Repo link: https://github.com/hindujar/phase3-lesson-end-project.git

LESSON END PROJECT

Aim:

To test a any web portal,the back-ends admin requires a module that can retrieve he performance for fuctions using Jmeter

Descriptions:

Step 1:

Install JMeter:

If haven't already, download and install Apache JMeter on your machine.

Step:2

Create a Test Plan:

Open JMeter and create a new test plan by selecting "Test Plan" and right-clicking to add various elements.

Step:3

Thread Group:

Add a Thread Group to your test plan. This represents the number of virtual users (threads) that will simulate user activity on the web portal.

Step:4

HTTP Request Sampler:

Add HTTP Request samplers to the Thread Group. Each sampler should represent a function or endpoint on your web portal that you want to test. Configure these samplers with the appropriate server name, port, and path.

Step:5

Add Listeners:

Listeners are used to view and analyze test results. You can add various listeners like View Results Tree, Summary Report, Response Times Over Time, and Response Time Percentiles to monitor and analyze the performance metrics.

Step:6

Configure Thread Group:

Configure the Thread Group to control the number of threads, ramp-up time, and loop count to simulate the desired user load.

Step:7

Add Assertions

Add assertions to validate the responses from your web portal. This helps in ensuring that the system is functioning correctly under load.

Step 8:

Add Timers

Add timers like Constant Timer or Gaussian Random Timer to simulate realistic user think times between requests.

Step 9:

Recording and Playback :

By use of JMeter's Proxy Server to record user interactions with your web portal and then play them back as part of your test plan. This is helpful for creating realistic test scenarios.

Step:10

Run the Test:

Start the test and monitor the performance metrics in real-time using the listeners.

Analyze Results:

After the test is complete, analyze the results to identify performance bottlenecks and areas that need optimization. Pay attention to response times, error rates, and resource utilization.

Reporting:

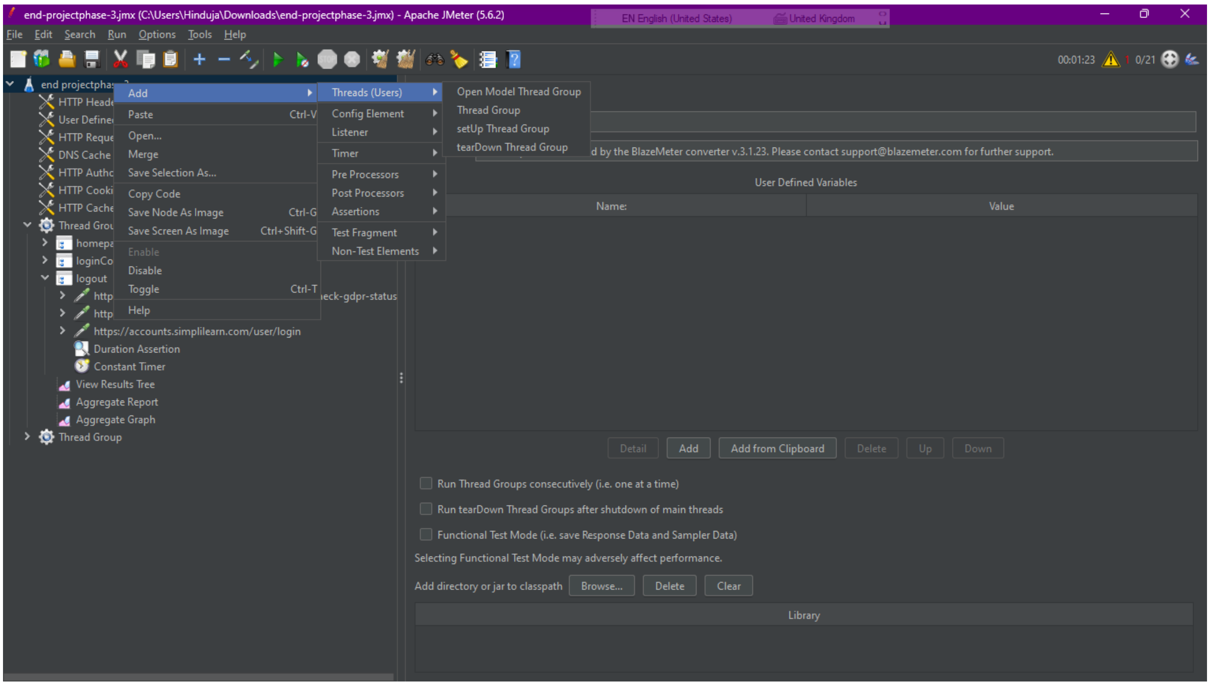
Generate performance test reports to share with the backend admin or your team, showcasing the performance of different functions on the web portal.

Tune and Retest:

Based on the results and analysis, make necessary adjustments to your web portal and retest to ensure improvements in performance.

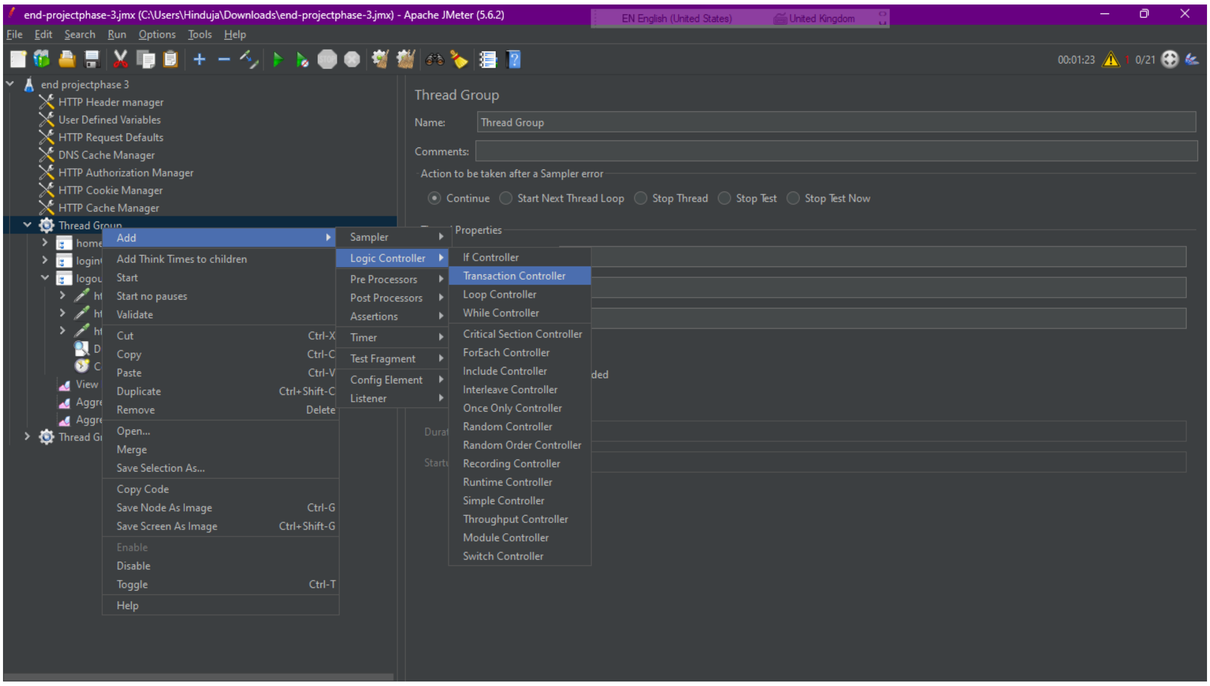
Source code and Screen shots:

Add the threadGroup by rightclick→add→Threads→ThreadGroup

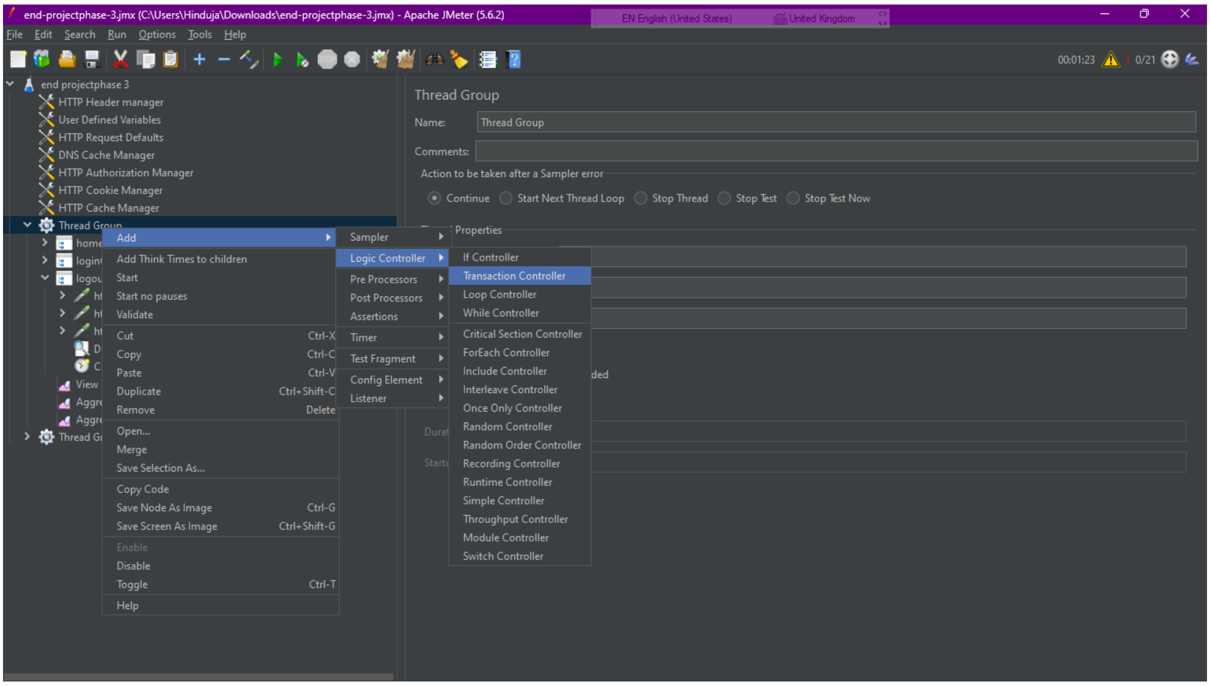


end-projectphase-3.jmx (C:\Users\Hinduja\Downloads\end-projectphase-3.jmx) - Apache JMeter (5.6.2)
File Edit Search Run Options Tools Help
00:01:23 0/21
Add
Paste Ctrl-V
Open...
Merge
Save Selection As...
Copy Code
Save Node As Image Ctrl-G
Save Screen As Image Ctrl+Shift-G
Enable
Disable
Toggle Ctrl-T
Help
Threads (Users)
Config Element
Listener
Timer
Pre Processors
Post Processors
Assertions
Test Fragment
Non-Test Elements
Open Model Thread Group
Thread Group
setUp Thread Group
tearDown Thread Group
HTTP Header
User Define
HTTP Reque
DNS Cache
HTTP Autho
HTTP Cooki
HTTP Cache
Thread Grou
homepa
loginCo
logout
http
http
https://accounts.simplilearn.com/user/login
Duration Assertion
Constant Timer
View Results Tree
Aggregate Report
Aggregate Graph
Thread Group
eck-gdpr-status
d by the BlazeMeter converter v.3.1.23. Please contact support@blazemeter.com for further support.
User Defined Variables
Name:
Value
Detail
Add
Add from Clipboard
Delete
Up
Down
Run Thread Groups consecutively (i.e. one at a time)
Run tearDown Thread Groups after shutdown of main threads
Functional Test Mode (i.e. save Response Data and Sampler Data)
Selecting Functional Test Mode may adversely affect performance.
Add directory or jar to classpath
Browse...
Delete
Clear
Library

Add the controllers as trasaction controlle by right click→add→logic contoller→transaction controller for home page recording



Add the controllers as trasaction controlle by right click→add→logic controoler→transaction controller for login page recording



