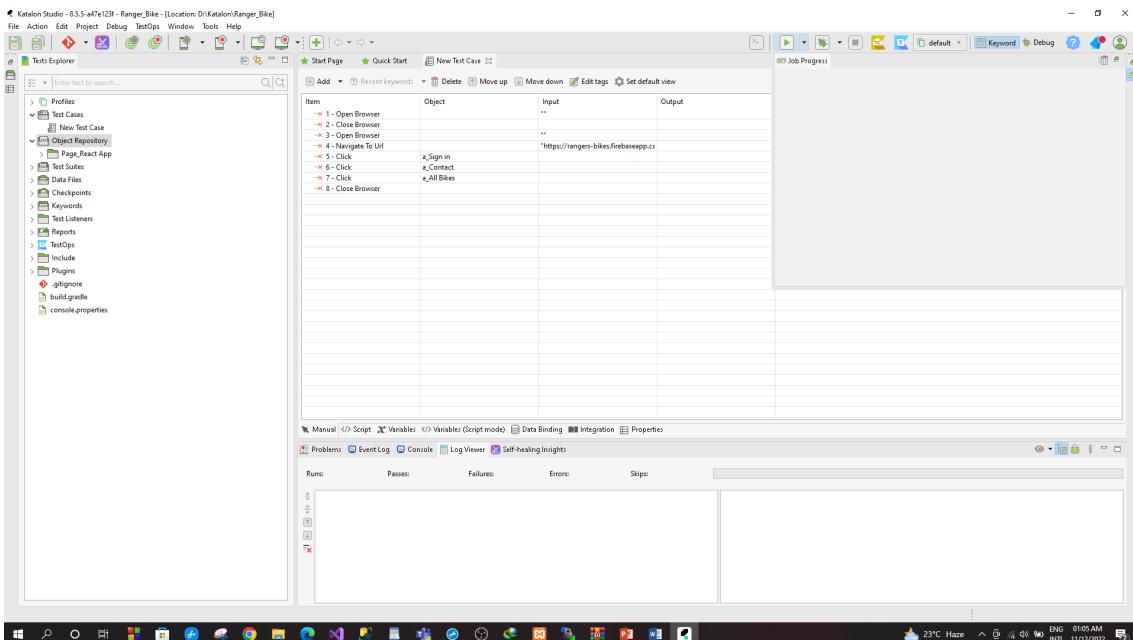


Figure 35: Run Record

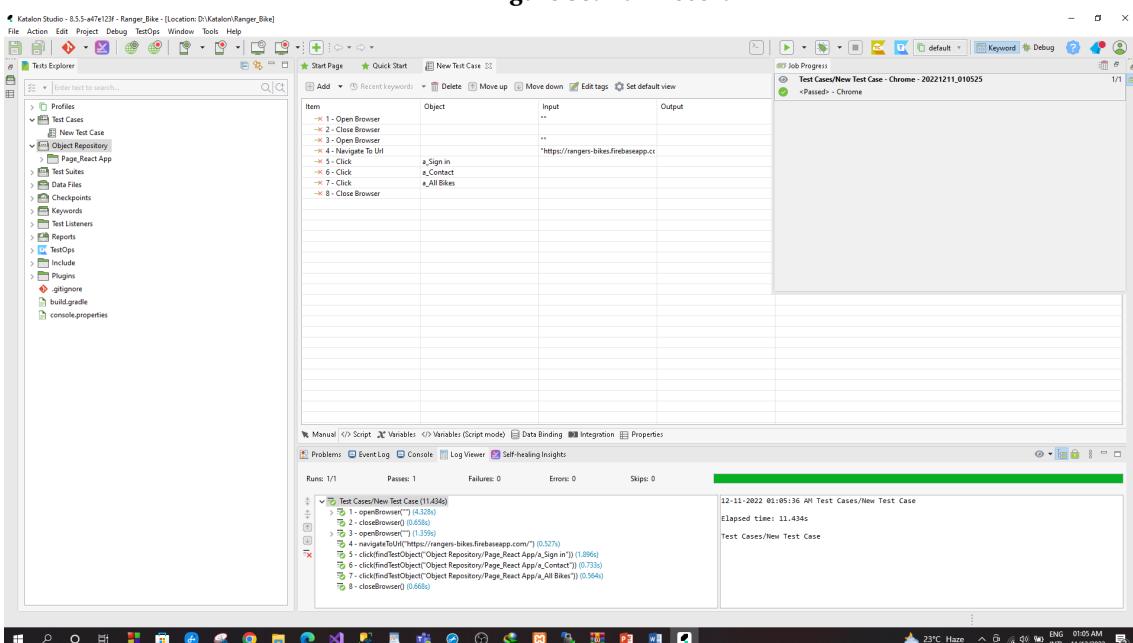


Figure 36: Result

Chapter 12 Defect report

1 Introduction

To test the quality of any software or project, every engineer try their best tools with its outstanding performance and features. Having such kinds of outstanding performance, there can be find bugs on the project while it tested. According those bug the engineers can fixed their problems and satisfied their client with best result. Therefore the bug report is plays a vital role and also an effective approach that let the software developers help to know about the occurring issue of their software or project.

