2022

PERFORMANCE ANALYSIS REPORT

PROJECT NAME :- ICTAK WEBSITE

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1) INTRODUCTION

We have tested the performance of ICTAK Website for more than 3 minutes.

Pages Tested are,

- Launch page
- Courses
- Apply courses
- Add Course
- About us
- Home
- Events
- Corporate Membership
- Partnership page
- Login Page
- Testimony page
- Download page
- Industrial partners
- Knowledge partners
- Staffs page
- Add new admin users Page
- Patron page
- Logout

2) STEPS

- Initially, we need to start the Apache JMeter present in our system. The operating system used for this test is Windows.
- We had created a Test Plan in the JMeter. Test Plan is a container which contains all the elements of the test.
- Then we had added Thread Group element inside the Test Plan. Thread Group means users will be allowed to run or use this test.
- As we must increase the no of users for this test, initially started with 1 user. Also, we had included Ramp-up Period of 1 second in this test. Ramp-up period is how long the time should be taken before starting the next user (thread) chosen. Suppose, if there are 50 users and a 50-sec Ramp-up period, then the time taken before starting the next user would be 1 second (50 sec/50 users).
- We had added Samplers to our test. Samplers are the type of requests that JMeter should handle. We had used the HTTP Request for testing our Application. In this section, we had included the port number 8888 to test our application.
- We had also added Listeners to our test. Listeners are nothing but results/ reports which can be visible in various types. Listener included in our test are View Results Tree, View results in table, Aggregate graph, summary report and Aggregate Report. Once the test has been created, we started the JMeter present in the Windows. Immediately, it will ask to install the

root CA Certificate. The root certificate is a public key certificate which identifies the matched authority. It is a secure physical distribution. This certificate is not considered as valid unless it has been signed by a trusted CA. JMeter will generate a root certificate which should be signed by the researcher and then it is installed in the windows where the application is present. We have tested performance of website in different networks as well.

3) VALIDATIONS

As we are dealing with performance testing, validation is highly important. Because of validation, it is easy to find the bugs present in the application. As we are dealing with performance of the application, there might be an error in the networking side or heavy load on the device. By solving those errors, the performance of the application increases. Some of the validations included in this experiment are,

- Change in networks
- Change in test cases.
- Increase in users

We have tested in two WIFI networks and one mobile network data. The name of the WIFI Network A is Asianet Broadband and name of

the WI-FI Network B is KeralaVision. We have tested using Jio mobile data but there is a huge variation in results.

Results of Network A

- There are total 57 samples. Out of these 5 got failed.
- Total pass percentage is 91.23%
- Total error percentage in all samples is 8.77%
- We have got an apdex score of 0.684
- Toleration threshold is 500ms.
- Frustration threshold is 1 sec 500ms.
- There is a slight difference in latency and elapsed time in most of the threads.
- Throughput produced is 0.32
- The average response time is 3496.46ms
- Median response time is 332ms
- 99^{th} percentile is 155179ms
- 95^{th} percentile is 5412.90 ms
- 90^{th} percentile is 3412.60
- Network received rate in kb/sec is 29.28
- Network sent rate in kb/sec is 0.12
- Number of Non HTTP Response Code Error is 5 out of 57 samples

