



Performance Test Report

For

Website <http://www.lowcostloadtest.com>

Contact Points:

Mark Ferguson @ mferguson@chakkilaminc.com in UK and Europe
Pulakesh Barma @ pulakesh@chakkilaminc.com from all other countries

Chakkilam Infotech Ltd
Suite#106,107, MGR Estates
Dwarakapuri Colony, Punjagutta
Hyderabad -500082
www.chakkilaminc.com

Table of Contents

1.	PERFORMANCE TEST CONTEXT	3
2.	DESCRIPTION OF THE APPLICATION	3
2.1	TECHNOLOGIES	3
2.2	FUNCTIONALITIES	3
3.	PERFORMANCE TEST GOALS AND REQUIREMENTS.....	4
3.1	BUSINESS TRANSACTIONS.....	4
3.2	TRANSACTION STEPS (TIMING POINTS).....	4
3.2.1	<i>About XampPerf</i>	4
3.2.2	<i>List All Members</i>	5
3.2.3	<i>Search by Email</i>	5
3.2.4	<i>List Limited Members</i>	5
3.2.5	<i>Registration</i>	6
3.3	PERFORMANCE REQUIREMENTS.....	6
3.3.1	<i>PerfReq001 - Response Time Requirement</i>	6
3.3.2	<i>PerfReq002 - Processor Time Requirement</i>	6
3.3.3	<i>PerfReq003 - Failed Transactions Requirement</i>	6
4.	PERFORMANCE TEST PROCESS.....	7
5.	PERFORMANCE TEST RESULTS.....	8
5.1	SUMMARY	8
5.1.1	<i>Overall Transactional Summary</i>	8
5.1.2	<i>Transactional Steps and Http Requests Transactions Summary</i>	9
5.1.3	<i>Performance Result Graphs</i>	11
6.	CONCLUSION	11

1. Performance Test Context

A performance Test was conducted for a website with few (~6) dynamic as well as static pages. The basic functionality of the website is to create logins database.

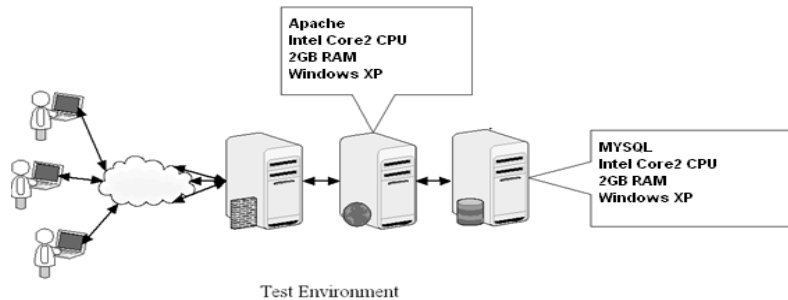
This is a test website created by Chakkilam team for demonstration purposes only. It is not intended to use it in any production.

2. Description of the application

It is a simple web application which allows any user to register them on line and later use functionalities like search an user by email, list all users in the database or list limited users in the database.

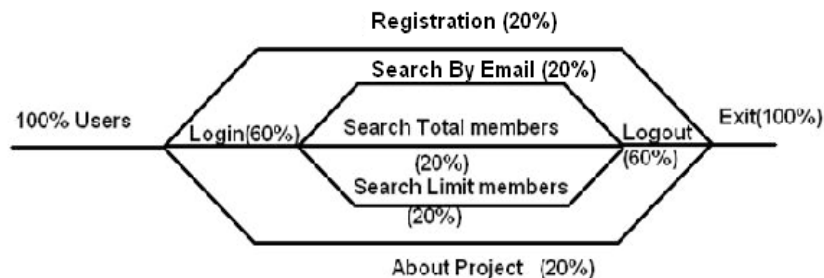
2.1 Technologies

The application is built on XAMP technology.



2.2 Functionalities

Following is the depiction of web application functionalities and its usages in pictorial representation. For independent transactions and the steps, refer sections 3.1 and 3.2.



3. Performance Test Goals and Requirements

The goal of the performance testing is to verify whether the website is meeting the minimum performance requirements or not. The performance requirements are listed below:

The performance testing for the website <http://www.lowcostloadtest.com> is planned to verify the response times and throughput of the transactions with maximum load of 160 number of concurrent users.

The business transactions and its associated steps with expected response time requirements are listed below.

