JMeter Analysis Report

I have tested the website performance with different number of users (1, 10, 50 and 100) for Home, Categories, Shopping Cart and Search. The ramp-up time is 3 seconds and the test is scheduled for 20 seconds. The delay time for loading the home page is 300 milliseconds. The items of the Aggregate Report that I am analysing are:

- Number of samples: number of virtual users per request
- Average, Median, Min and Max response times
- Throughput: number of requests processed per unit time by the server. The larger the throughput, the better.
- Received and Sent KB/s: amount of data downloaded from server. The trends align with throughput as this is throughput measured in kilobytes per second.
- 90%, 95% and 99% line: the different percentiles
- Error rate: percentage of failed requests. The error rate in all the cases has been 0% and the response code is 200
- Standard deviation: the measure of the amount of dispersion from the average. Higher values mean more inconsistent data and the standard deviation must be lower than or equal to half of the average response time

Performance for Home page with different number of users:

Users	#Samples	Average	Median	Min	Max	Throughput
1	71	70	36	28	1271	17.0/min
10	577	80	35	27	1958	2.3/sec
50	2982	78	39	27	1500	11.9/sec
100	6029	52	36	25	1275	24.2/sec

From the above table, we can see that the average remained closely within 70 to 80 for 1, 10 and 50 users across number of samples that varied largely. The median and the mean response time was fairly constant, while the maximum response time increased from 1 user to 10 users but then decreased when the number of users were 50 and 100. The throughput increased with the number of users indicating that the home page can 100 users efficiently. The standard deviation is approximately around 50 (higher than half of the average response time) which suggests that there are some inconsistencies with the data. The 90% line increased when users increased from 1 to 10 but then decreased with the increasing number of users. The 95% line followed a similar pattern, however the 99% line increased drastically from 1 user to 10 user and then also decreased drastically from 50 to 100 users.

Performance for Categories page with different number of users:

Users	#Samples	Average	Median	Min	Max	Throughput
1	70	70	36	28	1640	17.0/min
10	565	57	35	26	1338	2.3/sec
50	2932	68	38	26	1180	11.8/sec
100	6000	67	40	27	1799	24.1/sec

From the above table, we can see that the average remained closely within 57 to 70 for all the users across number of samples that varied largely. The median and the mean response time was fairly constant, while the maximum response time varied. The throughput increased with the number of users indicating that the categories can handle 100 users efficiently. The standard deviation is approximately around 28 to 32 which is lower than half of the respective average response time which is good and consistent. The 90% line was within the range of 52 and 59 when users increased from 1 to 10 to 50 but decreased for 100 users but then

decreased with the increasing number of users. The 95% line and 99% line increased with increasing number of users.

Performance for Shopping Cart page with different number of users:

Users	#Samples	Average	Median	Min	Max	Throughput
1	70	52	35	28	954	17.0/min
10	559	40	34	26	275	2.3/sec
50	2932	44	36	26	501	11.8/sec
100	5951	65	40	27	1770	23.9/sec

From the above table, we can see that the average remained closely within 44 to 65 for all the users across number of samples that varied largely. The median and the mean response time was fairly constant, while the maximum response time decreased from 1 user to 10 users but then increased when the number of users were 50 and 100. The throughput increased with the number of users indicating that the shopping cart page can handle 100 users efficiently. The standard deviation is approximately around 23 to 30 which is lower than half of the respective average response time which is good and consistent. The 90% line decreased when users increased from 1 to 10 but then increased with the increasing number of users. The 95% line followed an opposite pattern, however the 99% line increased drastically from 1 user to 10 user and then also decreased drastically from 10 to 50 users and then increased very significantly again.

Performance for Searching a product with different number of users:

Users	#Samples	Average	Median	Min	Max	Throughput
1	70	44	35	29	379	16.9/min
10	559	57	35	39	439	2.2/sec
50	2932	40	36	27	466	11.8/sec
100	5898	52	39	26	516	23.8/sec

From the above table, we can see that the average remained closely within 42 to 57 for 1, 10 and 50 users across number of samples that varied largely. The median and the mean response time was fairly constant. Minimum response time increased and then decreased while the maximum response time increased with increasing number of users. The throughput increased with the number of users indicating that the shopping cart page can 100 users efficiently. The standard deviation is lower than half of the respective average response time which is good and consistent. The 90% line increased, decreased and then again decreased. The 95% and 99% line followed a similar trend.

Reference:
1. Bhatt, R., 2017. *Understand And Analyze Aggregate Report In Jmeter | Testing Journals*. [online] Testing Journals. Available at: <http://www.testingjournals.com/understand-aggregate-report-jmeter/> [Accessed 5 October 2020].