Evaluate the Performance of an E-learning Application Using Jmeter

Description

As a Test Engineer, you are asked to develop an evaluation test for users logged into an e-learning application.

Background of the problem statement:

As a part of the performance testing in any web portal, the back-end admin requires a module that can retrieve the performance of all the functions. This should be as per your requirement.

You must use the following:

- JMeter 5.1.1 version
- Java Development Kit (Version 8)

The following requirements should be met:

- Some of the source code should be tracked on GitHub repositories. You need to document the tracked files that are ignored during the final push to the GitHub repository.
- The submission of your GitHub repository link is mandatory. In order to track your task, you need to share the link to the repository in the document.
- The step-by-step process involved in completing this task should be documented.

URL to test: www.simplilearn.com

PROJECT

This section will guide you to understand:

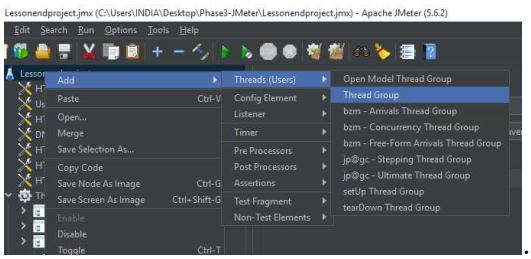
- JMeter

Development Environment:

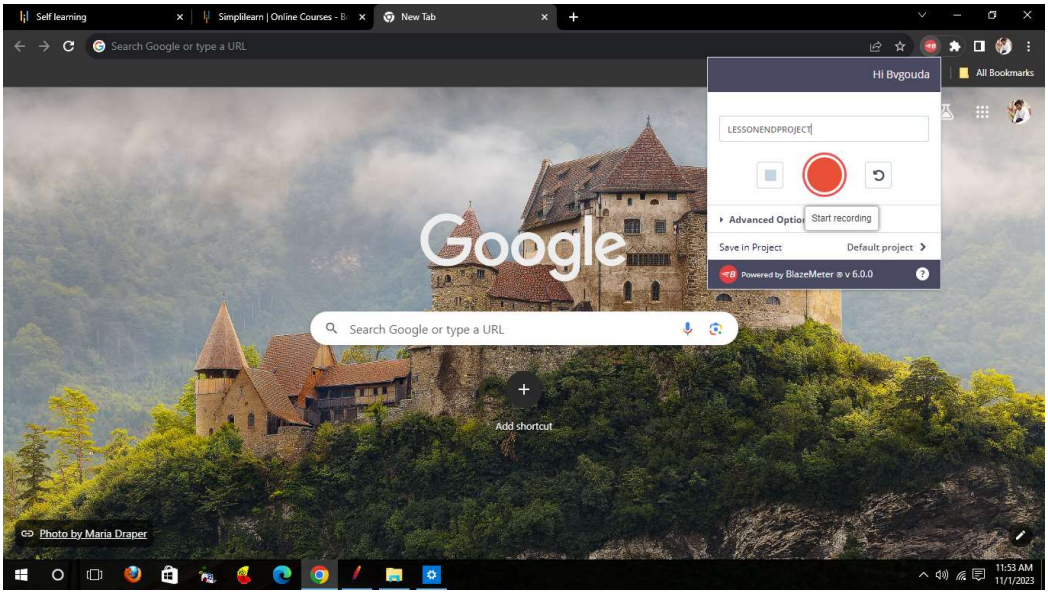
- Apache JMeter 5.1.1 version

Step .1: Creating testplan and thread group

1. Open JMeter.
2. Right click on the Test Plan.
3. Right click on Thread Group add thread group



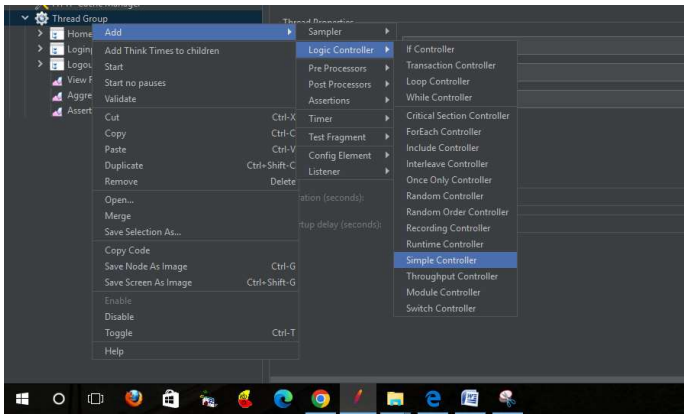
Step .2:FromBlazemeter record the script:



