Abstract

The goal of this research was to investigate how application architecture impacts the performance of cloud-based applications. One specific area of examination was to determine the correlation between throughput and scalability of applications in a cloud computing environment.

The experimental methodology was adopted for the study. Microsoft Azure cloud platform and Microsoft Visual Studio Team Services were used to conduct graduated load performance tests. A convenience sample for the experiment consisted of seventeen web applications. Advanced statistical analysis of the results was conducted using Pearson Correlation Coefficient analysis.

The results revealed that there was a strong positive correlation between throughput and scalability of cloud-based applications, which was statistically significant. Therefore, through the experimental methodology, the null hypothesis was rejected and the alternative hypothesis was accepted.
References


Index Terms

Computer Science Information Sciences

Keywords
Scalability, Throughput, Cloud-based Applications, Cloud Migration, Web Applications, Graduated Load Test.