

# Comparative Analysis of Load testing tool: LOAD Complete and WAPT pro

<sup>1</sup>Pooja Ranout, <sup>2</sup>Neha Thakur

<sup>1</sup>Student M.Tech, CSE 4<sup>th</sup> SEM, <sup>2</sup>Assistant professor CSE  
Career Point University Hamirpur

**Abstract:**software testing can be finding the software bugs. It is used for correctness of software. Software testing is one of the most important phases of software development. Its mandatory maintenance of web applications. Web performance is also used to check the behaviour of the web application under the workload. Automatic testing is an effective testing process that reduces the effort of manual testing but it is important to select a best suitable tool for test. Automated testing is used to check the performance response time throughput and page download per second of the web applications. The objective of this paper is to check the performance of the different software testing tool and used two Load testing tool: LOAD Complete, WAPT pro.

**KEYWORDS:** Web application, Automated testing, SDLC, Performance testing, Load testing.

## I. INTRODUCTION

**Web application** A web application is accessed with a web browser as a client and provides the ability to update and maintain a program without deploying and installing software on client computers. Web applications are used for web mail, online retail sales, discussion boards, weblogs, online banking, among others. Advantages of web application can access and used by millions of people at the same time. [1]

### **Web application testing-**

In Web Application Testing, we are typically using a browser (the client) to request a website from a web server by communicating with the server over HTTP or HTTPS. Web Testing in simple terms is checking your web application for potential bugs before it made live or before code is moved into the production environment.[2]

The web application testing techniques also check the web application's browser compatibility; load testing, scalability testing, stress testing and resolution testing. Web Testing, apart from functional testing of individual and integrated components, some of the testing types such as Performance, Security, Cross-browser and Responsiveness which are not necessarily needed in desktop application testing, become of high importance in Web Application Testing.

### **Automated testing**

Today large no of application used and the traffics on the web browser is large. For test these application we used web application testing tool called automated testing tool. Manual Testing of all work flows, all fields , all negative scenarios is time and cost consumingIt is difficult to test for multi lingual sites manually. Manual Testing of all work flows, all fields , all negative scenarios is time and cost consumingIt is difficult to test for multi lingual sites manually. Automated testing is used to check the performance response time throughput and page download per second of the web applications

## II. Testing Tools: A Brief Overview of Selected Tools

Various testing tools have been developed and designed for testing of web services. By using these test tools, web engineers can perform their tasks easily and efficiently, thus improving the quality of the system. In this paper we used the two type of tool in software testing: load complete and the WAPT pro tool. Load testing is the processes that set the service request web client number in the input, and gradually increase the client number of the web service request. The tester can get the client average response time, and compare the average response time after the client number is increased every time. The load testing of web applications will be able to evaluate the operation of all parts of the Web server, including the CPU, memory, process, response time, etc.

**WAPT pro:**WAPT refers to the web Application Performance tool. WAPTpro is a load and stress testing tool that provides an easy-to-use and cost-effective way to test any web site, including business applications, mobile sites, web portals, etcit works with secure HTTPS pages and all types of authentication. It produces graphs and reports that will help to analyze the performance characteristics of any web application under various load conditions.[8]

WAPT pro allows a user to specify how virtual users areinvolved in the testing environment i.e. eitherincreasing users or constant users or periodic usersload.

Constant user load maintains specified userload at all time.

- Periodic user load tends to increase
- decrease the user load from time to time

**Load complete:** Load Complete is a load, performance, stress and scalability testing tool that lets you see how your web application handles the load of hundreds and thousands of concurrent users. It replays realistic application usage scenarios and lets you monitor the application performance and key infrastructure metrics in real time. Load Complete to be affordable to companies of all sizes, with flexible licensing options. [10].

**General Features:**

1. It record and replay realistic application scenarios in order to create load tests without writing script.
2. It creates different rules for checking not just server response code, but also the message content received from server.
3. Comprehensive analytics and customized reporting.
4. on demand load generation from the cloud. With Load Complete load can be generated as much as needed for public or private cloud within just few seconds.
5. Load Complete allows testing performance of native, web and mobile Applications. It simulate large amount of traffic from smart phones and tablets over a variety of network connections.