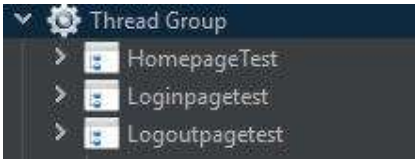
1. Record the webpage to test and save it as .jmx file
2. Open the downloaded recorded script from BlazeMeter in Jmeter

- Adding Three simple controller:

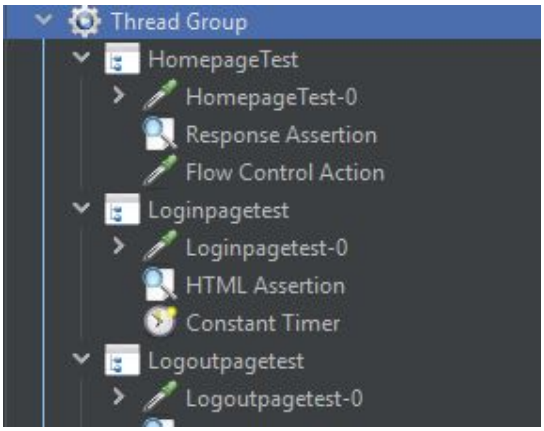
1. Right click on Thread Group.
2. Click on Add -> Logic controller -> Simplecontroler.



