ABSTRACT

The web server is in charge of serving any information requested by users when accessing a website. According to a survey conducted by Netcraft, Apache and Nginx are the most widely used web server software. The method used to measure web server performance is load testing. Previous research such as research by A.Y. Chandra and Research by A.D. Praba and Hariyanto, concluded that Nginx completed the test faster than Apache based on the elapsed time parameter. The research used a single URL load testing method with the Apache Bench load testing tool. Therefore, this study uses Siege's load testing tool with two testing methods, namely single URL load testing and multiple URL load testing. The test variables used are concurrency, repetition, delay, time and URL. Each test variable value will be modified to create more diverse test scenarios. The performance parameters analyzed are response time, transaction rate, throughput, and elapsed time. From the results of the single URL load testing test, Nginx has better performance based on response time, transaction rate, throughput, and elapsed time with the largest difference in value where Nginx has a response time value of 0.05 seconds faster, completing 125 more transactions in a single URL. one second and sends a larger 0.45 MB of data in one second. In addition, from the load testing results of multiple URLs, it was also found that Nginx's performance is better based on the parameters of response time, transaction rate, and throughput with the largest difference in values where Nginx is able to have a response time value of 0.01 seconds faster, completing 46 transactions more loads in one second and sends 0.10 MB larger data in one second. Based on the two test results concluded that Nginx has a better performance than Apache.

Keywords*: web server,* Apache, Nginx, *Load testing.*