3.1 Business Transactions

S. No.	Transaction Name	Description
1	About XampPerf	Navigate to Index.html → Clicks on About XampPerf
2	List All Members	Navigate to Index Page → Login → List all members → Logout
3	Search by Email	Navigate to Index Page → Login → Search by Email → Logout
4	List Limited Members	Navigate to Index Page → Login → List limited Members → Logout
5	Registration	Navigate to Index Page → Register

3.2 Transaction Steps (Timing Points)

Maximum Simultaneous Users: 160

3.2.1 About XampPerf

Step Name	Description	Response Time Requirement
Load Index Page	Navigate to Index.html	< 2 seconds
Load About Page	Navigate to Index.html and click on "Click Here"	< 2 seconds

3.2.2 List All Members

Step Name	Description	Response Time Requirement
Load Index Page	Navigate to Index.html	< 2 seconds
Load Login Page	Navigate to Index.html and click on “Login”	< 2 seconds
Submit Login Detail	Provide valid users name and password and click on 'Submit' button, which will load 'Search' page.	< 4 seconds
List All Members	Click on 'Search by Total Members'	< 5 seconds
Logout	Click on 'Logout'	< 2 seconds

3.2.3 Search by Email

Step Name	Description	Response Time Requirement
Load Index Page	Navigate to Index.html	< 2 seconds
Load Login Page	Navigate to Index.html and click on “Login”	< 2 seconds
Submit Login Detail	Provide valid users name and password and click on 'Submit' button, which will load 'Search' page.	< 4 seconds
Enter Email	Provide Valid Email and click on 'Search by Email'	< 5 seconds
Logout	Click on 'Logout'	< 2 seconds

3.2.4 List Limited Members

Step Name	Description	Response Time Requirement
Load Index Page	Navigate to Index.html	< 2 seconds
Load Login Page	Navigate to Index.html and click on “Login”	< 2 seconds
Submit Login Detail	Provide valid users name and password and click on 'Submit' button, which will load 'Search' page.	< 4 seconds
Provide Numbers	Enter required records number and Submit	< 4 seconds
List Limited Members	Click on 'Search by Limited Members'	< 5 seconds
Logout	Click on 'Logout'	< 2 seconds

3.2.5 Registration

Step Name	Description	Response Time Requirement
Load Index Page	Navigate to Index.html	< 2 seconds
Load Registration Page	Navigate to Index.html and click on "Registration"	< 2 seconds
Submit Registration Detail	Provide valid registration details and click on 'Submit' button.	< 4 seconds

3.3 Performance Requirements

3.3.1 PerfReq001 - Response Time Requirement

90% of response time of all web actions (transaction steps) must be less than 2 sec / 5 sec when load is ramped up to 160 concurrent users. Please find response time requirement of each transaction steps in section 3.2. (Transactions Steps – Timing Points)

3.3.2 PerfReq002 - Processor Time Requirement

% Processor Time of web server, application server and database server must **not** be more than 75% for > 10 minutes at any point during the performance run.

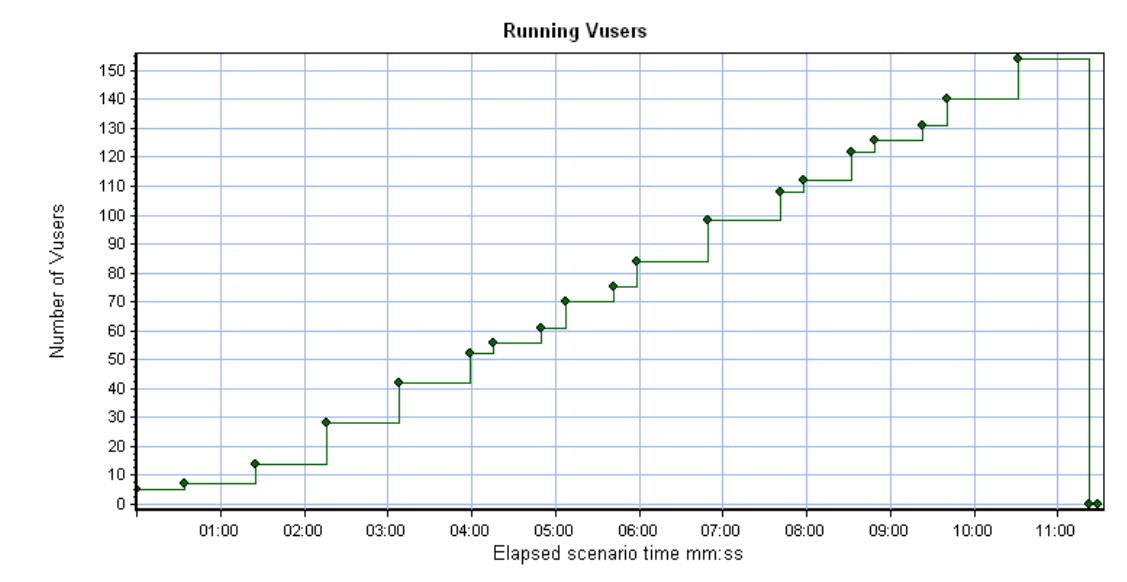
3.3.3 PerfReq003 - Failed Transactions Requirement