2 Bug/Defect Report

2.1 Bug Table

Bug ID	FTBT05	FTBT06	FTBT07
Project Name	Software Quality Testing of Bike Ecommerce Store	Software Quality Testing of Bike Ecommerce Store	Software Quality Testing of Bike Ecommerce Store
Module Name	View Order List Interface	Add New Product Interface	Contract Interface
Defect Type	Bug is related to “View Order List” interface function.	Bug is related to “Add New Product” interface function.	Bug is related to “Contract” interface function.
Severity	“Order Now” option does not work properly. “My Order” page remain of the account.	Null value cannot handle properly on “Add New Product” interface. “Add Product” page remain of the account.	Null value cannot handle properly on “Contact” interface. “Contact” page remain of the account.
Priority	Urgency or High	Urgency or High	Urgency or High
Description	Given entire order store to the database but could not send all details to admin.	Newly products will be added by admin and saves details to the database but could not show dashboard.	System will take specific name, email and message and after submission, it will send to admin but only “message” part can not send to admin.
Status	Bug Status: Open	Bug Status: Open	Bug Status: Open

Table 44: Test incident report

2.2 Renorex Defect Report

Page 1 of 2

Bike_Ecommerce

Computer/Endpoint EFTI	Execution time 26/11/2022 19:17:38
Operating system Windows 10 64bit	Screen dimensions 1920x1080
OS Language en-US	Duration 1.6m
Total errors 1	Total warnings 0

Test case result summary

1x Failed

TestCase

Recording1

Filter: Info Error

Time	Level	Category	Message
00:00.076	Info	Mouse	Mouse Left Click item 'NewTabGoogleChrome.AddressAndSearchBar' at 118.5.
00:02.701	Info	Keyboard	Key sequence 'r(Return)' with focus on 'NewTabGoogleChrome.AddressAndSearchBar'.
00:02.920	Info	Mouse	Mouse Left Click item 'HttpsRangersBikesFirebaseappCom.Root1.SignUp' at 58.9.
00:03.780	Info	Mouse	Mouse Left Click item 'HttpsRangersBikesFirebaseappCom.CreateAccountFirstName' at 129:16.
00:04.348	Info	Keyboard	Key sequence 'f(ShiftKey down)u(Return)' with focus on 'HttpsRangersBikesFirebaseappCom.CreateAccountFirstName'.
00:04.642	Info	Keyboard	Key sequence '[NumPad8]' with focus on 'HttpsRangersBikesFirebaseappCom.CreateAccountFirstName'.
00:04.857	Info	Keyboard	Key sequence '[Tab]' with focus on 'HttpsRangersBikesFirebaseappCom.CreateAccountFirstName'.
00:05.083	Info	Keyboard	Key sequence 'ahmedleft11(LShiftKey down)@l(LShiftKey up)gmail.com' with focus on 'HttpsRangersBikesFirebaseappCom'.
00:05.840	Info	Keyboard	Key sequence '[Tab]Testing[Tab]TestingR[Tab]b(Return)' with focus on 'HttpsRangersBikesFirebaseappCom'.
00:06.614	Info	Mouse	Mouse Left Click item 'HttpsRangersBikesFirebaseappCom.Root1.Root' at 957:416.
			Mouse Left Click item 'HttpsRangersBikesFirebaseappCom.Root1.OrderNow' at 84:4.
00:07.147	Info	Mouse	
			Item 'OrderNow' was found using Robust path.
01:37.252	Info	User	
Failed to find item 'Bike_EcommerceRepository.HttpsRangersBikesFirebaseappCom.Root1.OrderNow'. No element found for path '/dom//div[*root']/div[2]/div/div/div[1]/div/div/div/div[3]/?/button[@innertext='Order Now']' at step 'descendant-or-self::button[@innertext='Order Now']' after 304 attempts within 1.5m. Show/Hide Stacktrace			
01:37.421	Error	Module	

file:///D:/Renorex/bike/Bike%20Ecommerce/Bike%20Ecommerce/bin/Debug/Reports/Bi... 26/11/2022

