

Load Test Suite

Test Scenario:

1. Perform load test for 1 hour on the service http://104.199.15.101/api/return_eu_countries
2. 75 users at any given moment
3. 350 requests per second
4. Response time must be under 200 ms

Tool Used for load testing: Apache JMeter

Link to download JMeter: https://jmeter.apache.org/download_jmeter.cgi

The basic functionality of this service is to receive a list of iso country codes and return if there are any EU countries on that list. Test whether the service is up or not, using curl command from Git Bash:

Request: curl -X POST \

http://104.199.15.101/api/return_eu_countries \

-H 'cache-control: no-cache' \

-H 'content-type: application/json' \

-d '{"country_list": ["BE", "DE", "NY"]}'

Response: {"value":"Match","status":"OK","result":["BE","DE"]}

MINGW64; c:/Users/ashad.rahman

```
ashad.rahman@PUNE-LAP0827 MINGW64 ~
$ curl -X POST \
> http://104.199.15.101/api/return_eu_countries \
> -H 'cache-control: no-cache' \
> -H 'content-type: application/json' \
> -d '{"country_list": ["BE", "DE", "NY"]}'
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total     Spent    Left     Speed
100    88    100    52    100    36      54      37  --:--:-- --:--:-- --:--:--    92{"value":"Match","status":"OK","result":["BE","DE"]}
ashad.rahman@PUNE-LAP0827 MINGW64 ~
$ |
```

Following elements are required to construct the test plan:

Thread Group, HTTP Request, HTTP Header Manager, Throughput Controller, Aggregate Report, Aggregate Graph

Add Thread Group

The first step to do with every JMeter Test Plan is to add a Thread Group element. The Thread Group tells JMeter the number of users to simulate, how often the users should send requests, and how many requests they should send.

Add the ThreadGroup element by first selecting the Test Plan, clicking your right mouse button to get the Add menu, and then select Add → ThreadGroup.

You should now see the Thread Group element under Test Plan. If you do not see the element, then "expand" the Test Plan tree by clicking on the Test Plan element.

Number of Threads(users): 75

Ramp-up period: 0

Loop count field: select forever checkbox

Scheduler configuration: Duration seconds: 3600

Add HTTP Header Manager

Key: Content-type

Value: application/json

Add Throughput Controller

Select Percent Executions

Throughput: 18000

Check the Per User

Add Default HTTP Request properties:

Click your right mouse button to get the Add menu, and then select Add → Config Element → HTTP Request Defaults. Then select this new element to view its Control Panel.

Protocol: http

Server Name or IP: http://104.199.15.101/api/return_eu_countries

Method: POST

Body Data: {"country_list": ["BE", "DE", "NY"]}

Add listener to view and store the test results:

Aggregate Report and Aggregate Graph