**III. ANALYSIS OF TOOL**

Technical overview of the testing tool

S. No	Name of the tool	Operating system	Programming language support/framework work	Cost & license	Browser Support	Developer	Web Site
1	Load complete	windows	Java script, HTML, C#, python, .Net	Free and open source	Mozilla firefox, Microsoft, internet explorer	Smartbear	<a href="http://smartbear.com/product/loadcomplete/overview">http://smartbear.com/product/loadcomplete/overview</a>
s2	WAPT pro	Windows x, window 2	Java script, HTML	Trial	Mozilla firefox, Microsoft, internet explorer	Softlogica	<a href="http://softlogica.com/product/WAPTpro/overview">http://softlogica.com/product/WAPTpro/overview</a>

**LOAD complete result:  
Run time graph for 10 user**

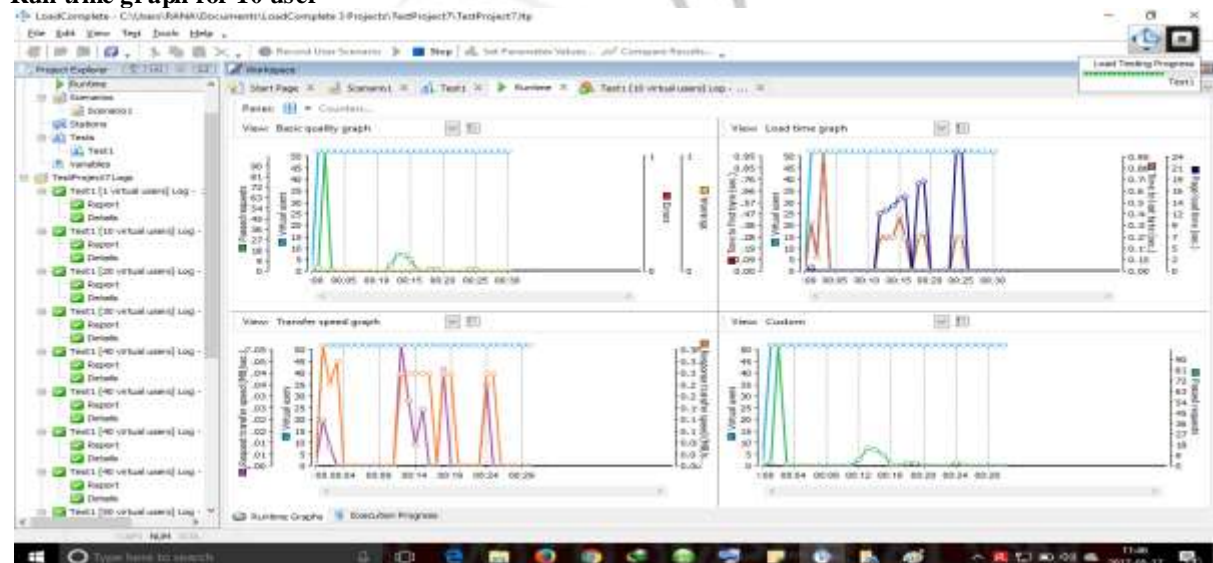


Figure 1 Run time graph

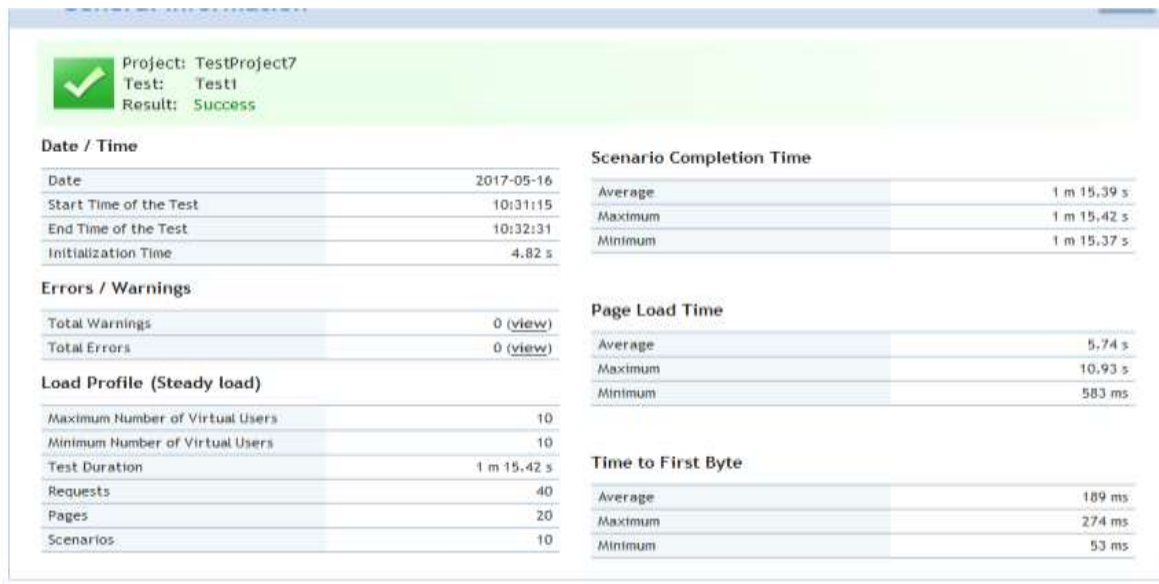


Figure 2 Load profile graph

WAPT pro result shows for the 10 user

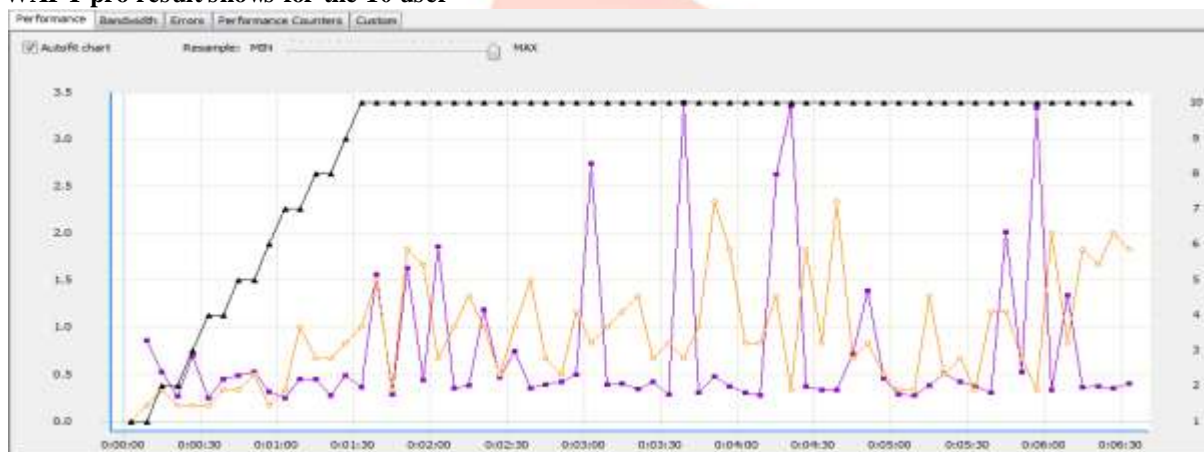


Figure 3 performance Graph

Graph shows that black line shows the active user, purple lines show the average response time and orange line shows the page per second.

