

PRACTICAL NO :- 08

Name : Ishwari Rajiv Narkhede

PRN : 1841034

Batch : B4

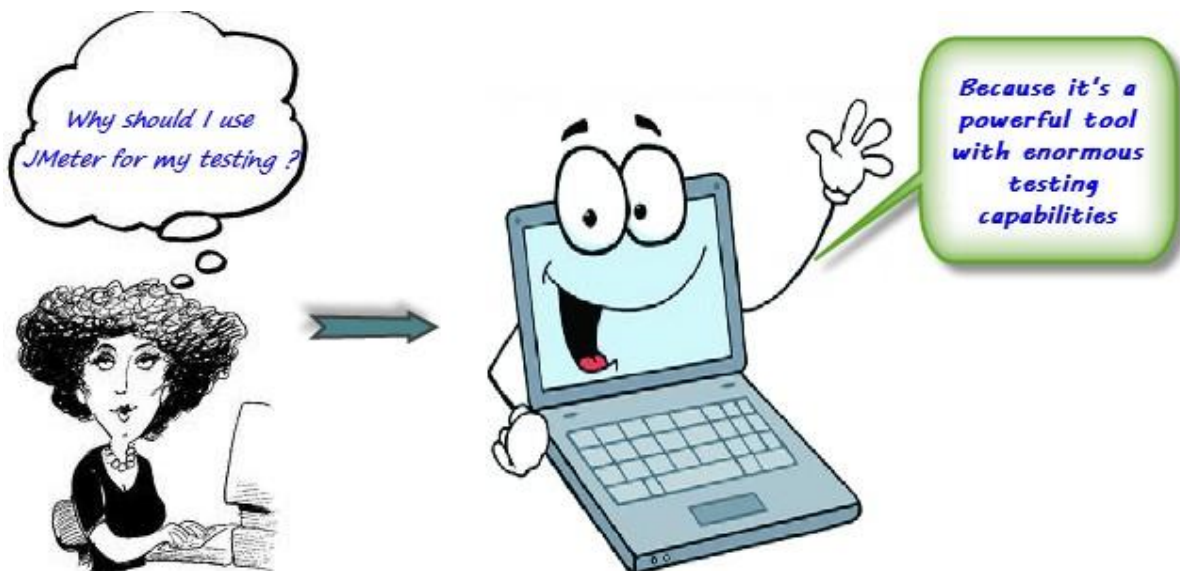
AIM : To study jmeter.

Theory :

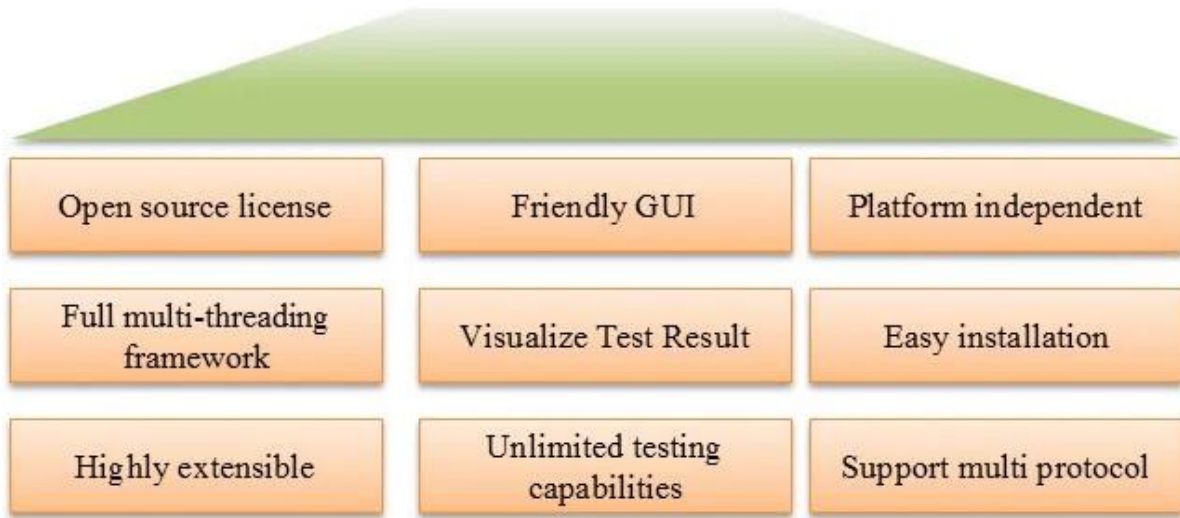


The Apache JMeter™ is pur designed to load test functional behavior and measure performance. You can use JMeter to analyze and measure the performance of web applications or a variety of services. Performance Testing means testing a web application against heavy load, multiple and concurrent user traffic. JMeter originally is used for testing Web Application or FTP application. Nowadays, it is used for functional tests, database server tests etc.