Figure 37: Renorex Regression Test Fail Report

2.3 Jmeter Load Testing Defect Report

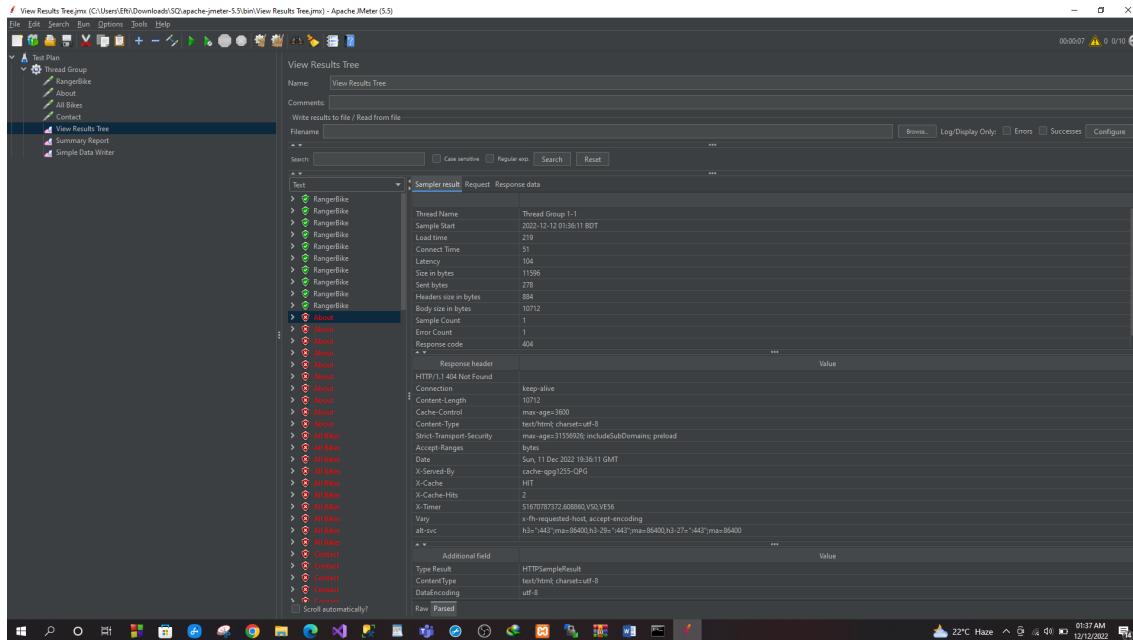


Figure 38: Jmeter Load Testing Defect Report

2.4 Jmeter Performance Testing Defect Report

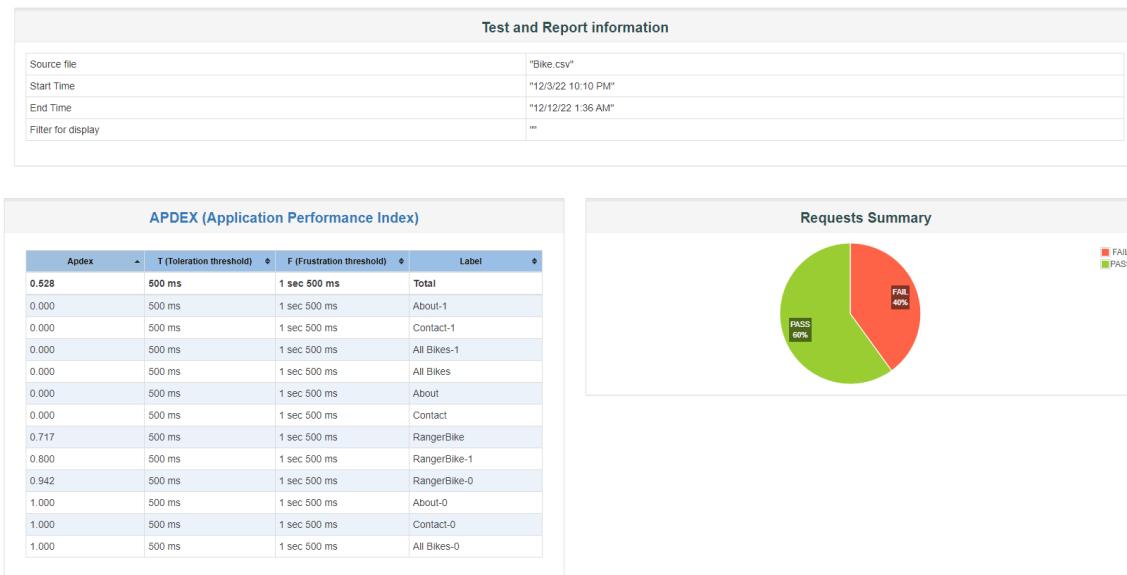


Figure 39: Jmeter Performance Testing Defect Report

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