**Instructions to execute the load test**

1. Install apache jmeter 5.4.1

2. Download plugins manager.jar from [**https://jmeter-plugins.org/install/Install/**](https://jmeter-plugins.org/install/Install/)and keep it in lib->ext folder of jmeter home directory

3. Open jmeter using jmeter.bat in ‘Jmeterhome -> bin’

4. load the script file in jmeter and it will automatically direct you to install additional jars necessary for the test.

5. Once installation is done open **jmeter.properties** file in **apache-jmeter-5.4.1\bin** and modify the below lines and save

jmeter.save.saveservice.output\_format=xml

httpsampler.ignore\_failed\_embedded\_resources=true

6. To execute the load test from command line , navigate to jmeter bin directory from windows cmd and execute the below

jmeter.bat -n -t magnitude.jmx -Jusers=10 -Jrampup=10 -Jsteadystate=300 -Jemailprefix=mm17 -l SEP26\_10users\_run17.jtl

Juser -> user count

Jramup -> rampup time in sec

Jsteadystate -> duration in sec

Jemailprefix -> prefix for email id ( has to unique for everyrun)

Make sure the result file name is unique ( the name after -l flag)

**Script and reports**

1. Scriptname - magnitude.jmx

2. Reports generated - SEP26\_10users\_run21\_xml.jtl

3. For reference purpose I have also attached HTML report for another run which excludes static assets ( SEP26\_10users\_run26.zip - extract and open index.html))

**Executive Summary**

This test was executed to determine if the system could maintain response times under the highest anticipated load.Below analysis is based on **SEP26\_10users\_run21\_xml.jtl** report file

**SLA(Service Level Agreement)**

The below SLA’s were decided based on the business criticality of an E-commerce application

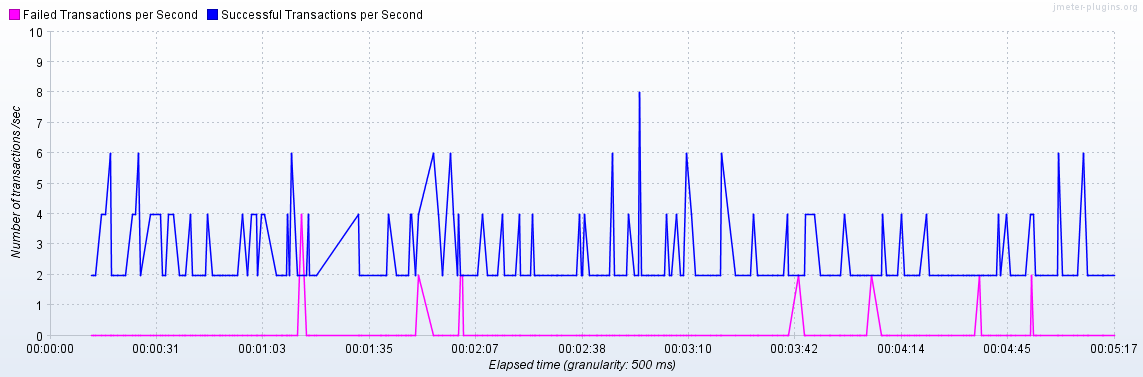
| **SLA ID** | **Description** |
| --- | --- |
| SLA-01 | Expected response time of all the transactions is 1 sec |
| SLA-02 | Maximum response time of all transactions should not exceed 2 sec |
| SLA-03 | Total Error percentage should not exceed 5% |
| SLA-04 | Error percentage of individual transaction should not exceed 5% |

