

ABSTRACT

Amazon Web Services (AWS) is a cloud platform with the most complete features and wide use in the world, Amazon Web Services (AWS) is available up to 165 superior services from data centers globally and low fees. This is an attraction for the use of AWS so that the author conducts research related to how to configure a website on AWS and analyzes which web server is better used on the website, hoping to help new users who want to implement their website on AWS. This research aims to test the performance of Apache and Nginx web servers implemented on the AWS (Amazon Web Services) cloud service using the load testing method. Testing is done by sending requests from 1 client using Apache JMeter with the number of connections 200, 400, 600, 800, 1000, 1200, 1400, and 1600 in 3 time spans, namely 5 seconds, 15 seconds, and 30 seconds. The test results show that the e-learning website can be implemented on AWS using EC2 and RDS features. Evaluation of throughput QoS parameters for Nginx the best output in the 5 second time range with results > 4 Mbps, for Apache the best output in the 30 second time range with results > 2 Mbps. Packet loss Nginx best results in the 30 second time range with results < 1% and Apache in all time ranges the results are < 1%. For delay and jitter Nginx the best results in the 5 second time range are < 2 ms and Apache for the best high requests in the 30 second time range with results < 2 ms. Finally for response time Nginx and Apache both show the best value in the range of 30 seconds with results < 1 second, but in all trials Nginx shows a more stable output. Based on the test results, it can be concluded that the Nginx web server is more recommended for website implementation on AWS.

Kata Kunci: *Web server, Apache, Nginx, Cloud, AWS (Amazon Web Services), Apache JMeter*