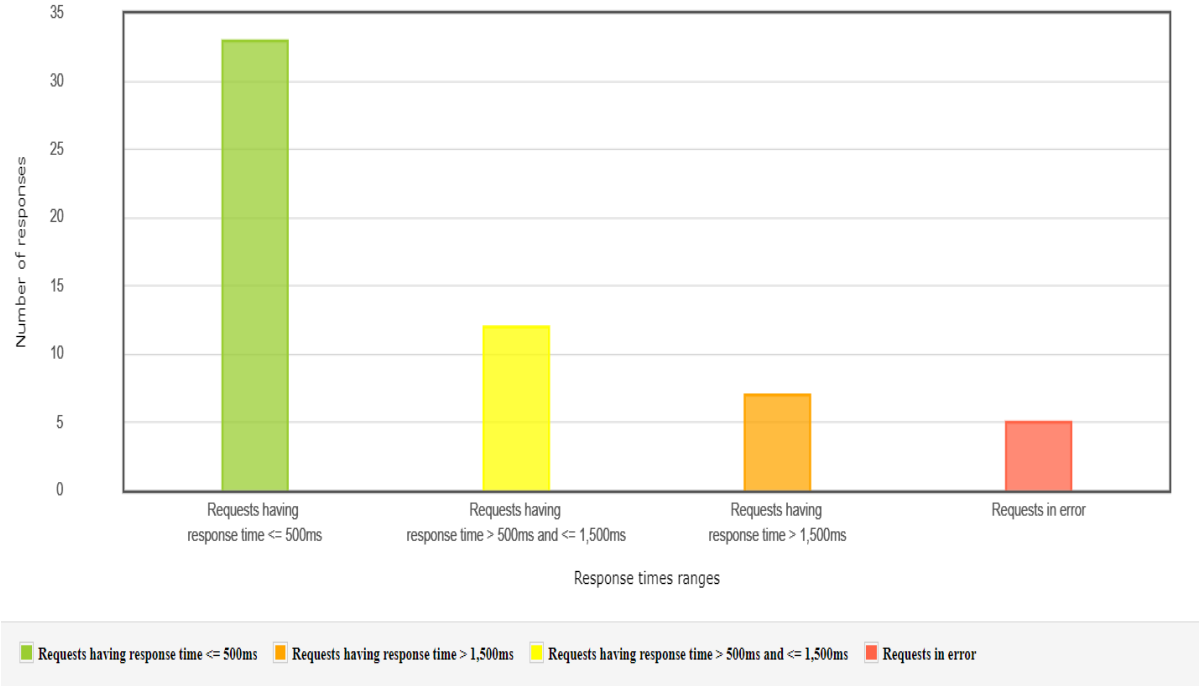

Figure 3.1:- Response Time Overview

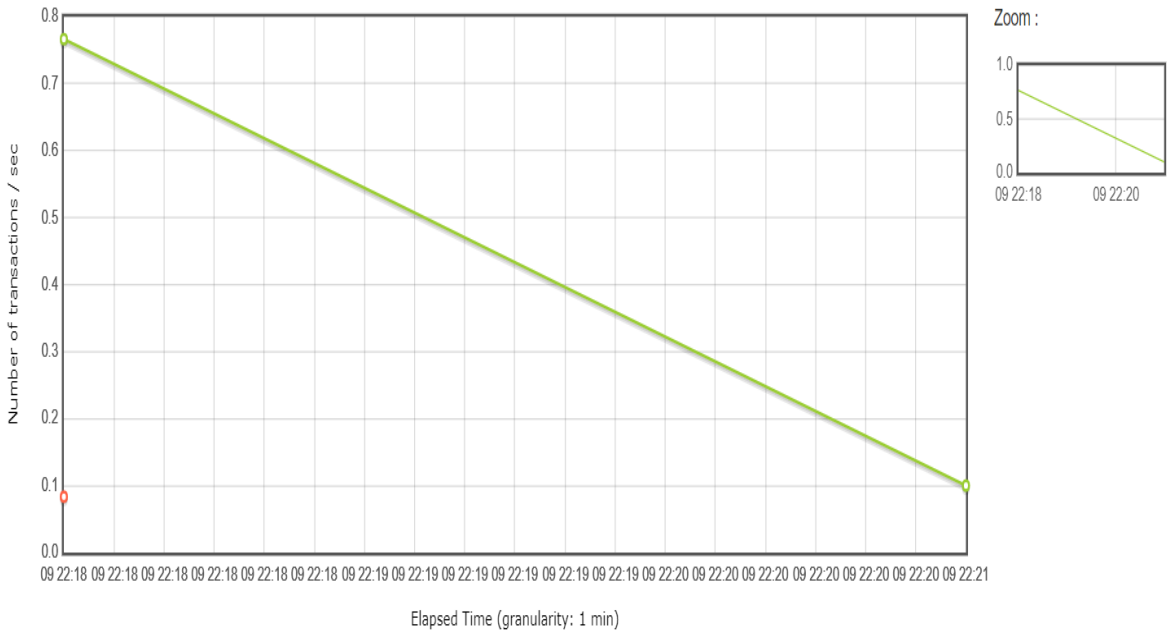

Figure 3.2:- Total Transaction Per Seconds

Results of Network B

- There are total 93 samples. Out of these 15 got failed
- Total pass percentage is 83.87%
- Total error percentage in all samples is 16.13%
- We have got an apdex score of 0.731
- Toleration threshold is 500ms.
- Frustration Threshold is 1 sec 500ms
- There is a slight difference in latency and elapsed time in most of the threads
- Throughput produced is 13.32
- The average response time is 209.83ms
- Median response time is 115ms
- 99^{th} percentile is 4433ms
- 95^{th} percentile is 434.30 ms
- 90^{th} percentile is 339ms
- Network received rate in kb/sec is 909.70
- Network received rate in kb/sec is 4.42
- Number of Non HTTP Response Code Error is 15 out of 93 samples