Thread Group

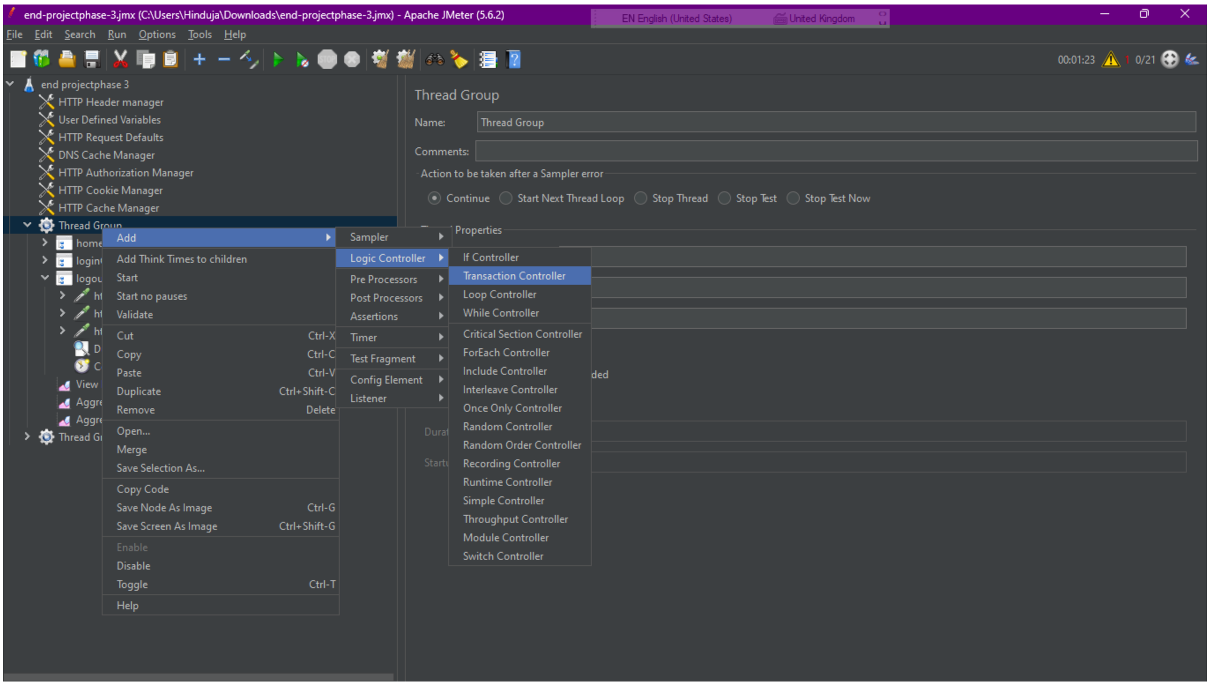
Name: Thread Group

Comments:

Action to be taken after a Sampler error

● Continue ○ Start Next Thread Loop ○ Stop Thread ○ Stop Test ○ Stop Test Now

Add the controllers as trasaction controlle by right click→add→logic controoler→transaction controller for logout page recording



Thread Group

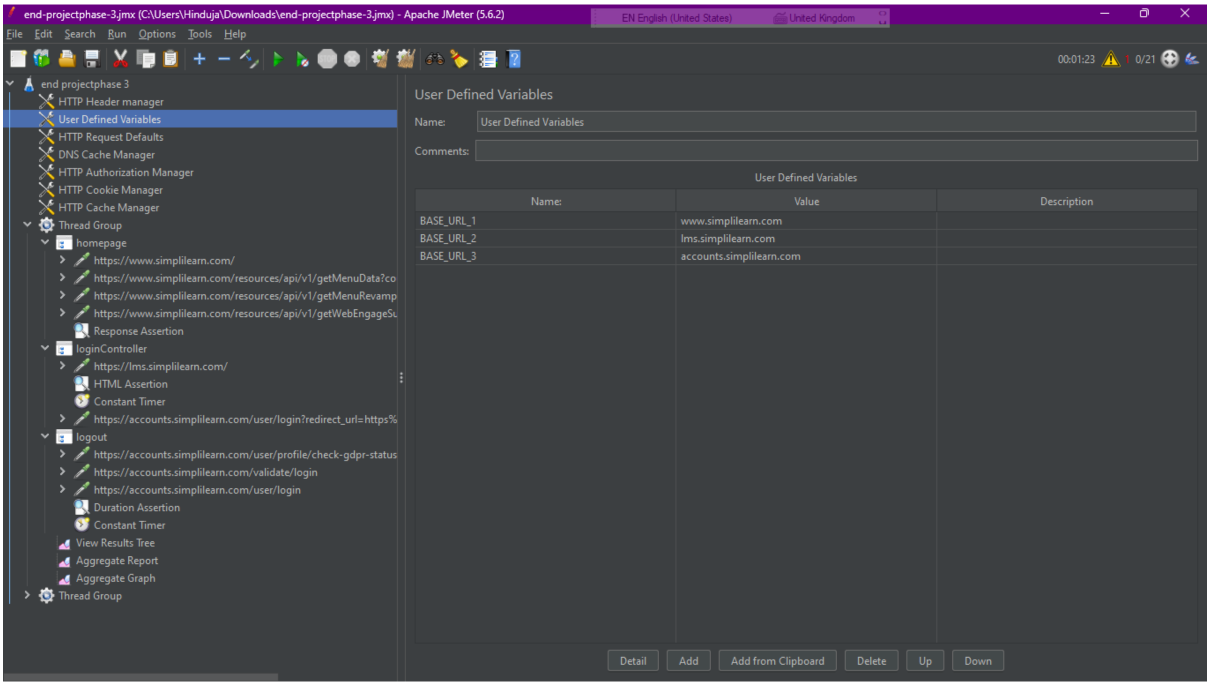
Name: Thread Group

Comments:

Action to be taken after a Sampler error

● Continue ○ Start Next Thread Loop ○ Stop Thread ○ Stop Test ○ Stop Test Now

Record the scripts for home page,login page and logout page for simply learn website using blazemeter or proxy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00:01:23 0/21
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User Defined Variables
HTTP Request Defaults
DNS Cache Manager
HTTP Authorization Manager
HTTP Cookie Manager
HTTP Cache Manager
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homepage
https://www.simplilearn.com/
https://www.simplilearn.com/resources/api/v1/getMenuData?co
https://www.simplilearn.com/resources/api/v1/getMenuRevamp
https://www.simplilearn.com/resources/api/v1/getWebEngageSu
Response Assertion
loginController
https://lms.simplilearn.com/
HTML Assertion
Constant Timer
https://accounts.simplilearn.com/user/login?redirect_url=https%
logout
https://accounts.simplilearn.com/user/profile/check-gdpr-status
https://accounts.simplilearn.com/validate/login
https://accounts.simplilearn.com/user/login
Duration Assertion
Constant Timer
View Results Tree
Aggregate Report
Aggregate Graph
Thread Group
Detail
Add
Add from Clipboard
Delete
Up
Down