3. Give name for three controller:

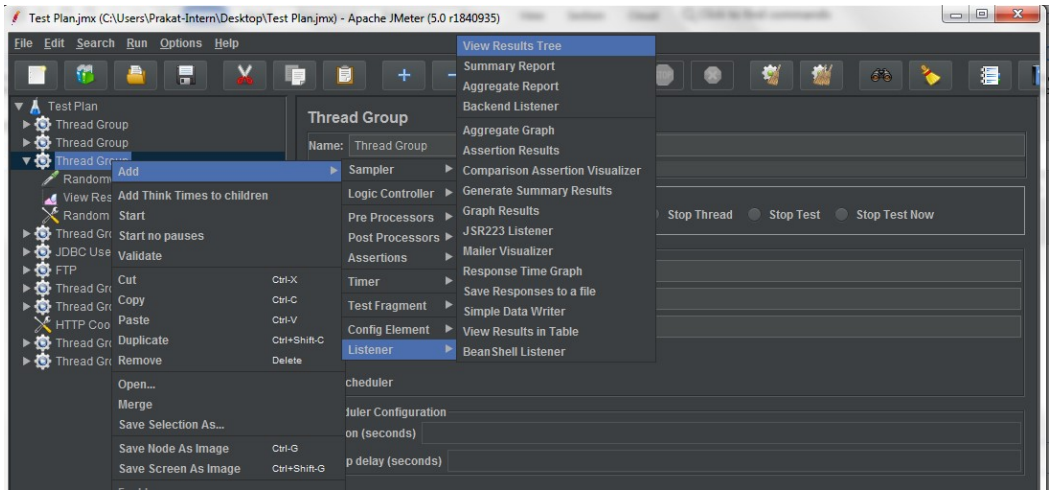


4. Place the http request that is recorded by blazemeter in particular controller Delete the un used one.

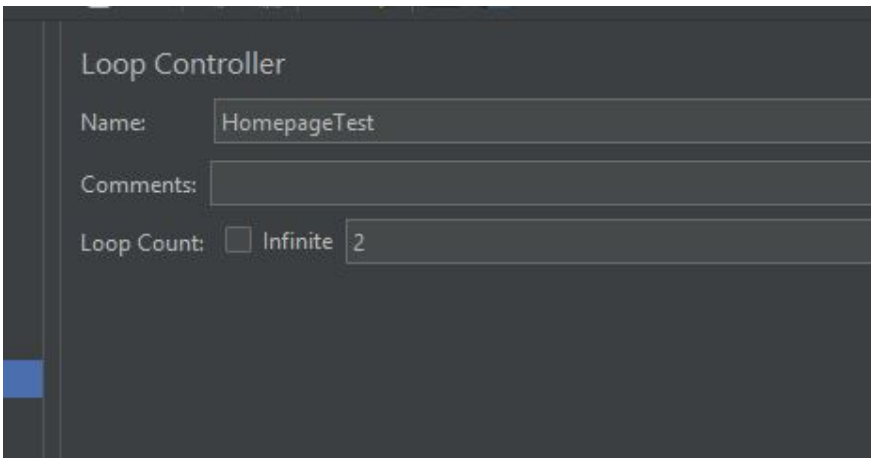


- Adding View Results Tree:

1. Right click on Thread Group.
2. Click on Add -> Listener -> View Results Tree.

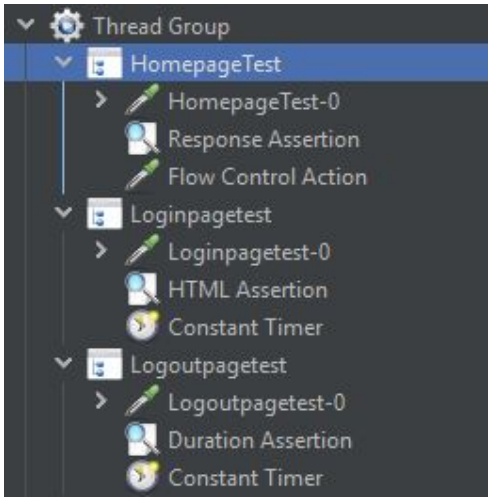


Convert the first simple controller to loop controller

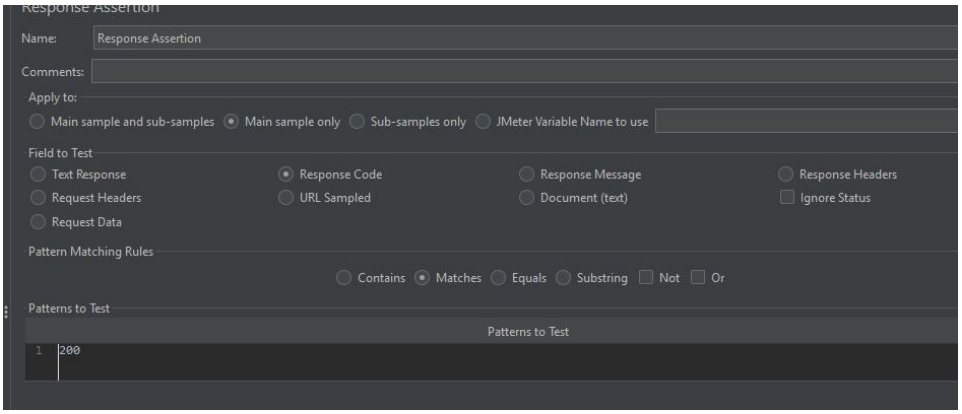


Give value as 2

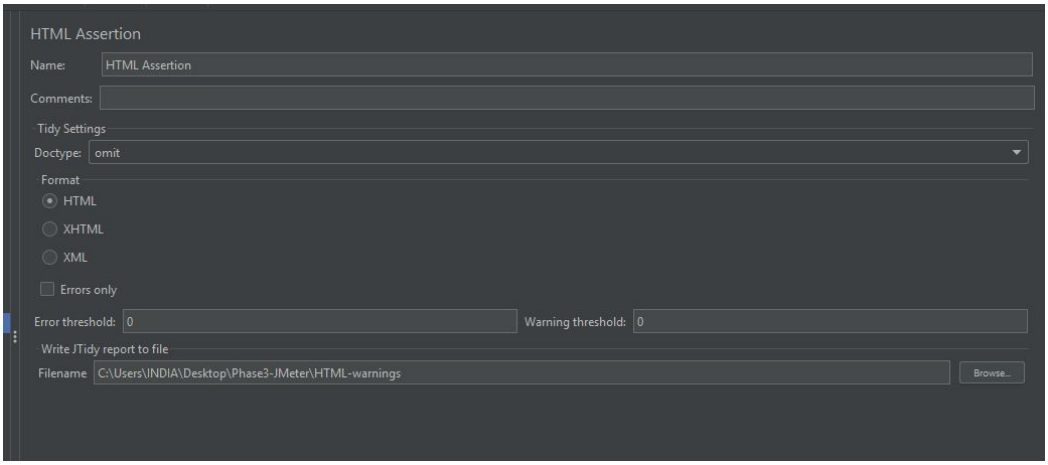
Step .3:Add assertions for each controller:



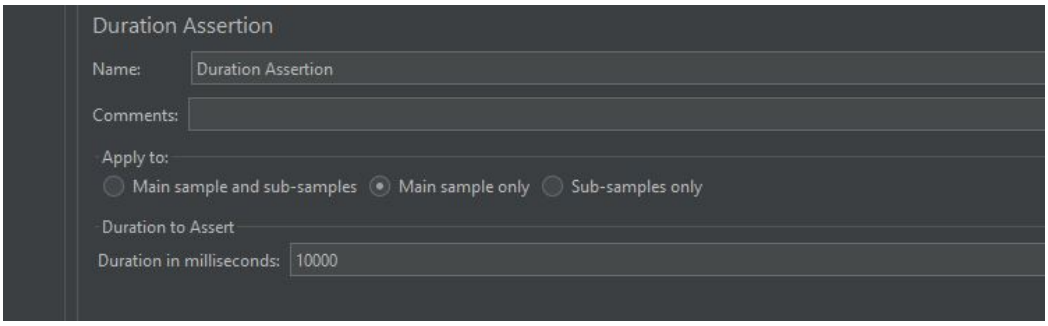
1. Under homepagetest controller create response assertion
   In the response assertion give as follow



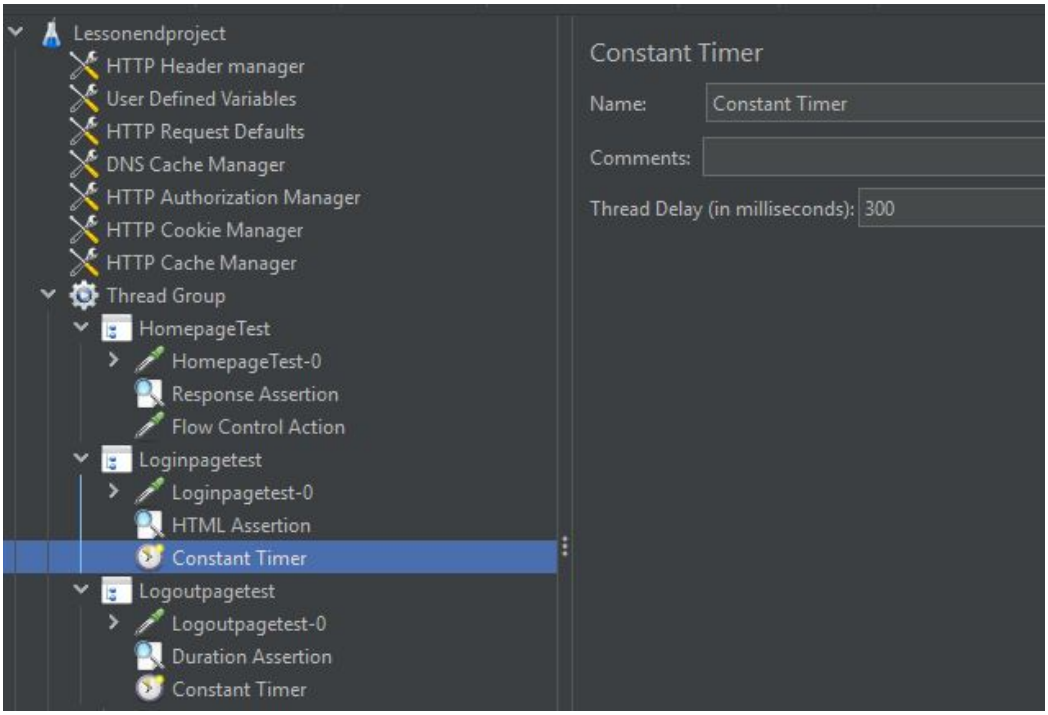
2. Under Loginpagetest controller create HTML assertion
   In the HTML assertion give as follows:



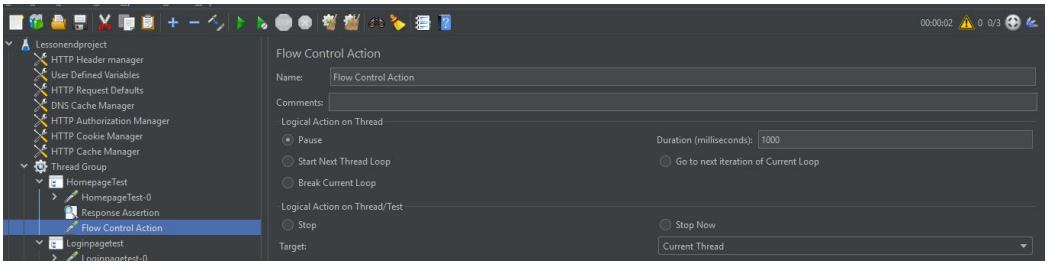
3. Under Logoutpagetest controller create Duration assertion
   In Duration assertion give as follows



Step .4:Add Constant timer for two simple controller:

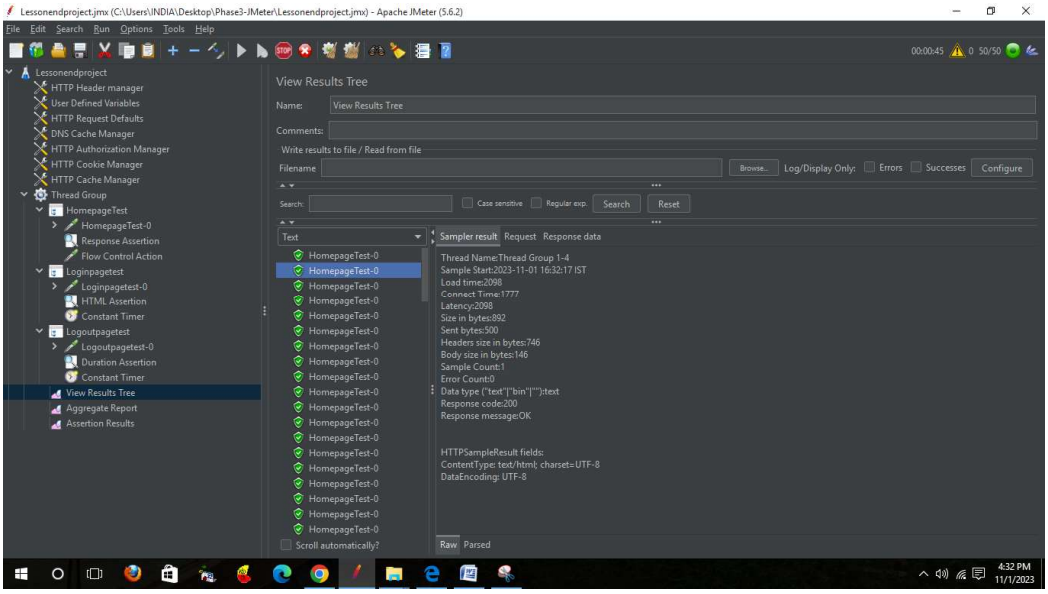


Step .5:Add Flowcontroller for first controller:



OUTPUTS:

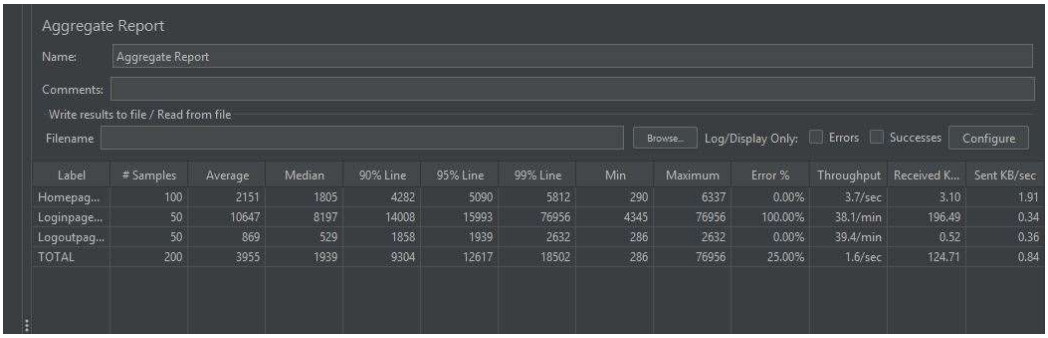
Run the Thread Group and open View Results Tree to see the output.



Give the thread:

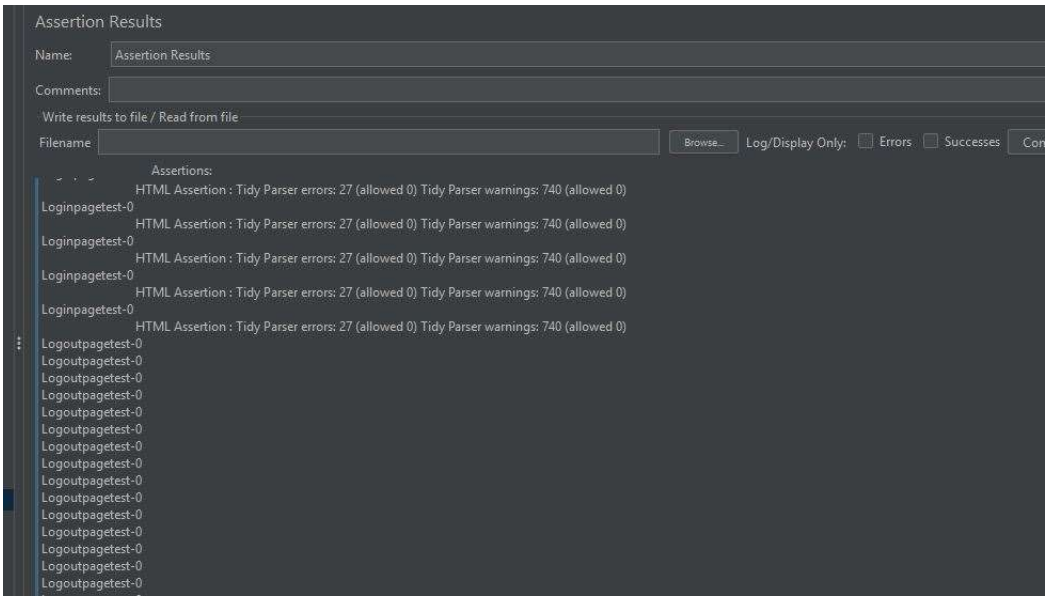
As

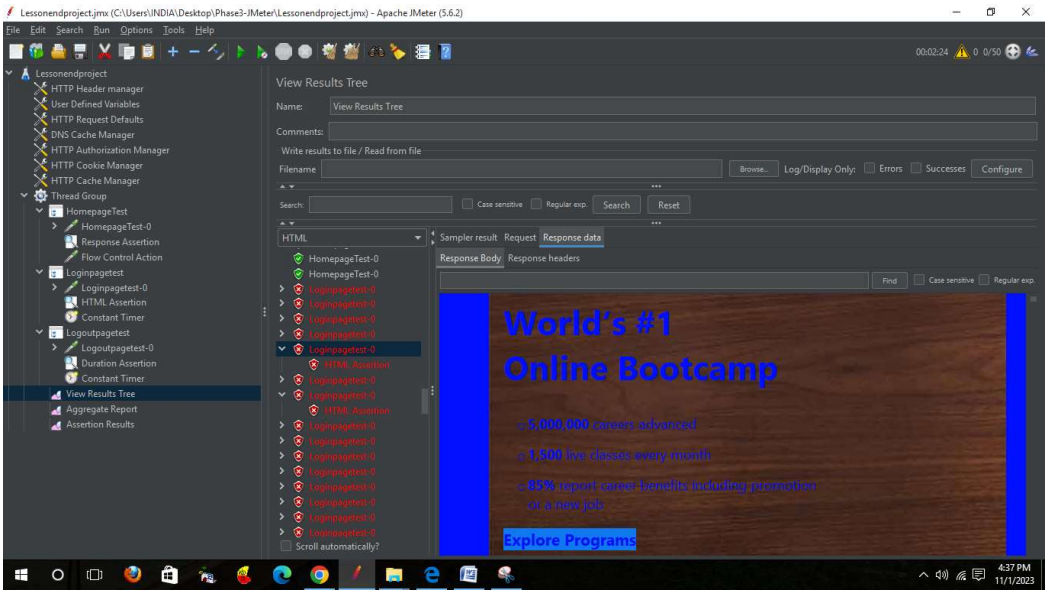
Run the Thread Group and open View Aggregate report to see the output.



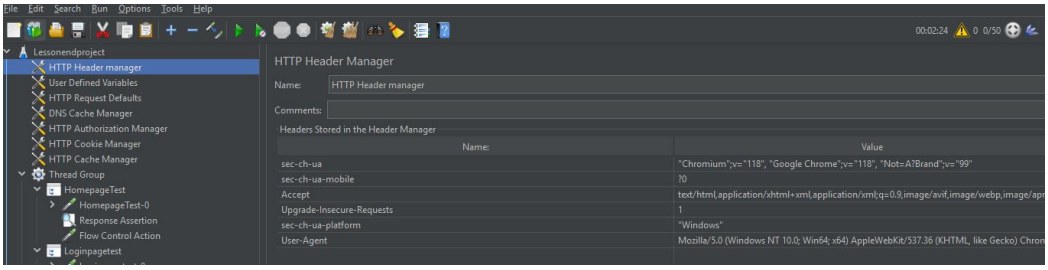
Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughput	Received K...	Sent KB/sec
Homepag...	100	2151	1805	4282	5090	5812	290	6337	0.00%	3.7/sec	3.10	1.91
Loginpage...	50	10647	8197	14008	15993	76956	4345	76956	100.00%	38.1/min	196.49	0.34
Logoutpag...	50	869	529	1858	1939	2632	286	2632	0.00%	39.4/min	0.52	0.36
TOTAL	200	3955	1939	9304	12617	18502	286	76956	25.00%	1.6/sec	124.71	0.84

Run the Thread Group and open View Assertion result report to see the output.





Other settings:


File Edit Search Run Options Tools Help
00:02:24 0 0/50
Lessonendproject
HTTP Header manager
User Defined Variables
HTTP Request Defaults
DNS Cache Manager
HTTP Authorization Manager
HTTP Cookie Manager
HTTP Cache Manager
Thread Group
HomepageTest
HomepageTest-0
Response Assertion
Flow Control Action
Loginpagetest
HTTP Header Manager
Name: HTTP Header manager
Comments:
Headers Stored in the Header Manager
Name:
Value
sec-ch-ua
"Chromium";v="118", "Google Chrome";v="118", "Not=A?Brand";v="99"
sec-ch-ua-mobile
?0
Accept
text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apn
Upgrade-Insecure-Requests
1
sec-ch-ua-platform
"Windows"
User-Agent
Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrom