

Objective:

To access the performance and response behaviour of <https://www.flipkart.com/> with a load test, an understand the platform and how the web user experience is affected on load.

Results Overview:

The website experienced gradual performance degradation with average response time 45sec with 95% leading to 78sec. Below are my observations,

1. When subjected for heavy load for short duration the website failed to handle concurrent requests.
2. The high response time could be due to the domain server being hosted in Asia.

Test Details

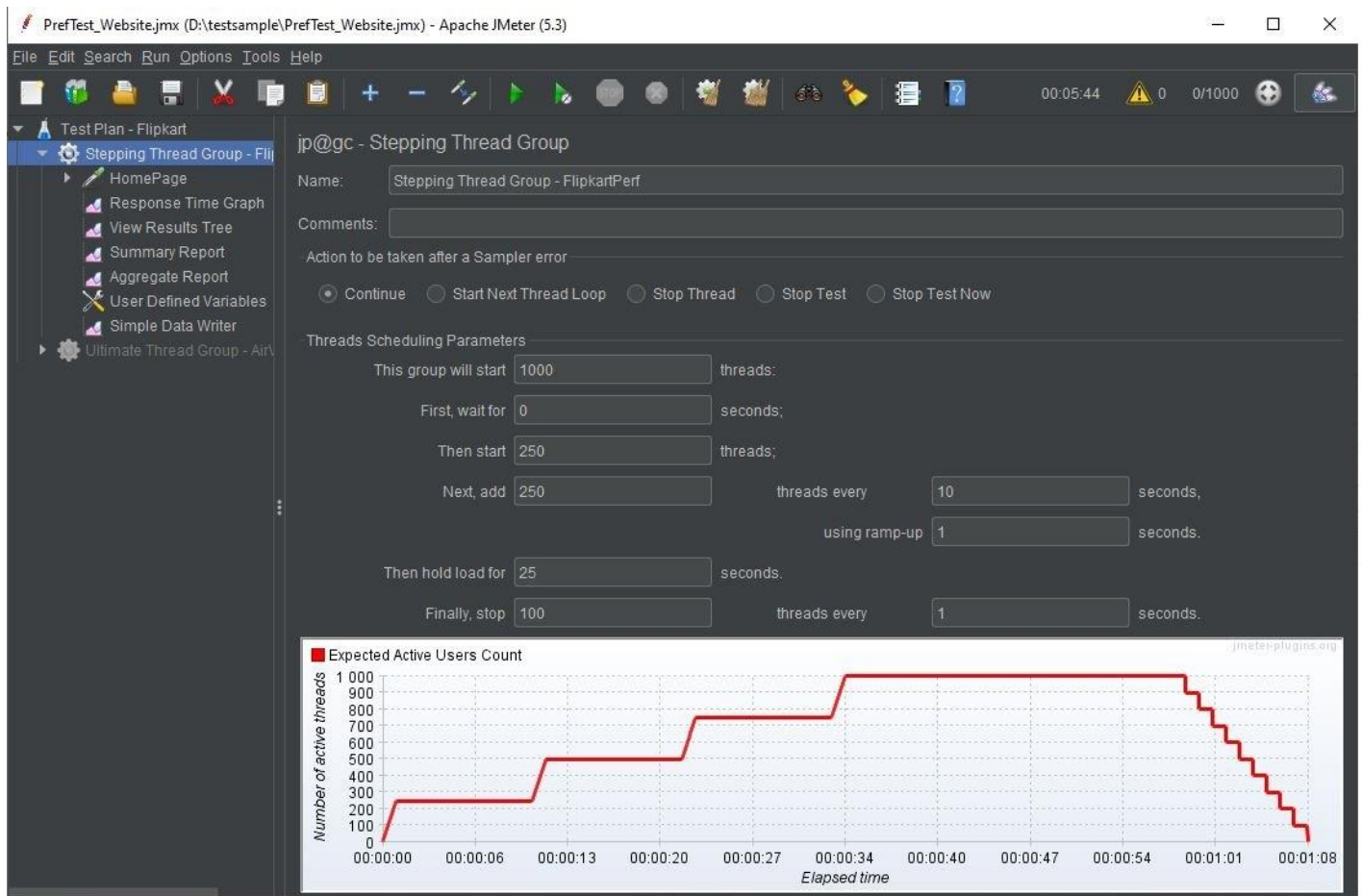
Tool: Apache JMeter 5.3 (with custom plugin for thread groups)

Work Load model

The load injection model was straightforward as given in challenge. I have performed this in step up manner to avoid a major burst send into their server.

The load was done with 1000 threads each as shown below. No specific through put was set

The load model is called a step-up model with each step comprises of 250 threads each step holding load for 10 second duration and on final step with 1000 thread, the load was injected for 25 second duration as instructed in challenge.



The screenshot shows the Apache JMeter 5.3.1 interface with the 'HTTP Request' configuration for the 'HomePage' sampler. The left sidebar displays the test plan structure: Test Plan - Flipkart, Stepping Thread Group - Flipkart, and Ultimate Thread Group - Air. The main panel is titled 'HTTP Request' and shows the configuration for the 'HomePage' sampler.

Configuration Details:

- Name: HomePage
- Comments:
- Basic tab selected, Advanced tab available.
- Web Server:
 - Protocol (http): https
 - Server Name or IP: \${HOMEPAGE_URL}
 - Port Number:
- HTTP Request:
 - Method: GET
 - Path:
 - Content encoding:
- Options:
 - ☐ Redirect Automatically
 - ☒ Follow Redirects
 - ☒ Use KeepAlive
 - ☐ Use multipart/form-data
 - ☐ Browser-compatible headers
- Parameters tab selected, Body Data and Files Upload tabs available.
- Send Parameters With the Request:

Name:	Value	URL Encode?	Content-Type	Include Equals?

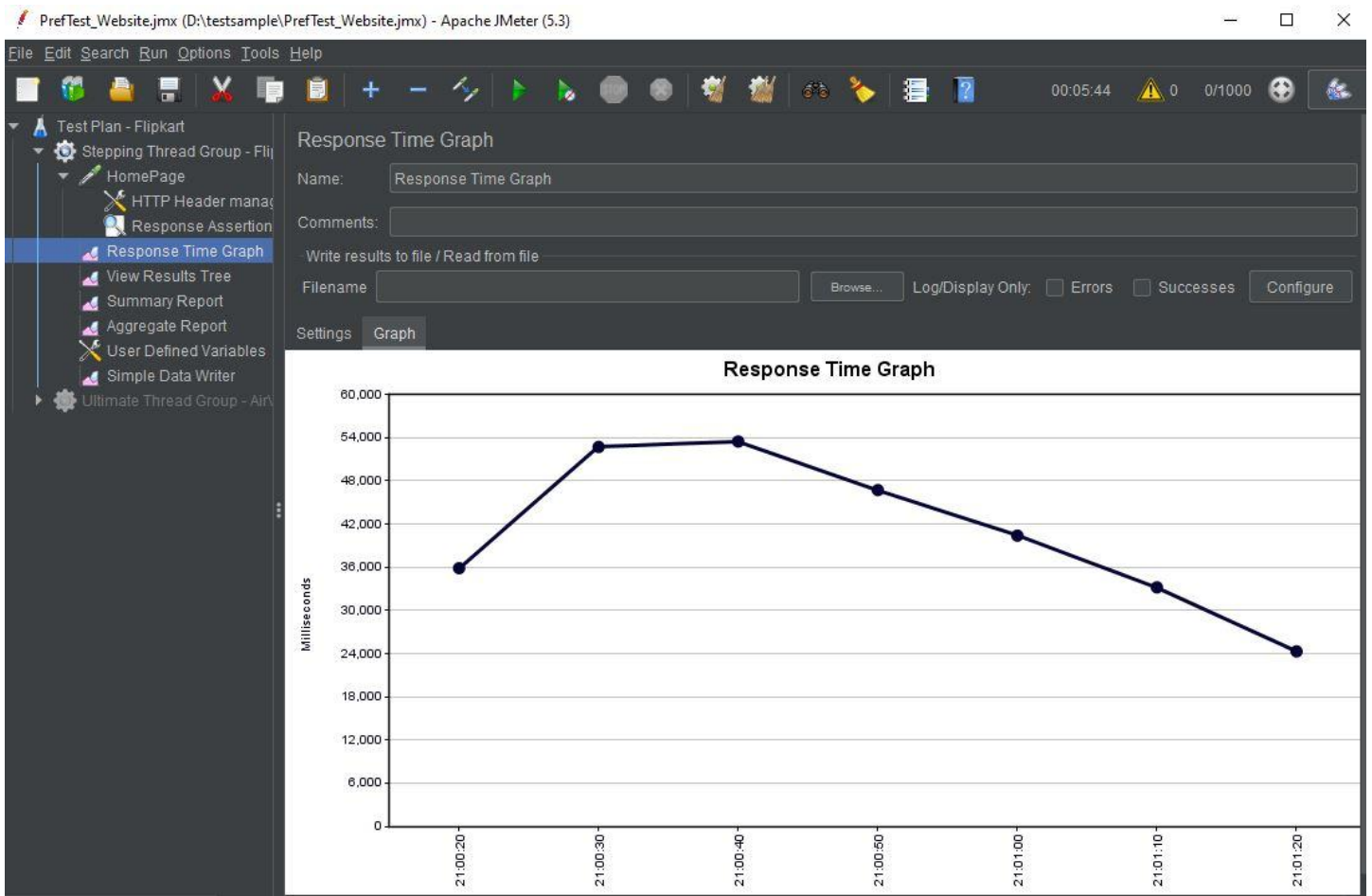
Response Time Overview

Average response time observed ~45sec, with Throughput load 4.2 transactions per second across the duration in whole which is very high for high volume transactional website.

From below table, it can be observed that injected samples are 1472 in whole.

Request Name	Samples	Average (ms)	90% Line (ms)	95% Line (ms)	Error %	Throughput (TPS)
HomePage	1472	44926	67376	78092	0.41%	4.27109