The percentage of failed transactions must not be more than 5% when the load is ramped up to 160 concurrent users.

4. Performance Test Process

Chakkilam has conducted following Performance Tests to verify the performance Test Goals:

- 1. Baseline Test**
 - i. Number of concurrent users – 1
 - ii. Duration of the test – 30 minutes
- 2. Benchmark Test**
 - i. Number of concurrent users – 24 (15% of max concurrent users)
 - ii. Duration of the test – 1 hour 45 minutes
- 3. Load Test**
 - i. Number of concurrent users – 160
 - ii. Duration of the test – 11 hours
 - iii. Load ramp up – The number of concurrent users were ramped up as depicted in the figure below.



5. Performance Test Results

5.1 Summary

Based on the preliminary analysis of the performance test, Chakkilam team made the following observations:

- The overall performance of the website doesn't conform to the performance requirements.
 - 10% transactions are under performing i.e. response time SLA (Performance Requirement 01) is not achieved
 - 50% transactions (all http requests e.g. images, css, php etc.)are failing (Performance Requirement 03)

5.1.1. Overall Transactional Summary

Following is the summary report for business transactions involved in the performance run.

S.No.	Business Transaction Name	Total Transactions	Passed Transactions	Failed Transactions	% Failed
1.	About XampPerf	474	474	0	0
2.	List All Members	442	442	0	0
3.	Search By Email	432	432	0	0
4.	List Limited Members	449	449	0	0
5.	Registration	456	456	0	0

5.1.2. Transactional Steps and Http Requests Transactions Summary

Following is the summary report of all individual steps of business transactions involved in the performance run.

Response Time (in secs) - is the time spent actively by step to download objects, business processing and page loading.

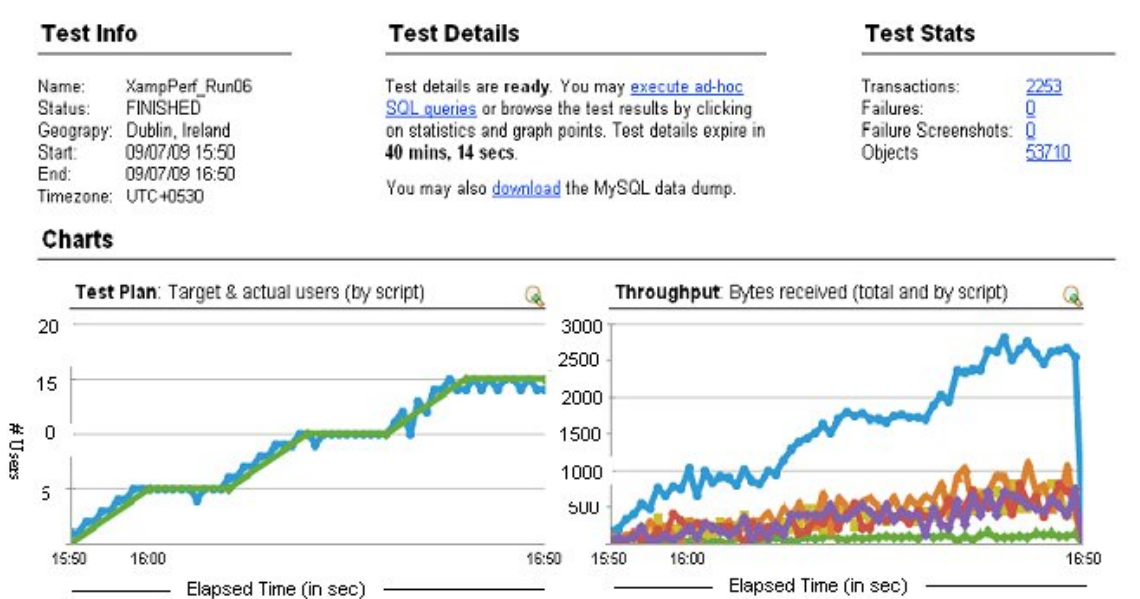
Transactions: is all HTTP requests (page, images etc.) associated with a step.