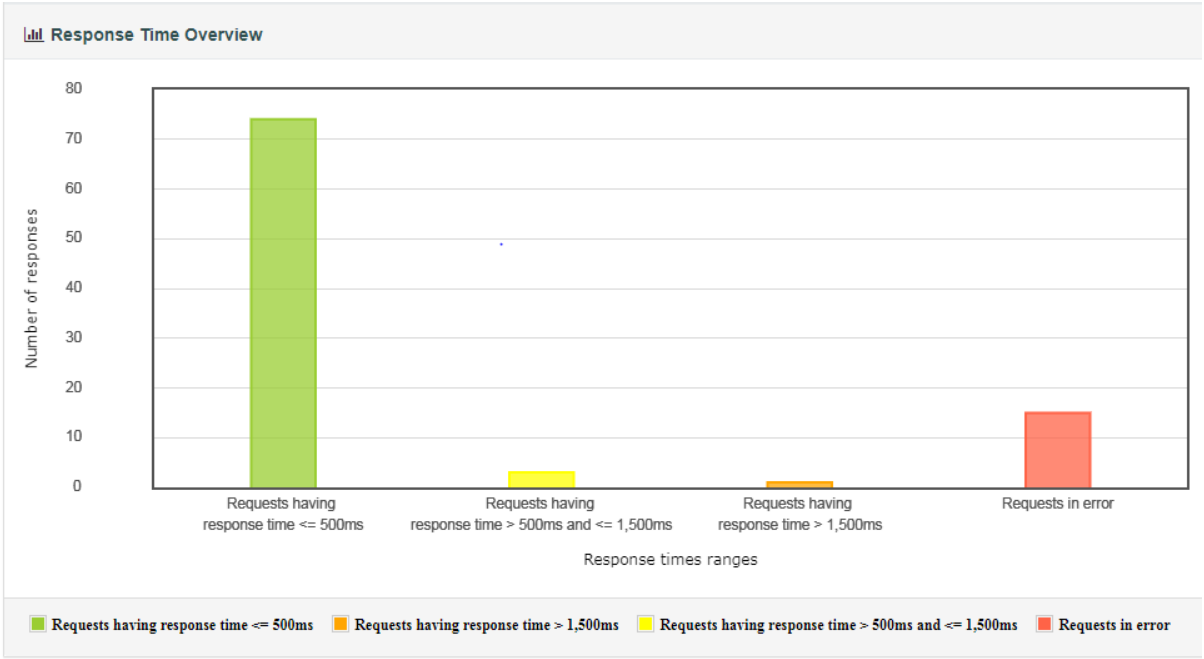

Figure 3.3:- Response Time Overview

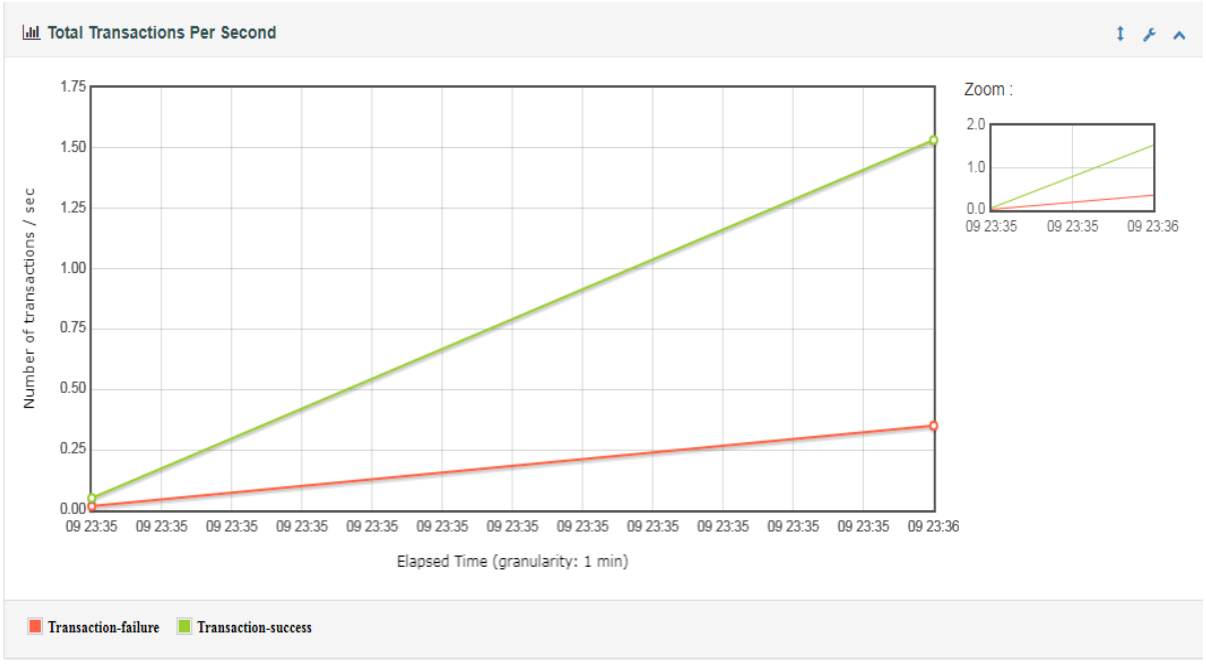

Figure 3.4:- Total Transaction Per Seconds

Results of Jio Mobile data

- There are total 152 samples. Out of these 55 got failed
- Total pass percentage is 63.82%
- Total error percentage in all samples is 36.18%
- We have got an apdex score of 0.581
- Toleration threshold is 500ms.
- Frustration Threshold is 1 sec 500ms
- There is a slight difference in latency and elapsed time in most of the threads
- Throughput produced is 2.28
- The average response time is 437.85ms
- Median response time is 79.50ms
- 99^{th} percentile is 7971.34ms
- 95^{th} percentile is 6049.05 ms
- 90^{th} percentile is 366.60
- Network received rate in kb/sec is 255.39
- Network sent rate in kb/sec is 0.59
- Number of Non HTTP Response Code Error is 55 out of 152 samples