TOTAL	1472	44926	67376	78092	0.41%	4.27109

Below Response time and latency graph with liner to time clearly indicates a server side resource constraint, this could be due to gateway restricting the connections to designated server.



Dashboard

Charts

Customs Graphs

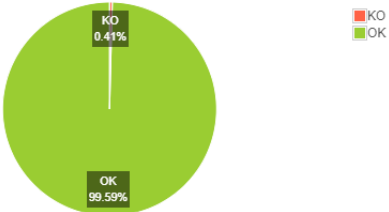
Test and Report information

Source file	"PrefTest_Website.jmx_20200714-210024.jtl"
Start Time	"14/07/20 9:00 PM"
End Time	"14/07/20 9:06 PM"
Filter for display	""

APDEX (Application Performance Index)

Apdex	T (Toleration threshold)	F (Frustration threshold)	Label
0.000	500 ms	1 sec 500 ms	Total
0.000	500 ms	1 sec 500 ms	HomePage

Requests Summary



Statistics

Requests	Executions			Response Times (ms)							Throughput	Network (KB/sec)	
Label	#Samples	KO	Error %	Average	Min	Max	Median	90th pct	95th pct	99th pct	Transactions/s	Received	Sent
Total	1472	6	0.41%	44926.32	3865	344177	43020.00	67427.80	79121.95	112083.26	4.27	1355.37	1.18
HomePage	1472	6	0.41%	44926.32	3865	344177	43020.00	67427.80	79121.95	112083.26	4.27	1355.37	1.18

Errors

Type of error	Number of errors	% in errors	% in all samples
Non HTTP response code: java.net.SocketException/Non HTTP response message: Socket closed	5	83.33%	0.34%
408/Request Time-out	1	16.67%	0.07%

Top 5 Errors by sampler

Sample	#Samples	#Errors	Error	#Errors	Error	#Errors	Error	#Errors	Error	#Errors	Error	#Errors
Total	1472	6	Non HTTP response code: java.net.SocketException/Non HTTP response message: Socket closed	5	408/Request Time-out	1						
HomePage	1472	6	Non HTTP response code: java.net.SocketException/Non HTTP response message: Socket closed	5	408/Request Time-out	1						