User Defined Variables

Name: User Defined Variables

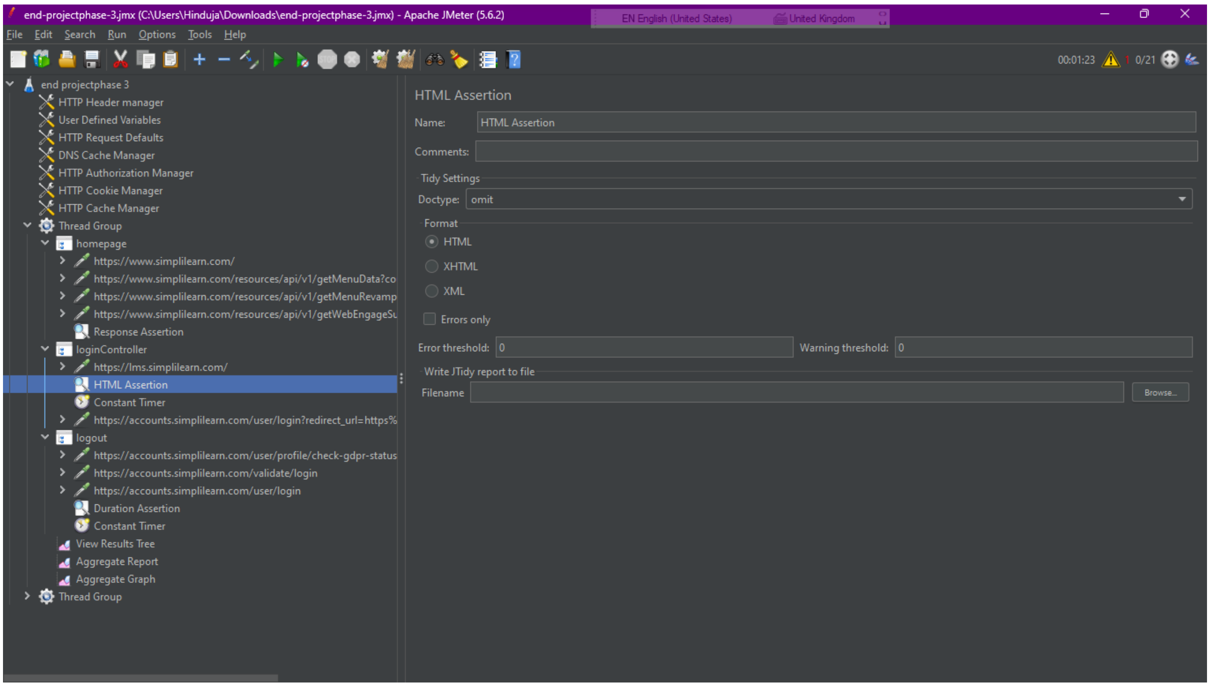
Comments:

User Defined Variables

Name:	Value	Description
BASE_URL_1	www.simplilearn.com	
BASE_URL_2	lms.simplilearn.com	
BASE_URL_3	accounts.simplilearn.com	

Add HTML assertion in login page:

To ensuring that the system is functioning correctly under load.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HTTP Authorization Manager
HTTP Cookie Manager
HTTP Cache Manager
Thread Group
homepage
https://www.simplilearn.com/
https://www.simplilearn.com/resources/api/v1/getMenuData?co
https://www.simplilearn.com/resources/api/v1/getMenuRevamp
https://www.simplilearn.com/resources/api/v1/getWebEngageSu
Response Assertion
loginController
https://lms.simplilearn.com/
HTML Assertion
Constant Timer
https://accounts.simplilearn.com/user/login?redirect_url=https%
logout
https://accounts.simplilearn.com/user/profile/check-gdpr-status
https://accounts.simplilearn.com/validate/login
https://accounts.simplilearn.com/user/login
Duration Assertion
Constant Timer
View Results Tree
Aggregate Report
Aggregate Graph
Thread Group
Browse...

HTML Assertion

Name: HTML Assertion

Comments:

Tidy Settings

Doctype: omit

Format

● HTML

○ XHTML

○ XML

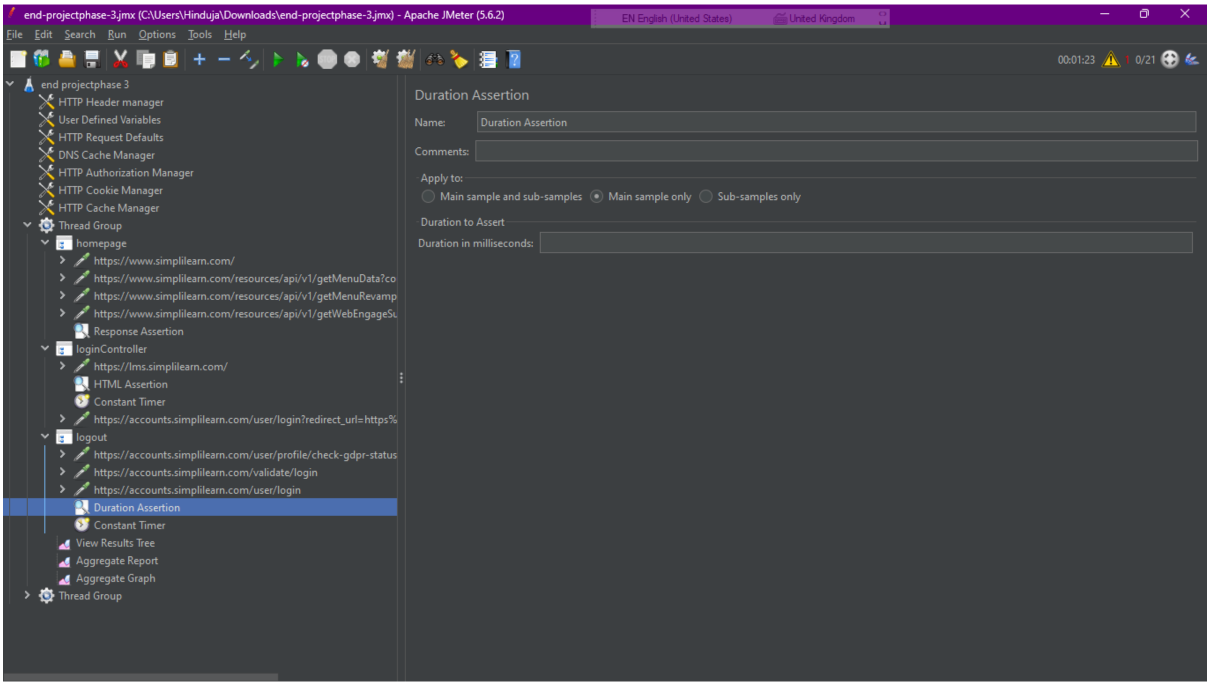
□ Errors only

Error threshold: 0 Warning threshold: 0

Write JTidy report to file

Filename

Add duration assertion in logout page: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DNS Cache Manager
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HTTP Cookie Manager
HTTP Cache Manager
Thread Group
homepage
https://www.simplilearn.com/
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https://www.simplilearn.com/resources/api/v1/getMenuRevamp
https://www.simplilearn.com/resources/api/v1/getWebEngageSu
Response Assertion
loginController
https://lms.simplilearn.com/
HTML Assertion
Constant Timer
https://accounts.simplilearn.com/user/login?redirect_url=https%
logout
https://accounts.simplilearn.com/user/profile/check-gdpr-status
https://accounts.simplilearn.com/validate/login
https://accounts.simplilearn.com/user/login
Duration Assertion
Constant Timer
View Results Tree
Aggregate Report
Aggregate Graph
Thread Group