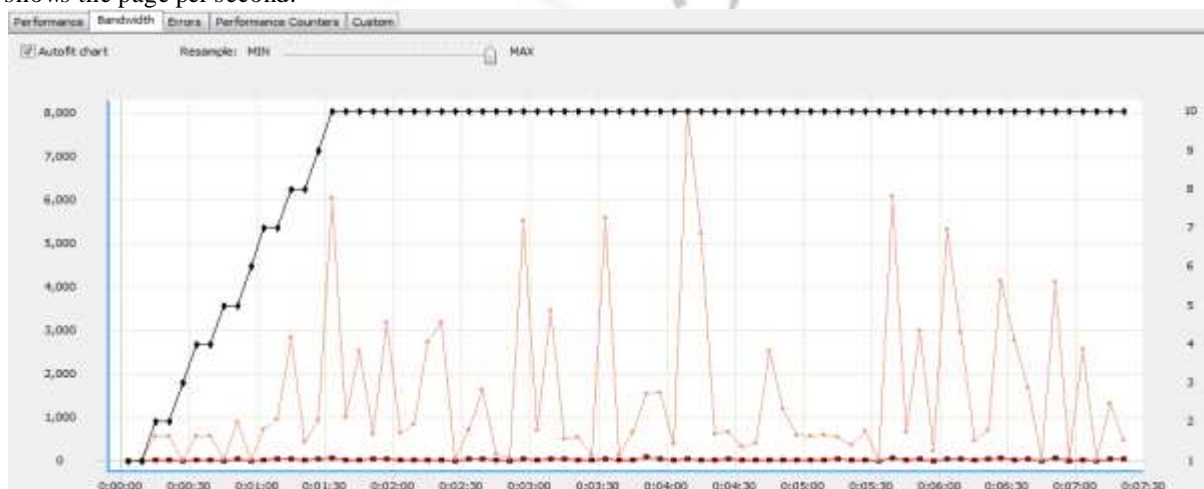
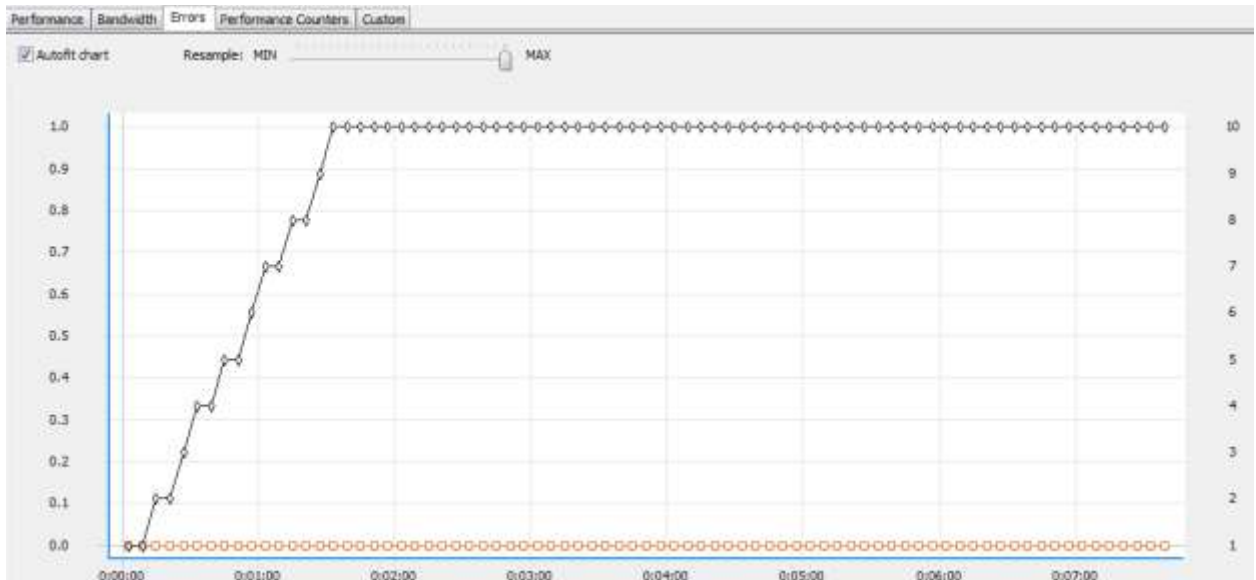