Error Analysis

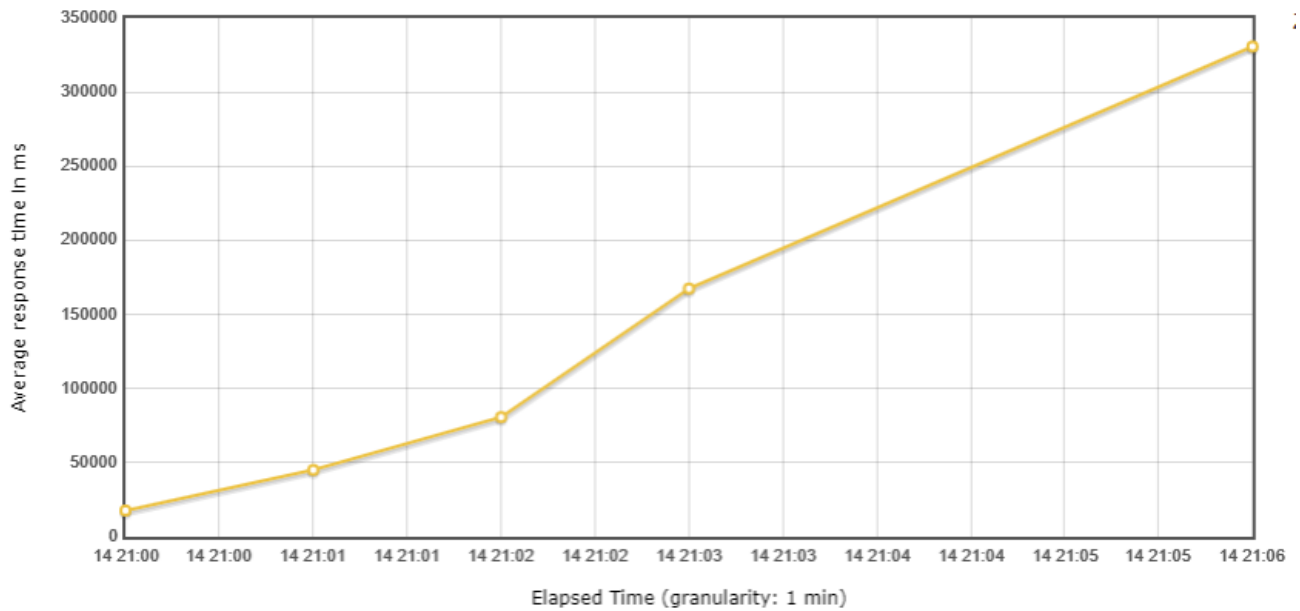
A **408 Request Timeout message** is an HTTP status code that is returned to the client when a **request** to the server takes longer than the server's allocated **timeout** window.

In this case the server has terminated the connection request.