**Performance Test Result Description**

* + 1. Summary

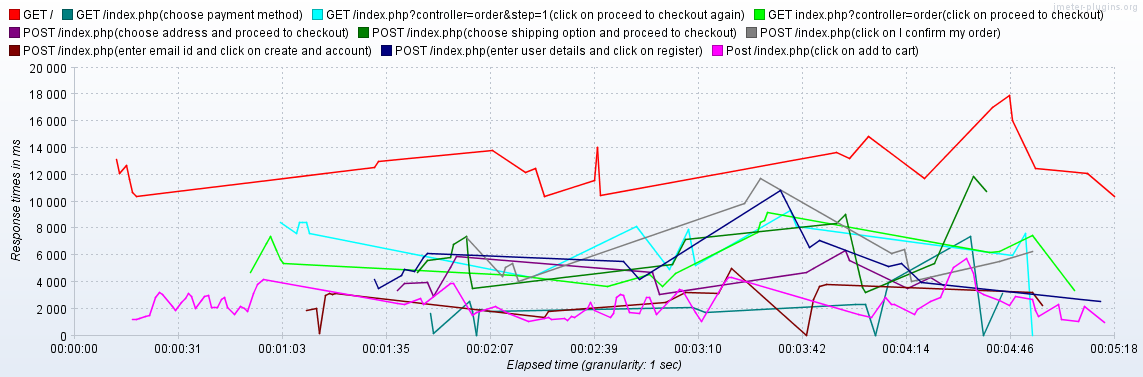
|  | **Test Details** |
| --- | --- |
| **Purpose** | This test was executed to determine if the system could maintain response times under the highest anticipated load. This test was designed to collect performance metrics on transaction throughput, response times. |
| **No. of Tests** | 1 |
| **Duration** | Ramp-up:10 sec  Steady State: 300 sec  Ramp-down: 10 sec |
| **User Load / Volume** | 10 Vusers |
| **Test Status** | Failed |
| **Observation / Reason for Failure** | 1. High response time observed during the test which breached the defined SLA of 2 second response time. 2. Response time of most of the transactions has crossed max threshold 2 sec(SLA02) 3. Error percentage of few transactions has crossed 5% (SLA04) |
| **Overall RAG status** | RED |

**Transactions per second:**



The throughput of the system varied between **2- 6 TPS** during the test

**Response Times over time:**



Response time of almost all the transactions is above **2 sec** for most of duration of the test which indicates that the system is not ready to handle the load irrespective of the transaction based on the SLA

**Average response times and error%:**

| Label | # Samples | AverageResponse time(ms) | Error % |
| --- | --- | --- | --- |
| GET / | 31 | 12759 | 0.00% |
| Post /index.php(click on add to cart) | 133 | 2469 | 0.00% |
| GET index.php?controller=order(click on proceed to checkout) | 24 | 6043 | 0.00% |
| GET /index.php?controller=order&step=1(click on proceed to checkout again) | 23 | 7141 | 4.35% |
| POST /index.php(enter email id and click on create and account) | 22 | 2534 | 13.64% |
| POST /index.php(enter user details and click on register) | 18 | 5602 | 0.00% |
| POST /index.php(choose address and proceed to checkout) | 17 | 4327 | 0.00% |
| POST /index.php(choose shipping option and proceed to checkout) | 17 | 6536 | 0.00% |
| GET /index.php(choose payment method) | 17 | 1954 | 29.41% |
| POST /index.php(click on I confirm my order) | 12 | 6377 | 0.00% |
| TOTAL | 314 | 4727 | 2.87% |

* Response times of all the transactions are very high breaching all the SLA’s set for response time **(SLA01 and SLA02)**
* Error % of GET /index.php(choose payment method) and POST /index.php(enter email id and click on create and account) has breached **SLA-04** (>5%)

**Transactions breaching SLA-04:**

| Label | # Samples | Error % | Error |
| --- | --- | --- | --- |
| GET /index.php(choose payment method) | 17 | 29.41% | Response code:Non HTTP response code: org.apache.http.NoHttpResponseException  Response message:Non HTTP response message: automationpractice.com:80 failed to respond |
| POST /index.php(enter email id and click on create and account) | 22 | 13.64% | Response code:Non HTTP response code: org.apache.http.NoHttpResponseException  Response message:Non HTTP response message: automationpractice.com:80 failed to respond |

The above error message clearly indicates that the website failed to respond during the concurrent load. Even though high error percentage was seen only in two pages, this error could be a result of system level

**Recommendations:**

* Tuning needs to be performed at a system level rather than at individual page level
* Post tuning another set of tests will be conducted to check the performance