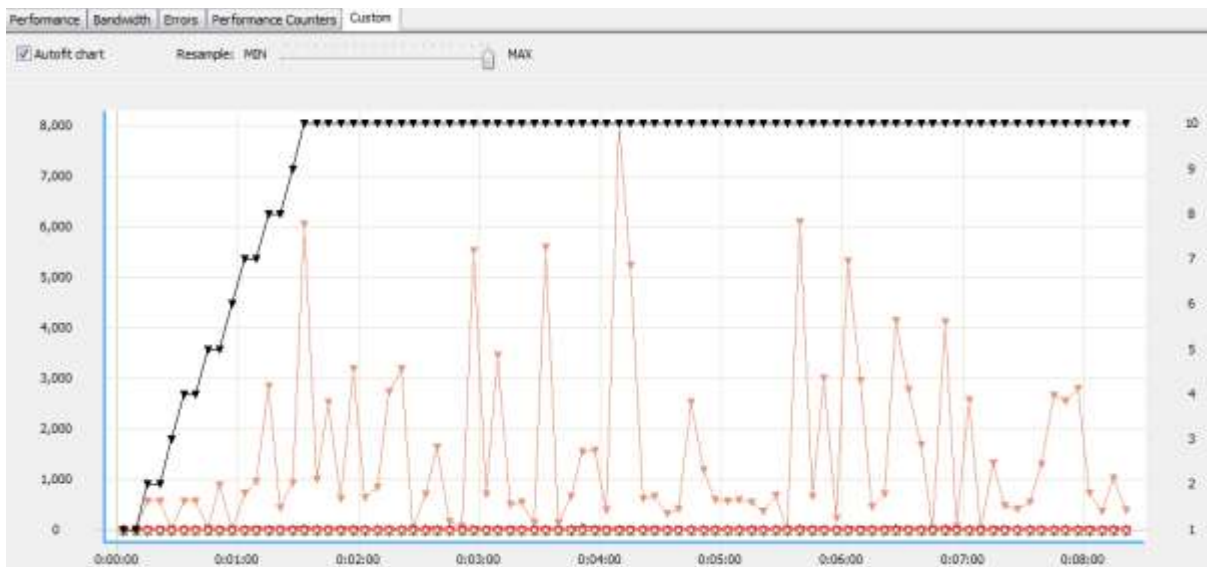
Figure 4 Bandwidth Graph

In graph bandwidth shows that black line for the active user, orange lines shows the receiving speed, k bits/s and red line shows the sending speed.



**Figure 5 Errors shows in Graph**

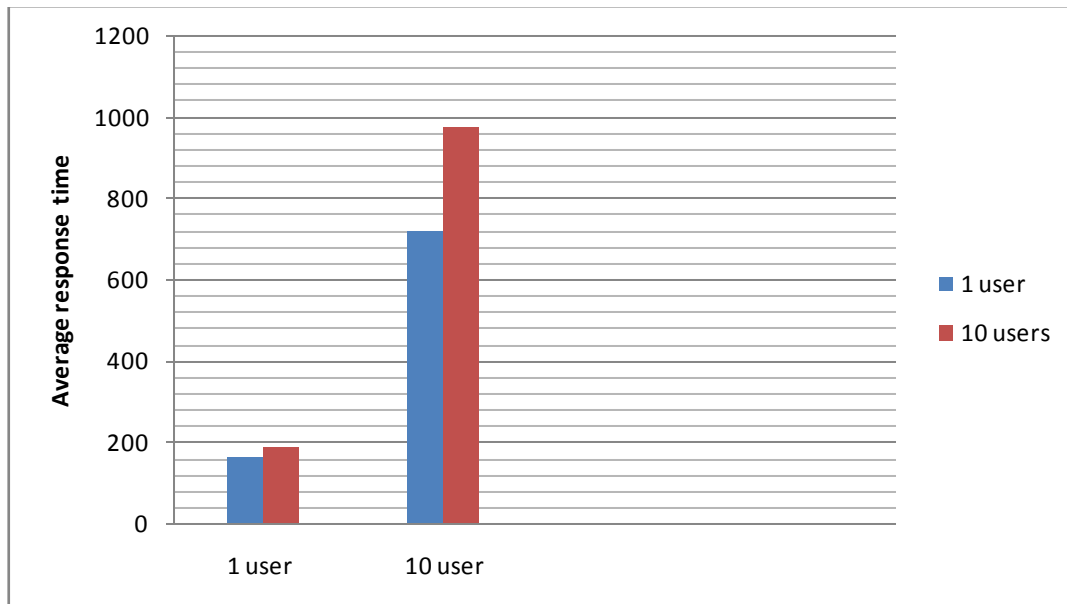
In graph black line shows that active users and orange line shows the HTTP response time.