Duration Assertion

Name: Duration Assertion

Comments:

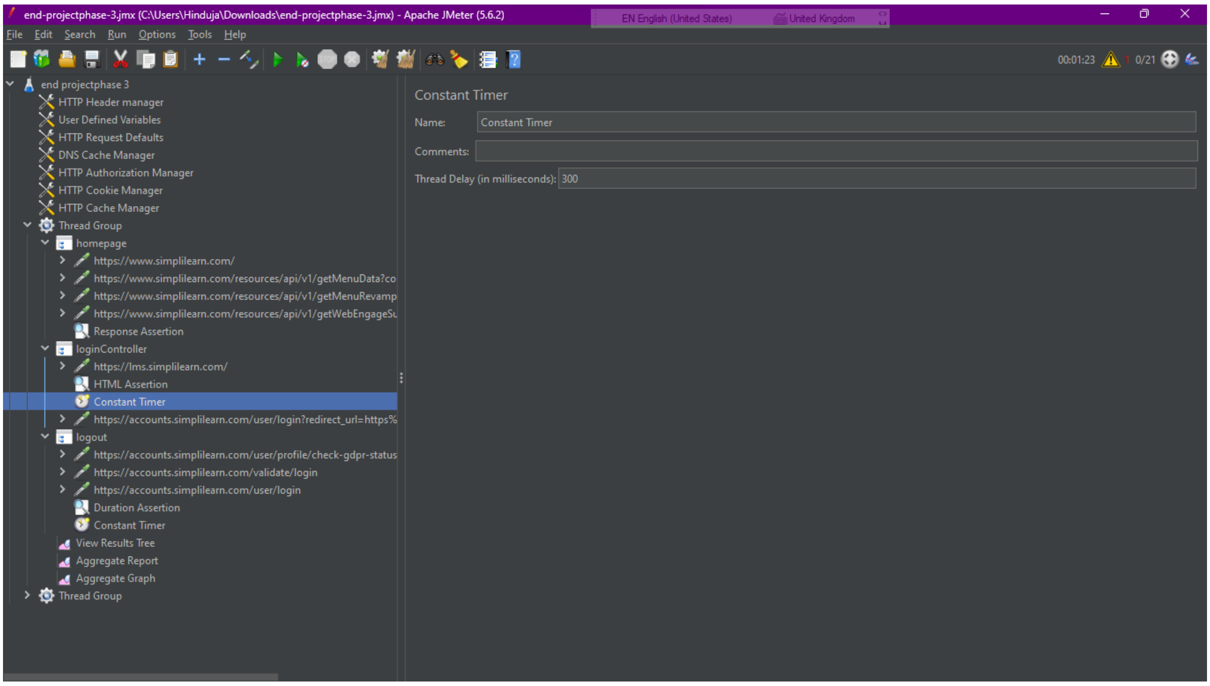
Apply to:

○ Main sample and sub-samples ● Main sample only ○ Sub-samples only

Duration to Assert

Duration in milliseconds:

Add constant timer in both login page and logout page: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https://accounts.simplilearn.com/user/profile/check-gdpr-status
https://accounts.simplilearn.com/validate/login
https://accounts.simplilearn.com/user/login
Duration Assertion
Constant Timer
View Results Tree
Aggregate Report
Aggregate Graph
Thread Group

Constant Timer

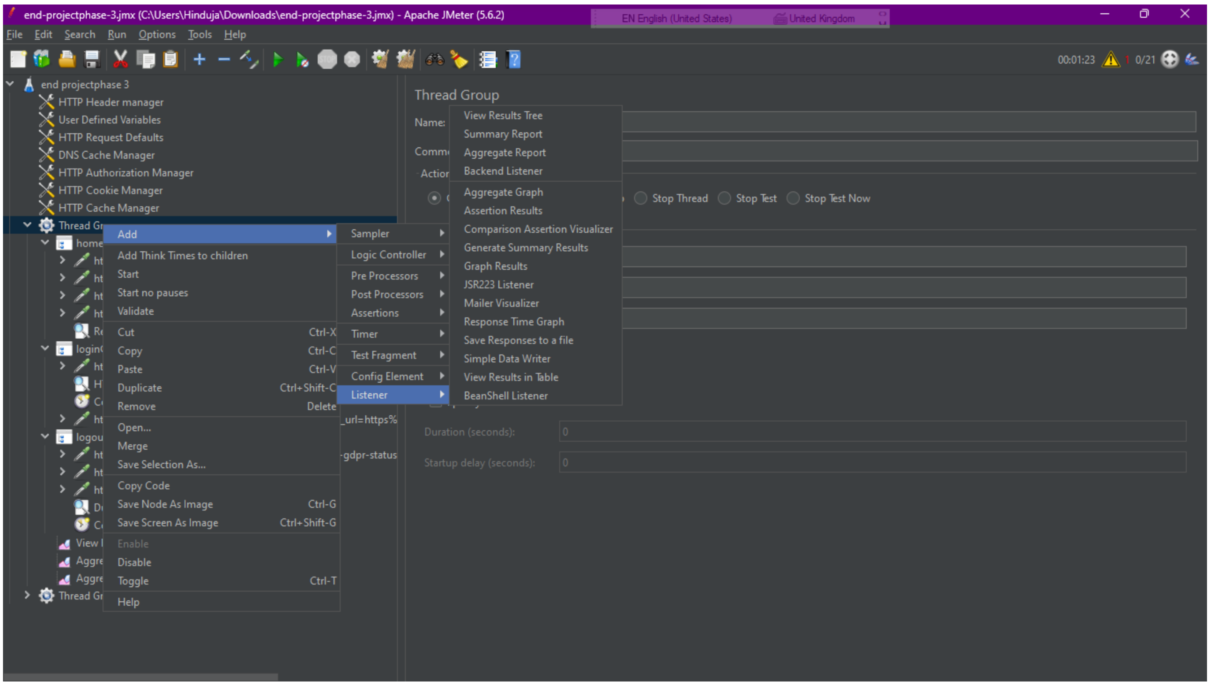
Name: Constant Timer

Comments:

Thread Delay (in milliseconds): 300

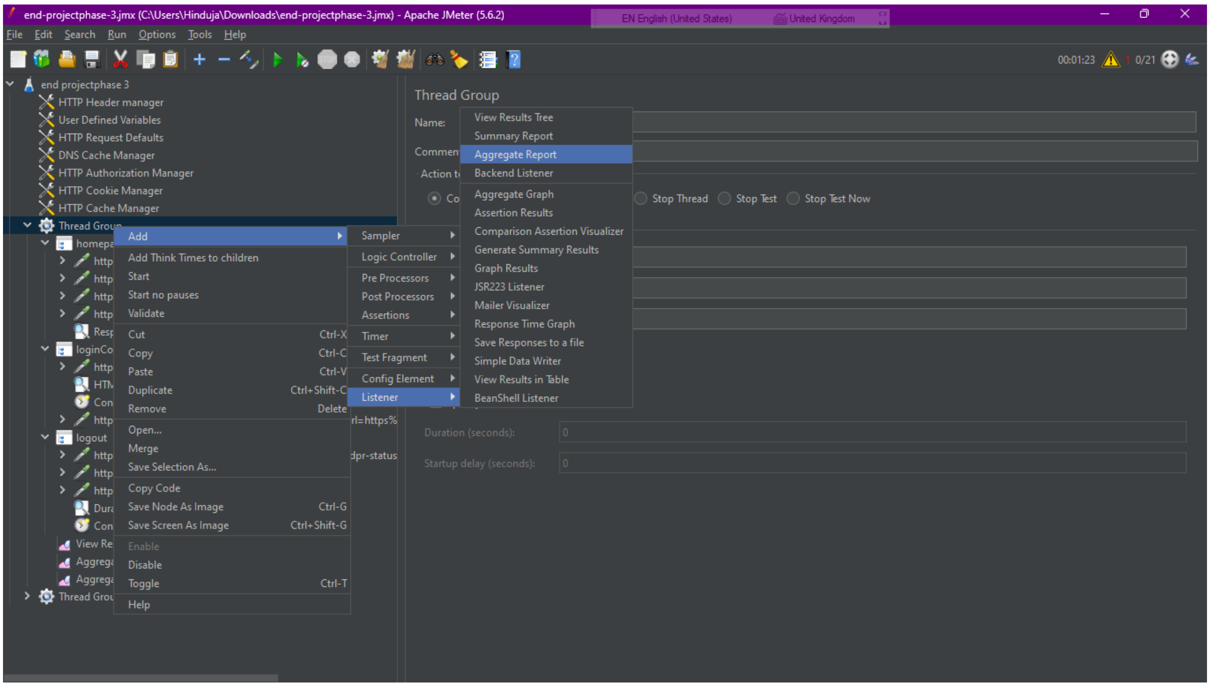
Inorder to view the results add the results tree:

Rightclickon thread group→add→listener→view results tree



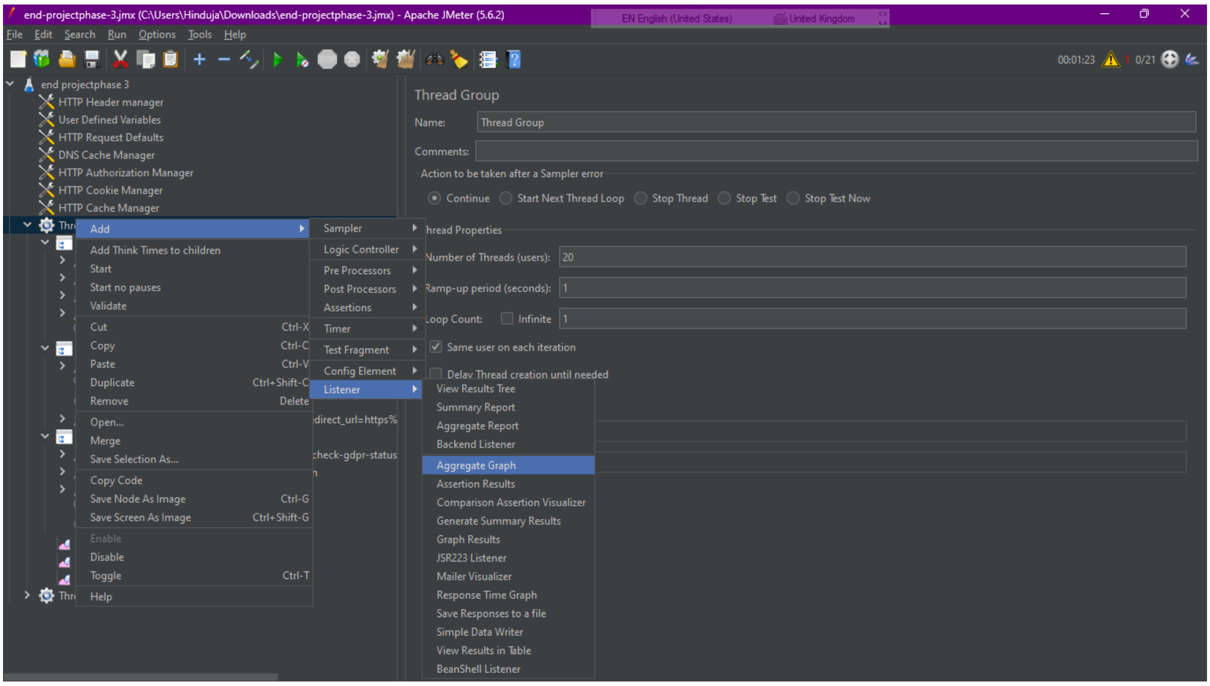
To view the results with report add aggregate report