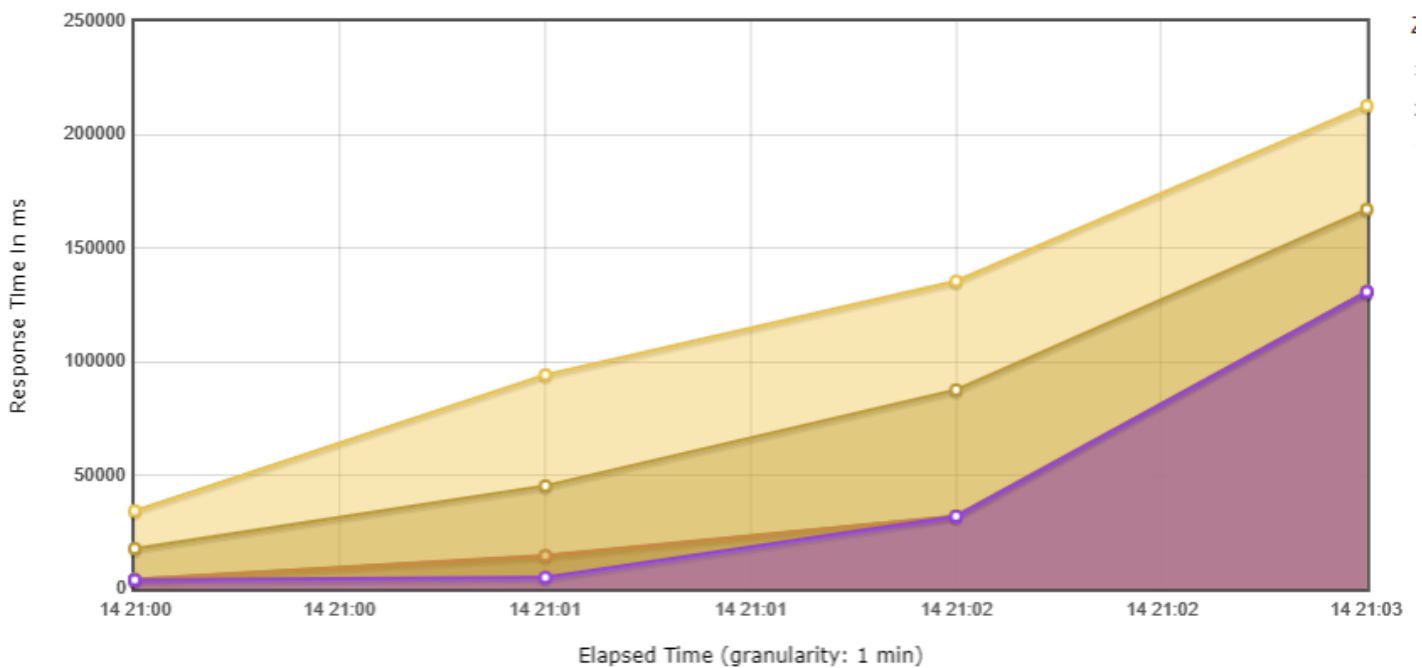
Test and Report information

File:	"PrefTest_Website.jmx_20200714-210024.jtl"
Start Time:	"14/07/20 9:00 PM"
End Time:	"14/07/20 9:06 PM"
Filter for display:	""

Response Times Over Time

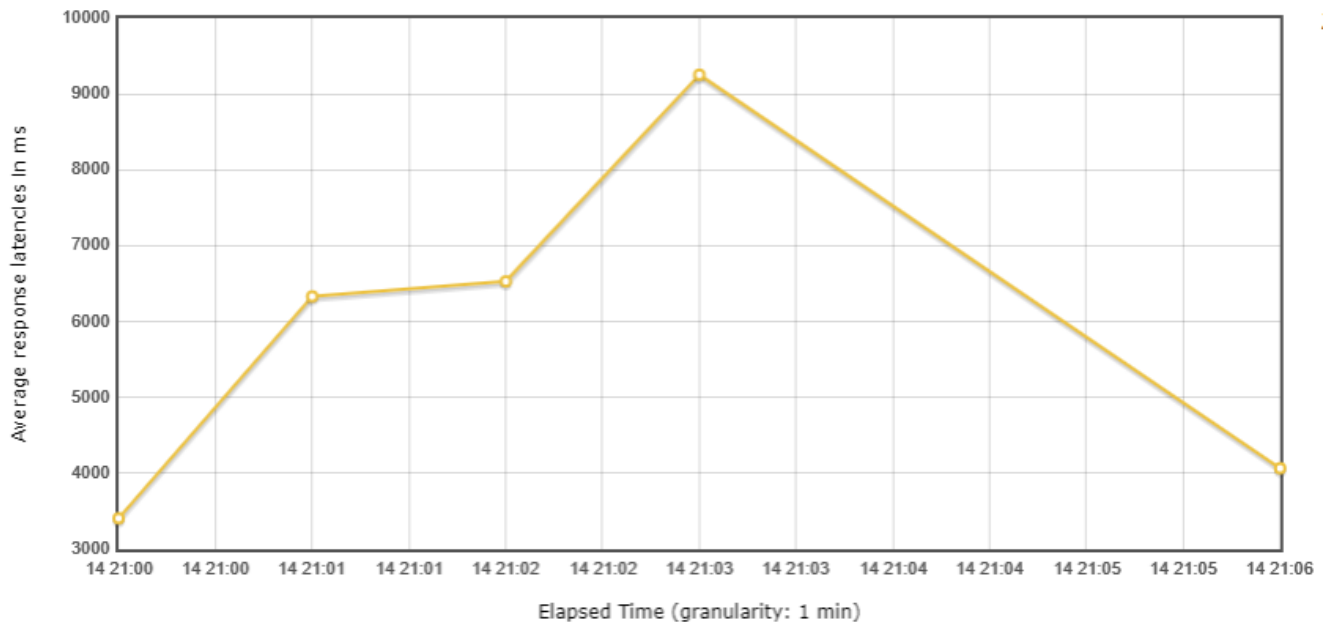


Response Time Percentiles Over Time (successful responses)