WHY JMETER ?



Advantages of jmeter are listed below



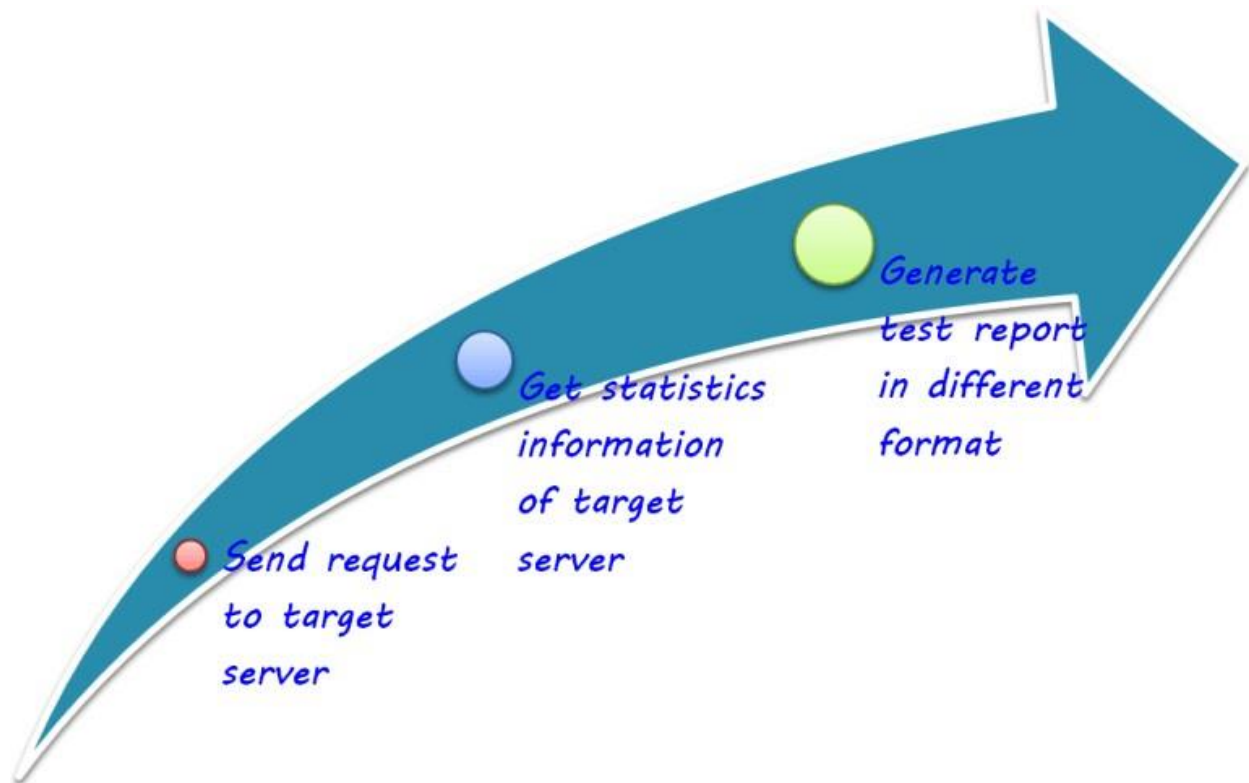
- Open source license: JMeter is totally free, allows developer use the source code for the development
- Friendly GUI: JMeter is extremely easy to use and doesn't take time to get familiar with it
- Platform independent: JMeter is 100% pure Java desktop application. So it can run on multiple platforms
- Full multithreading framework: JMeter allows concurrent and simultaneous sampling of different functions by a separate thread group
- Visualize Test Result: Test result can be display in a different format such as chart, table, tree and log file
- Easy installation: You just copy and run the *.bat file to run JMeter. No installation needed.
- Highly Extensible: You can write your own tests. JMeter also supports visualization plugins that allow you extend your testing
- Multiple testing strategy: JMeter supports many testing strategies such as Load Testing, Distributed Testing, and Functional Testing.
- Simulation: JMeter can simulate multiple users with concurrent threads, create a heavy load against web application under test