**Figure 6 Custom Graph for 10 users**

Black line shows the active user , orange lines shows the receiving speed, k bits /s, purple lines shows the sending speed , red lines shows the page per second, purple boxes shows the average response time.





**Average response time for the LOAD Complete and the WAPT pro tool.**

Tool	1 user	10 user
LOAD Complete	161	189
WAPT pro	720	980

#### IV. CONCLUSION& FUTURE SCOPE

The above comparison shows that the average response time of WAPT pro tool is larger than the LOAD complete tool. In this paper we use the web application [www.flipkart.com](http://www.flipkart.com) a shopping site. We check the response time, page load and in WAPT pro tool we also check the HTTP Errors. This software testing further enhanced by including more testing tool and also we can edit browser in testing tool.

**V. ACKNOWLEDGEMENT:** The author expresses their sincere thanks to Ass. Prof. Miss Neha Thakur, Career Point University Hamirpur (H.P.) for these valuable suggestions and guidelines and I would also like to thanks my friend Neha for her help in this research.

#### References:

- [1] David A. Botwe1, Joseph G. Davis2 “A Comparative Study of Web Development Technologies Using Open Source and Proprietary Software” *IJCSMC, Vol. 4, Issue. 2, February 2015, pg.154 – 165* ISSN 2320–088X
- [2] R. M. Sharma “Testing Web Applications: Tools and Techniques” *International Journal of Advanced Research in Computer Science and Electronics Engineering (IJARCSEE) Volume 3, Issue 8, August 2014*
- [3] Ravi Kumar, A.J Singh “A Comparative Study and Analysis of Web Service Testing Tools” *International Journal of Computer Science and Mobile Computing IJCSMC, Vol. 4, Issue. 1, January 2015, pg.433 – 442*
- [4] Li, Yuan-Fang, Das, Paramjit K. and Dowe, David L. 2014. “Two decades of Web application testing A survey of recent advances” *Information Systems, Vol. 43, pp. 20–54.*
- [5] Shakti Kundu “Web Testing: Tool, Challenges and Methods” *IJCSI International Journal of Computer Science Issues, Vol. 9, Issue 2, No 3, March 2012 ISSN (Online): 1694-0814*
- [6] Neha Thakur, Dr. K.L. Bansal “Comparative Study of Web Performance Testing Tools” *International Journal of Advanced Research in Computer Science and Software Engineering Volume 5, Issue 5, May 2015 ISSN: 2277 128X.*
- [7] Dr. Deepak Dagar1, Dr. Amit Gupta2 “Performance Testing and Evaluation of Web Applications Using WAPT Pro” *International Journal of Innovative Research in Computer and Communication Engineering Vol. 3, Issue 7, July 2015*
- [8] Ms. S. Sharmila1 Dr. E. Ramadevi2 “Performance Evaluation and Comparison of Web Application Testing Tools: WAPT Pro and Apache JMeter” *IJSRD - International Journal for Scientific Research & Development | Vol. 2, Issue 02, 2014 | ISSN (online): 2321-0613*
- [9] Shariq Hussain, Zhaoshun Wang, Ibrahim Kalil Toure and Abdoulaye Diop “Web Service Testing Tools: A Comparative Study”
- [10] [http://www.qualitytesting.info/page/LOAD Complete.](http://www.qualitytesting.info/page/LOAD%20Complete)