Jmeter

Jmeter basically java base performance testing tools

It is a open source it support multiple platform.

Jmeter originally is used for Testing web application or FTP application ,

Performance testing means testing a web application against heavy load , multiple and concurrent user traffic.

Workflow of jmeter:-

1. Send request to target folder
2. Get statistic information of target server
3. Generate test report in different format

Elements in Jmeter:

Different component of jmeter are called as elements. Each element is design for a specific purpose.

\*Thread Grop: Is a collection of threads. Each thread represent one user using the application under test. Basically each thread simulates one real user request to the server

\*Samplers: Different types of request send by the Thread Group.

The request could be FTP request. HTTP request, JDBC request, etc

Multiple type of request supported by jmeter.

\*Listeners: Shows the result of the test execution.

They can show result in different format such as tree, table , graph or log file

Graph result: Listeners display the server response times on graph.

View result tree: Show result of the user request in basic HTML format

Table Result: Show summary of a test result in table format

Log: So summary of test result in the text file.

\*Configuration: Set up defaults and variables for later used by samplers

Create First Jmeter Test:

Double click on bad file in jemeter

File 🡪 new –Create new test plan

Test plan : It is container which contain lot of things

Right click on Test plan -🡪 Add 🡪 Threads(Users)🡪Thread groups🡪 Rename thread group Number of Thread: how many user perform in particular test

Ramp up time: eg. 3 sec time period ( 5 user in this test 1st user send request and after 3s second user send request again after 3s 3rd user send the request)

Every 3 second of interval user will send the request

Loop Count: same number of user and how many time user repeatedly should send the request

Thread Group🡪 right click 🡪 Add 🡪 Sampler-🡪 HTTP request

Timer : JMeter send the request without applying any delay between each sampler and request

If you perform load/ stress testing on your server without any delay , it will be overloaded . Then it won’t be able to give you realistic results and fail to simulate real world user traffic experience.

JMeter timers the solution to all this problems

Time element can be added in test plan to apply wait between each sampler/request.

Latency vs Sample time

Latency time: Latency is a difference between time when request was sent and when response has started to be received .

Response time = (=sample time =load time =Elapse time )

Difference between the time when request was sent and time when response has been fully received .

Response time >= Latency time

Response time = Latency + processing time

Assertions in JMeter:

Assertion help to verify that your server under test returns the expected result

Response Assertion :

The response Assertion in test script to validate a pattern in the response body, header , code , message , etc. There are different pattern matching rules to validate the response.

Size Assertion:

Is use to validate the size of the response with specified value in bytes

Duration Assertion:

Is used to validate that the sampler request gets processed within a specified amount of time .

HTML Assertion:

Is use to check the HTML syntax of the response.

XML Assertion:

Is used to validate that the response follows a valid XML syntax

XML Schema Assertion:

Is used to validate the response against a specified XML schema.