90th percentile 95th percentile 99th percentile Max Median Min

Latencies Over Time

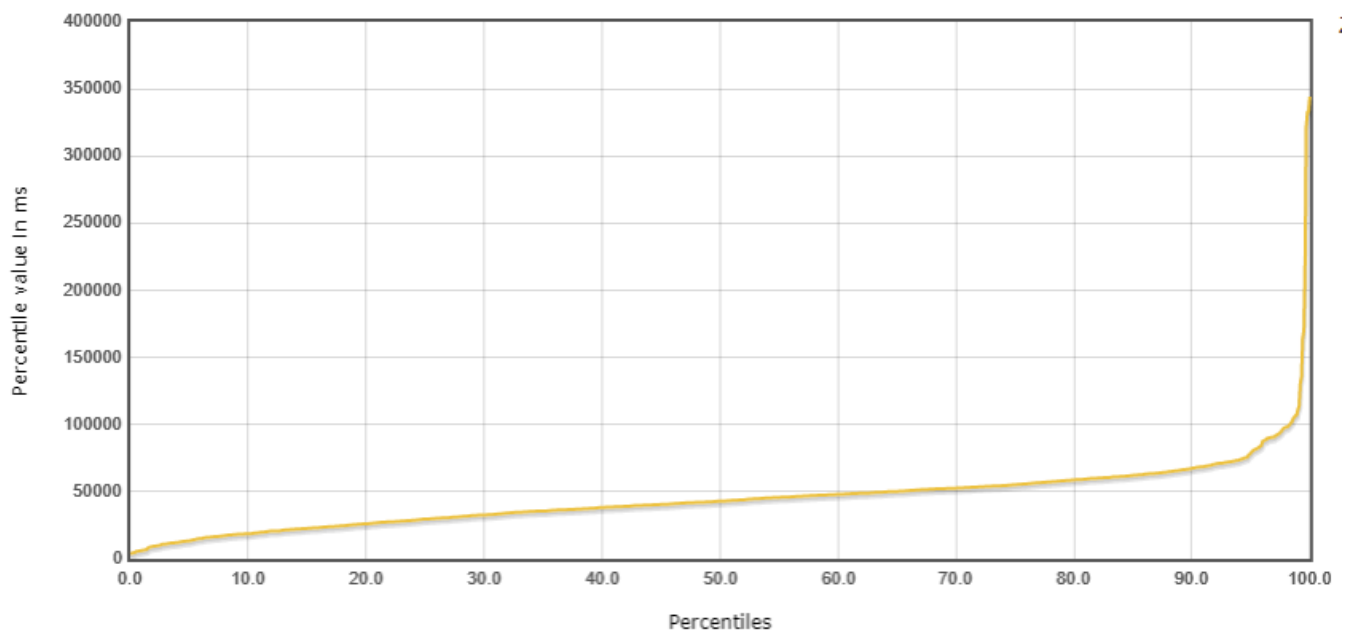


HomePage

Test and Report information

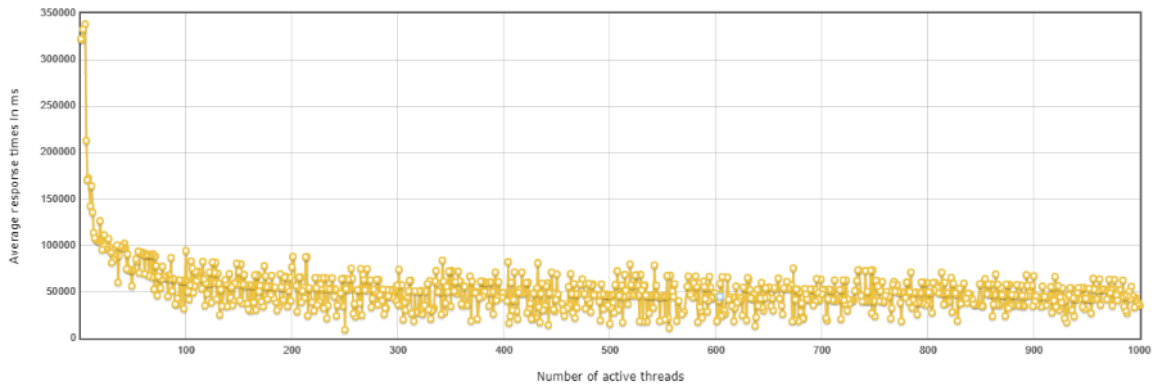
File:	"PrefTest_Website.jmx_20200714-210024.jtl"
Start Time:	"14/07/20 9:00 PM"
End Time:	"14/07/20 9:06 PM"
Filter for display:	""

Response Time Percentiles

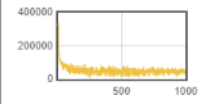


HomePage

Time Vs Threads



Zoom :



Response Time Distribution