Rightclickon thread group→add→listener→aggrigate report

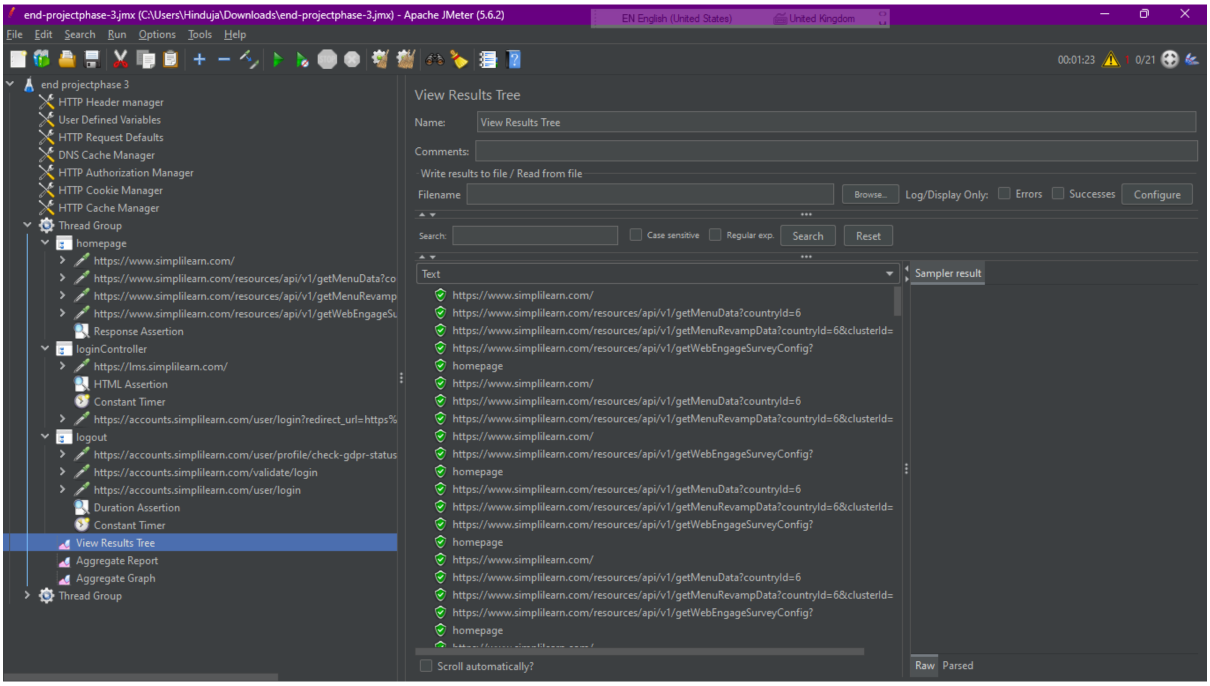


To view the results with graphical representation add aggregate graph

Rightclickon thread group→add→listener→aggrigate graph



OUTPUT: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Response Assertion
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https://lms.simplilearn.com/
HTML Assertion
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https://accounts.simplilearn.com/user/login?redirect_url=https%
logout
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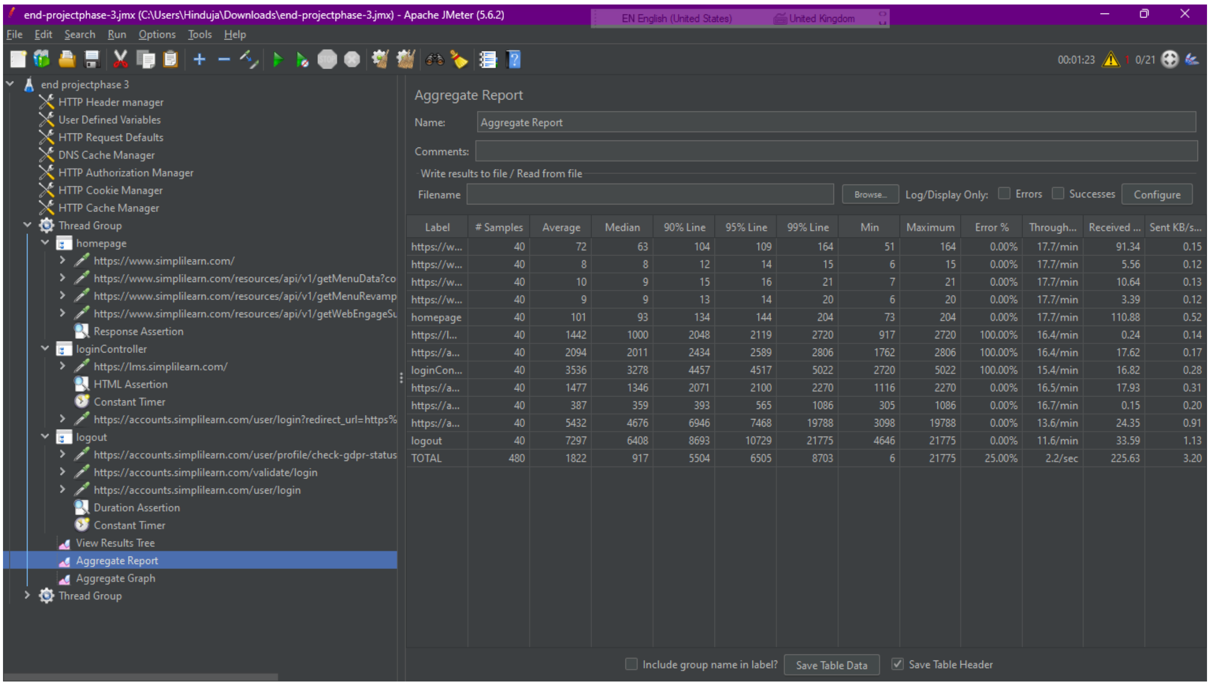
https://accounts.simplilearn.com/validate/login
https://accounts.simplilearn.com/user/login
Duration Assertion
Constant Timer
View Results Tree
Aggregate Report
Aggregate Graph
Thread Group
View Results Tree
Name: View Results Tree
Comments:
Write results to file / Read from file
Filename Browse... Log/Display Only: □ Errors □ Successes Configure
Search: □ Case sensitive □ Regular exp. Search Reset
Text
Sampler result
Raw Parsed
□ Scroll automatically?
00:01:23 0/21

```
https://www.simplilearn.com/
https://www.simplilearn.com/resources/api/v1/getMenuData?countryId=6
https://www.simplilearn.com/resources/api/v1/getMenuRevampData?countryId=6&clusterId=
https://www.simplilearn.com/resources/api/v1/getWebEngageSurveyConfig?
homepage
https://www.simplilearn.com/
https://www.simplilearn.com/resources/api/v1/getMenuData?countryId=6
https://www.simplilearn.com/resources/api/v1/getMenuRevampData?countryId=6&clusterId=
https://www.simplilearn.com/
https://www.simplilearn.com/resources/api/v1/getWebEngageSurveyConfig?
homepage
https://www.simplilearn.com/resources/api/v1/getMenuData?countryId=6
https://www.simplilearn.com/resources/api/v1/getMenuRevampData?countryId=6&clusterId=
https://www.simplilearn.com/resources/api/v1/getWebEngageSurveyConfig?
homepage
https://www.simplilearn.com/
https://www.simplilearn.com/resources/api/v1/getMenuData?countryId=6
https://www.simplilearn.com/resources/api/v1/getMenuRevampData?countryId=6&clusterId=
https://www.simplilearn.com/resources/api/v1/getWebEngageSurveyConfig?
homepage
```



