

Non Functional Testing

Parameters:

1. Performance Testing : Website's performance on increasing the number of users, **Stress** and **Load** testing.
2. Vulnerability Testing : Is the website safe. What are the security aspects.
3. Compatibility Testing : Is the website compatible with different browsers and systems(Linux,Windows).

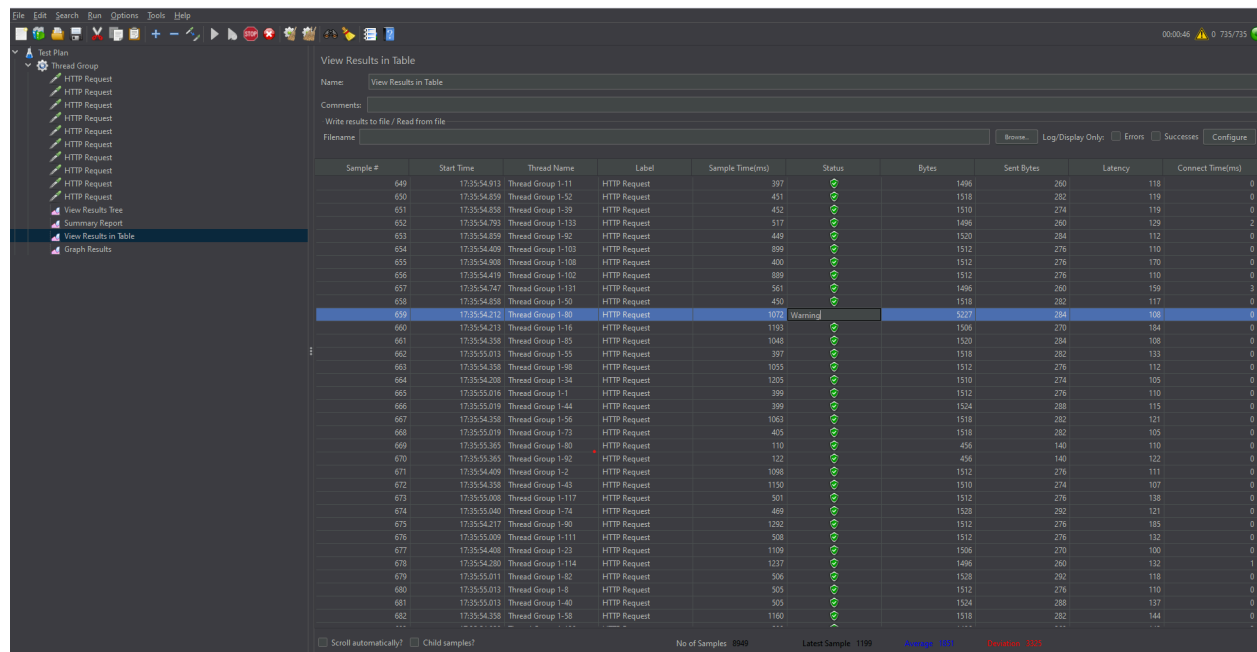
This are the following main parameter we are working on with non-functional tests.

Stress Testing

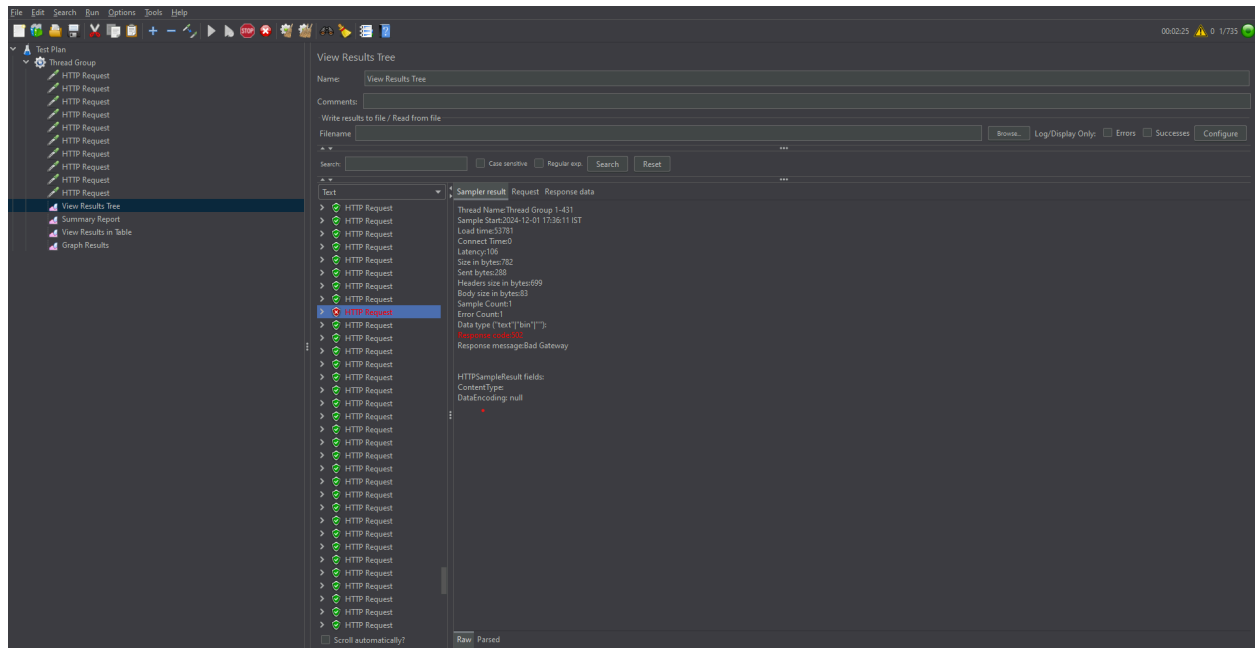
We have performed stress testing for different numbers of users(threads) under abnormal conditions to check the number of users our website can handle . We have used HTTP GET and HTTP POST methods for this test. The following here are the attached screenshots from the Apache Jmeter software.

Software used : https://jmeter.apache.org/download_jmeter.cgi

Test 1 : Testing for 735 users under 20 ramp-up period and 50 loops. The screenshots attached here shows the breakpoints or limiting point of website.



Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
649	17:35:54.913	Thread Group 1-11	HTTP Request	397	Success	1496	260	118	0
650	17:35:54.859	Thread Group 1-52	HTTP Request	451	Success	1518	282	119	0
651	17:35:54.858	Thread Group 1-59	HTTP Request	452	Success	1510	274	119	0
652	17:35:54.793	Thread Group 1-133	HTTP Request	517	Success	1496	260	129	2
653	17:35:54.859	Thread Group 1-82	HTTP Request	449	Success	1520	284	112	0
654	17:35:54.409	Thread Group 1-103	HTTP Request	899	Success	1512	276	110	0
655	17:35:54.808	Thread Group 1-108	HTTP Request	400	Success	1512	276	170	0
656	17:35:54.419	Thread Group 1-102	HTTP Request	889	Success	1512	276	110	0
657	17:35:54.747	Thread Group 1-131	HTTP Request	561	Success	1496	260	159	3
658	17:35:54.858	Thread Group 1-50	HTTP Request	450	Success	1518	282	117	0
658	17:35:54.212	Thread Group 1-80	HTTP Request	1072	Warning	5227	284	108	8
660	17:35:54.213	Thread Group 1-16	HTTP Request	1193	Success	1506	270	184	0
661	17:35:54.338	Thread Group 1-85	HTTP Request	1048	Success	1520	284	108	0
662	17:35:55.013	Thread Group 1-85	HTTP Request	287	Success	1518	282	123	0
663	17:35:54.358	Thread Group 1-28	HTTP Request	1055	Success	1512	276	112	0
664	17:35:54.208	Thread Group 1-34	HTTP Request	1205	Success	1510	274	105	0
665	17:35:55.016	Thread Group 1-1	HTTP Request	399	Success	1512	276	110	0
666	17:35:55.019	Thread Group 1-44	HTTP Request	399	Success	1524	288	115	0
667	17:35:54.358	Thread Group 1-56	HTTP Request	1063	Success	1518	282	121	0
668	17:35:55.019	Thread Group 1-73	HTTP Request	405	Success	1518	282	105	0
669	17:35:55.365	Thread Group 1-80	HTTP Request	110	Success	456	140	110	0
670	17:35:55.365	Thread Group 1-82	HTTP Request	122	Success	456	140	122	0
671	17:35:54.409	Thread Group 1-2	HTTP Request	1098	Success	1512	276	111	0
672	17:35:54.358	Thread Group 1-43	HTTP Request	1150	Success	1510	274	107	0
673	17:35:55.008	Thread Group 1-117	HTTP Request	501	Success	1512	276	138	0
674	17:35:55.040	Thread Group 1-74	HTTP Request	469	Success	1528	292	121	0
675	17:35:54.217	Thread Group 1-90	HTTP Request	1282	Success	1512	276	185	0
676	17:35:55.009	Thread Group 1-111	HTTP Request	508	Success	1512	276	132	0
677	17:35:54.408	Thread Group 1-23	HTTP Request	1109	Success	1506	270	100	0
678	17:35:54.280	Thread Group 1-14	HTTP Request	1237	Success	1496	260	122	1
679	17:35:55.011	Thread Group 1-62	HTTP Request	506	Success	1538	292	118	0
680	17:35:55.013	Thread Group 1-8	HTTP Request	505	Success	1512	276	110	0
681	17:35:55.013	Thread Group 1-40	HTTP Request	505	Success	1524	288	137	0
682	17:35:54.358	Thread Group 1-58	HTTP Request	1160	Success	1518	282	144	0



Breakpoint for our website is **659th** user, with increased deviation. It can **handle 650 users** under abnormal condition. Attached here are the test results in a result tree, result tree table , graph and summary report.

On increasing the count of users till 500, the site was working well, increasing the users further to 735 and ramp-up time was reduced to 20 and loops made were 50. Under this conditions, **HTTP GET** request, the site fails.