- Support multi-protocol: JMeter does not only support web application testing, but also evaluates database server performance. All basic protocols such as HTTP, JDBC, LDAP, SOAP, JMS, and FTP are supported by JMeter
- Record & Playback - Record the user activity on the browser and simulate them in web application using JMeter
- Script Test: Jmeter can be integrated with Bean Shell & Selenium for automated testing.

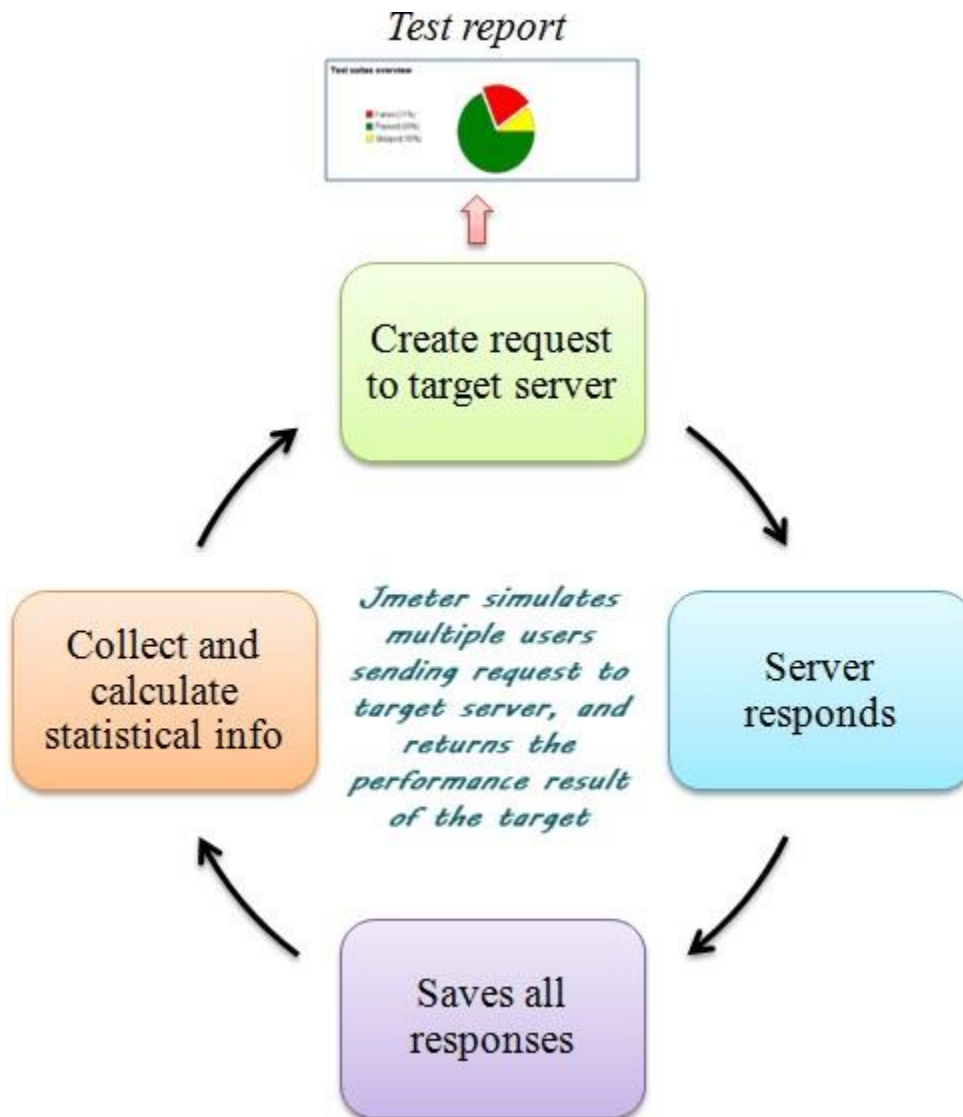
How does jmeter work ?

Basic workflow of JMeter as shown in the figures below.