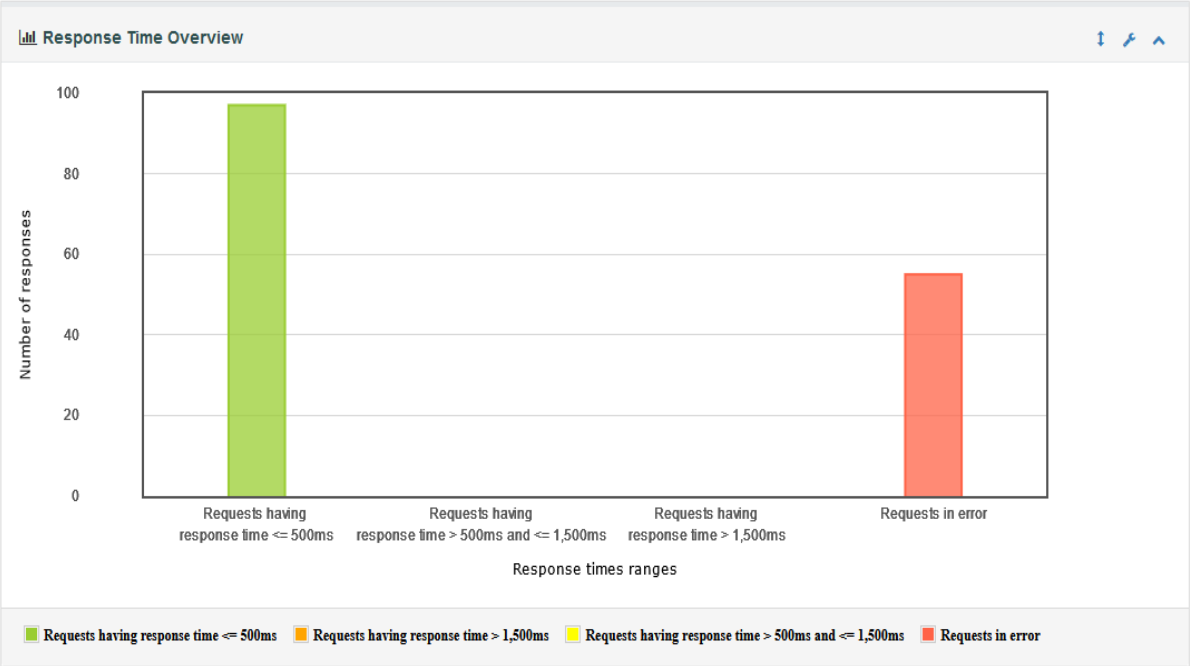

Figure 3.5:- Response Time Overview

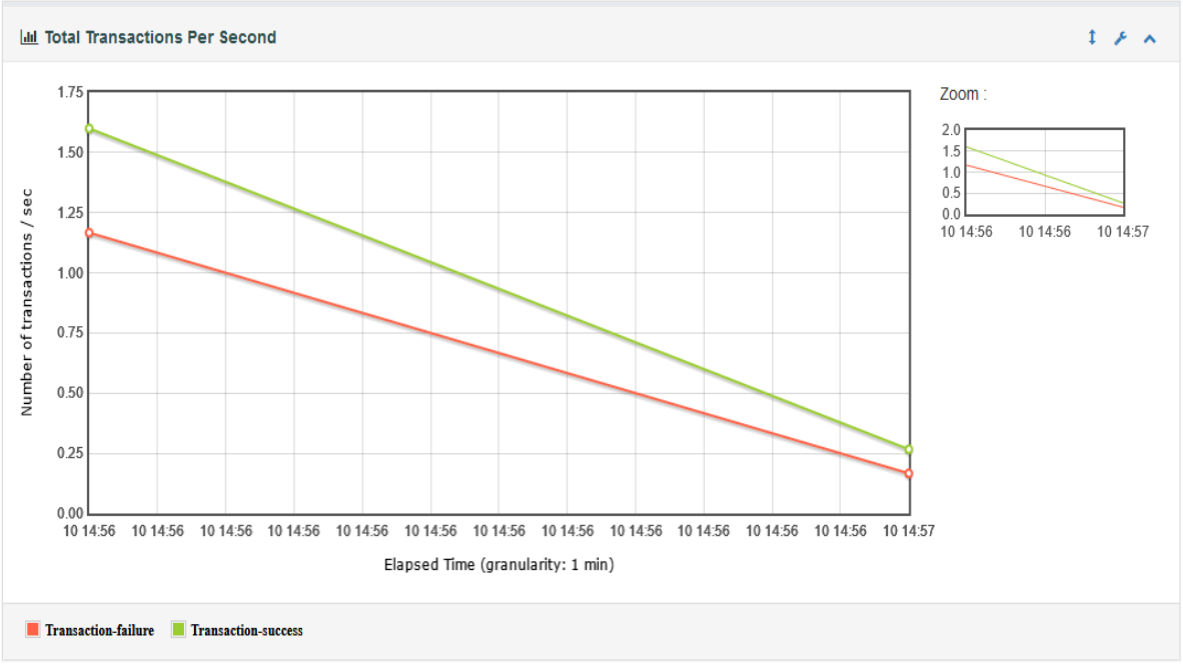

Figure 3.6:- Total Transaction Per Seconds