



Software Verification And Validation

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Apache Jmeter

Apache JMeter is a popular open-source system designed for testing applications. It is 100% Java scripted intended to test the functional performance of online applications on the desktop.

a) pros/ cons

Advantages

Open Source : Open source mean this can be downloaded free of cost and also 100% pure java application. All developer can use it source code can modify and customize it.

Ease of Use : Users can install and use it easily.just download , install and run. Because it is a desktop application . It does not require you to have any specific skills or knowledge to use it.

Platform independent : JMeter is developed in Java, which is the most popular programming language in the world. Therefore, it can run in any OS be it Window, Linux or Mac.

Ultimate Testing: With JMeter, user can do any kind of testing they want. Load Test, Stress Test, Functional Test all in one tool.

Disadvantages

Memory Consumption : simulate heavy load and visualize the test report. Jmeter consume lots of memory and can lead out of memory under heavy load.

Web application only : good for web application not suitable for desktop application .

Lack of support for JavaScript: JMeter is not a browser, so it cannot run JavaScript in the web application. It has limited support for processing JavaScript or Ajax .

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b) : Functionality :

- **Server/ Protocol Support:** Compatible with Web - HTTP, HTTPS.
- **Graphical User Interface:** Simple, user friendly and easy to learn as compared to other performance testing tools.
- **Platform:** JMeter is pure java software. Therefore, it is platform-independent and supports all environment.
- **Test Result Visualisation:** Test result can be view in different formats like Graph, Table, Tree, and Report, etc.
- **Reporting:** We can use Jmeter and ANT together to obtain HTML report as per the requirement.
- **Testing Types:** just Performance, Load, Stress testing Jmeter works well for Functional.

c) : Supporting Languages :

Apache Jmeter supporting java , and also javascript frameworks like javascript , angular js jquery . it is because java is a fast and a modern developed language which can use and understand it easily.

Jmeter was introduced for load and performance test web applications so that's way it is use for run time and heavy load web application can manage it easily.

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d) : Supporting Tests :

Meter executes when we run test plan. A test plan can consist of one or more elements like **Thread Groups, Logic Controllers, Configuration Elements, Timers, Listeners and Assertions**. There should be at least one thread group in every test plan.

- Remove Test Plan Elements
 - Add Elements to JMeter Test Plan
 - Remove Elements from JMeter Test Plan
 - Load Elements to JMeter Test Plan Tree
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e) : Write a short(faulty) code, Test using this tool, and show the bugs in the code.

```
var a = 5 ;  
  var b = 6 ;  
  
  var c = a *b ;  
  
  console.log(g);
```

Error

Uncaught ReferenceError: g is not defined

Bug : g is not defined