JMeter simulates a group of users sending requests to a target server, and return statistics information of target server through graphical diagrams.



The completed workflow of JMeter as shown in figure below.



Installation of jmeter on windows :

```
Command Prompt - jmeter.bat
Microsoft Windows [Version 10.0.19042.1348]
(c) Microsoft Corporation. All rights reserved.

C:\Users\USER>java -version
java version "15" 2020-09-15
Java(TM) SE Runtime Environment (build 15+36-1562)
Java HotSpot(TM) 64-Bit Server VM (build 15+36-1562, mixed mode, sharing)

C:\Users\USER>E:


E:\>cd jmeter

E:\jmeter>cd bin

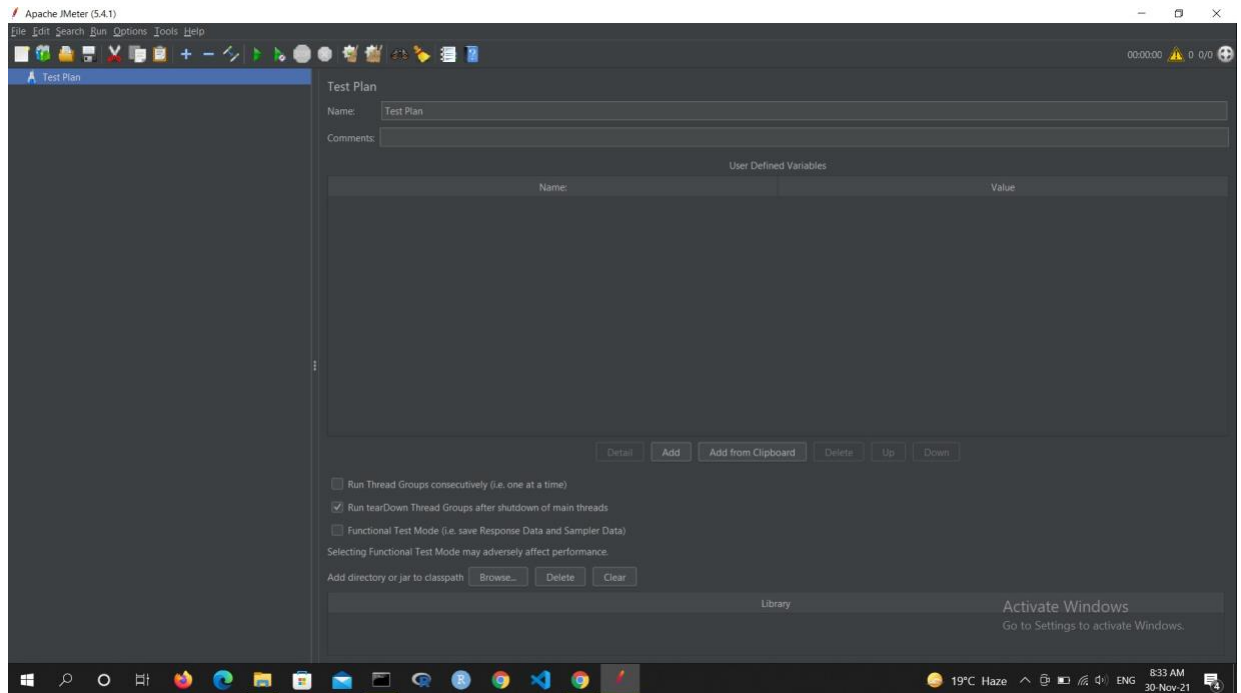
E:\jmeter\bin>jmeter.bat
=====
Don't use GUI mode for load testing !, only for Test creation and Test debugging.
For load testing, use CLI Mode (was NON GUI):
    jmeter -n -t [jmx file] -l [results file] -e -o [Path to web report folder]
& increase Java Heap to meet your test requirements:
    Modify current env variable HEAP="-Xms1g -Xmx1g -XX:MaxMetaspaceSize=256m" in the jmeter batch file
Check : https://jmeter.apache.org/usermanual/best-practices.html
=====
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The Apache JMeter logo is displayed, featuring a stylized feather icon to the left of the text "APACHE JMeter™". The word "APACHE" is in red, and "JMeter" is in white with a red outline. The trademark symbol "TM" is in red.



Conclusion :

In this practical we have studied the installation on jmeter and how it works.