Transaction Name	SLA Status	Response Time (in secs)				Std. Dev.	Transactions SLA: < 5% Failed Transactions			Response Time SLA (in secs)
		Min	Avg	Max	90%		Passed Http Status: #	Failed Http Status: #	% Failed	
About → Index Page	F	1.36	1.64	4.56	1.79	0.37	7110 {200: 7110}	472 {404: 47} {-998: 1}	6.22	< 2
About → About Page	P	0.43	0.52	2.66	0.57	0.12	474 {200: 7110}	2 {404: 2}	0.84	< 2
List All Members → Index Page	F	1.37	1.62	4.63	0.37	0.3	6630 {200: 6630}	438 {404: 438}	6.2	< 2
List All Members → Login Page	F	1.79	2.22	7	2.39	0.32	1326 {200: 1326}	1 {404: 1}	0.08	< 2
List All Members → Submit Login Detail	F	0.8	0.98	4.34	1.15	0.26	884 {200: 442} {302: 442}	199 {404: 199}	18.37	< 4
List All Members → List All Members	P	0.86	1.01	4.66	1.09	0.26	442 {200: 442}	0 -	0	< 5
List All Members → Logout	P	0.82	0.98	1.75	1.3	0.12	884 {200: 884}	0 -	0	< 2
Search By Email → Index	F	1.36	1.63	4.57	1.82	0.35	6735 {200: 6735}	442 {404: 442}	6.16	< 2

Page										
Search By Email → Login page	F	1.78	2.21	4.91	2.42	0.35	1347	2	0.15	< 2
							{200: 1347}	{404: 2}		
Search By Email → Submit Login Detail	P	0.8	0.96	4.05	1.82	0.26	898	2	0.15	< 4
							{200: 449} {302: 449}	{404: 2}		
Search By Email → Submit Email	F	0.81	0.97	1.77	1.09	0.13	449	449	50	< 2
							{200: 449}	{404: 449}		
Search By Email → Search By Email	P	0.43	0.55	3.75	1.12	0.24	449	0	0	< 5
							{200: 449}	-		
Search By Email → Logout	P	0.82	1.01	4.26	0.64	0.32	898	0	0	< 2
							{200: 898}	-		
List Limited Members → Index Page	F	1.36	1.65	10.37	1.65	1.82	6480	426	6.17	< 2
							{200: 6480}	{404: 426}		
List Limited Members → Login Page	P	1.79	5.23	2.26	0.39	2.48	1296	5	0.38	< 2
							{200: 1296}	{404: 5}		
List Limited Members → Submit Login Detail	F	0.81	0.96	4.05	1.82	0.2	864	228	20.88	< 4
							{200: 432} {302: 432}	{404: 228}		
Limit List → Submit List Limited Members	F	0.81	0.97	2.98	1.9	0.19	432	432	50	< 2
							{200: 432}	{404: 432}		
List Limited Members → List Limited Members	P	0.96	1.62	2.78	1.9	0.22	864	0	0	< 5
							{200: 864}	-		
List Limited Members → Logout	P	0.82	0.99	3.97	1.1	0.21	864	0	0	< 2
							{200: 864}	-		
Registration → Index	F	1.37	1.62	4.47	1.79	0.33	6840	452	6.2	< 2
							{200: 6840}	{404: 452}		

Page								452}		
Registration → Registration Page	P	0.94	1.1	1.89	1.21	0.11	912	1	0.44	< 2
							{200: 912}	{404: 1}		
Register → Submit Registration Detail	F	0.8	0.94	1.85	1.08	0.13	912	115	11.2	< 4
							{200: 456; {302: 456}	{404: 4}		

5.1.3. Performance Result Graphs



6. Conclusion

The performance test team has found issues related to performance of the website during preliminary steps. The performance team will continue to do further analysis and will submit a detail report within a week period of time.