

ABSTRACT

Technological developments have driven progress in data storage systems, with databases becoming a key component that is inseparable from the use of current technology. Although many people often don't realize it, the use of databases has penetrated various aspects of modern society, from companies and businesses to websites and research. From the past to the present, databases have undergone significant transformation, starting from large and complex physical forms to becoming virtual and distributed, with DBMS (Database Management System) becoming the main foundation for their management. To overcome this problem, MongoDB is one example of the many databases used today, especially in the context of web and internet applications. What differentiates MongoDB from traditional databases is its use of NoSQL-based data and a data storage format in the form of JSON. This research aims to evaluate MongoDB's performance and identify and anticipate possible errors in its use. Using the YCSB benchmark (Yahoo! Cloud Services Benchmark), performance tests were carried out to understand MongoDB performance in normal situations and identify factors that could cause system failure.

Keywords: database, DBMS, YCSB, MongoDB, database performance, benchmark