end-projectphase-3.jmx (C:\Users\Hinduja\Downloads\end-projectphase-3.jmx) - Apache JMeter (5.6.2)

```
end projectphase 3
    HTTP Header manager
    User Defined Variables
    HTTP Request Defaults
    DNS Cache Manager
    HTTP Authorization Manager
    HTTP Cookie Manager
    HTTP Cache Manager
    Thread Group
        homepage
            https://www.simplilearn.com/
            https://www.simplilearn.com/resources/api/v1/getMenuData?co
            https://www.simplilearn.com/resources/api/v1/getMenuRevamp
            https://www.simplilearn.com/resources/api/v1/getWebEngageSu
            Response Assertion
        loginController
            https://lms.simplilearn.com/
            HTML Assertion
            Constant Timer
            https://accounts.simplilearn.com/user/login?redirect_url=https%
        logout
            https://accounts.simplilearn.com/user/profile/check-gdpr-status
            https://accounts.simplilearn.com/validate/login
            https://accounts.simplilearn.com/user/login
            Duration Assertion
            Constant Timer
        View Results Tree
        Aggregate Report
        Aggregate Graph
    Thread Group
```

Aggregate Report

Name: Aggregate Report

Comments:

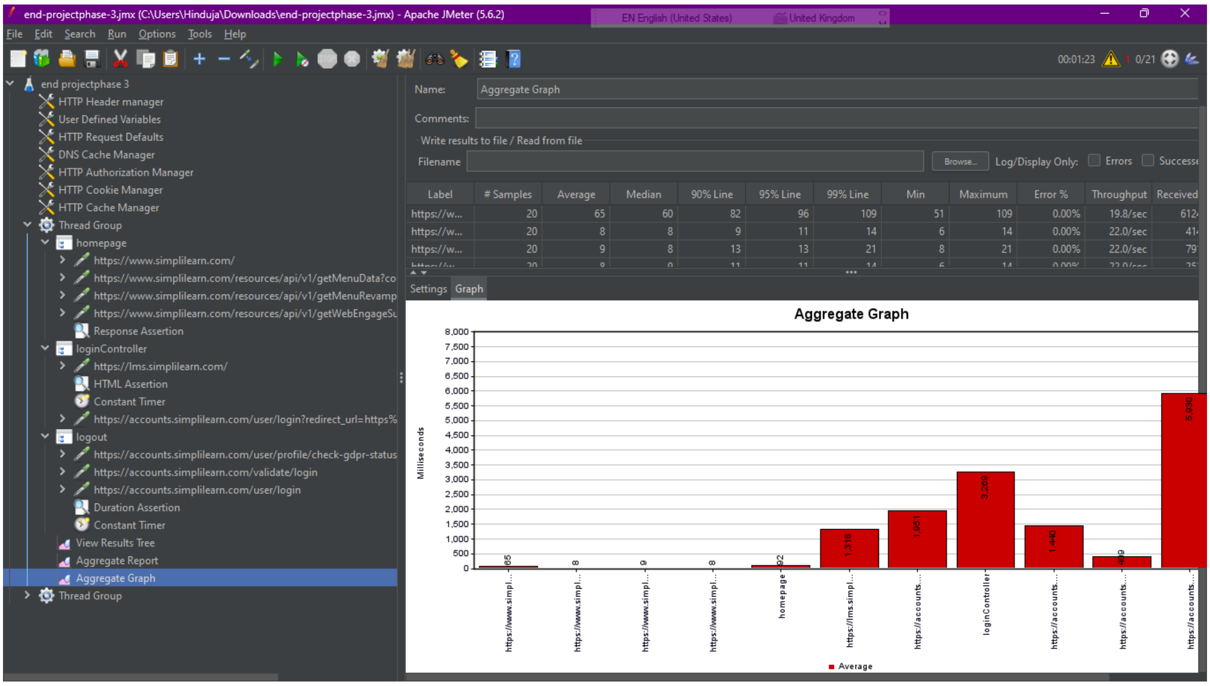
Write results to file / Read from file

Filename

Log/Display Only: □ Errors □ Successes

Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Through...	Received ...	Sent KB/s...
https://w...	40	72	63	104	109	164	51	164	0.00%	17.7/min	91.34	0.15
https://w...	40	8	8	12	14	15	6	15	0.00%	17.7/min	5.56	0.12
https://w...	40	10	9	15	16	21	7	21	0.00%	17.7/min	10.64	0.13
https://w...	40	9	9	13	14	20	6	20	0.00%	17.7/min	3.39	0.12
homepage	40	101	93	134	144	204	73	204	0.00%	17.7/min	110.88	0.52
https://l...	40	1442	1000	2048	2119	2720	917	2720	100.00%	16.4/min	0.24	0.14
https://a...	40	2094	2011	2434	2589	2806	1762	2806	100.00%	16.4/min	17.62	0.17
loginCon...	40	3536	3278	4457	4517	5022	2720	5022	100.00%	15.4/min	16.82	0.28
https://a...	40	1477	1346	2071	2100	2270	1116	2270	0.00%	16.5/min	17.93	0.31
https://a...	40	387	359	393	565	1086	305	1086	0.00%	16.7/min	0.15	0.20
https://a...	40	5432	4676	6946	7468	19788	3098	19788	0.00%	13.6/min	24.35	0.91
logout	40	7297	6408	8693	10729	21775	4646	21775	0.00%	11.6/min	33.59	1.13
TOTAL	480	1822	917	5504	6505	8703	6	21775	25.00%	2.2/sec	225.63	3.20

□ Include group name in label? ☑ Save Table Header



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    HTTP Cache Manager
    Thread Group
        homepage
            https://www.simplilearn.com/
            https://www.simplilearn.com/resources/api/v1/getMenuData?co
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            https://accounts.simplilearn.com/user/profile/check-gdpr-status
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            https://accounts.simplilearn.com/user/login
            Duration Assertion
            Constant Timer
        View Results Tree
        Aggregate Report
        Aggregate Graph
    Thread Group
```

Name: Aggregate Graph

Comments:

Write results to file / Read from file

Filename

Log/Display Only: □ Errors □ Successe

Label	# Samples	Average	Median	90% Line	95% Line	99% Line	Min	Maximum	Error %	Throughput	Received
https://w...	20	65	60	82	96	109	51	109	0.00%	19.8/sec	612
https://w...	20	8	8	9	11	14	6	14	0.00%	22.0/sec	41
https://w...	20	9	8	13	13	21	8	21	0.00%	22.0/sec	79