Abstract

Currently, the development of data has increased rapidly, Solutions are needed to be able to manage data efficiently, one that can be offered is to utilize the database. The biggest decision in selecting a database is to select between SQL or NoSQL. MySQL is a relational database management system that is commonly used using SQL as the query language. This database consists of tables that store data in the form of columns and rows. Then the new format database NoSQL, appeared, it is suitable for handling large amounts of data in a variety of formats. Neo4j is one of NoSQL that is widely used, it is a graph database which provides an easy way to visualize data by storing data in the form of nodes that are connected by edges. Nodes are representations of objects. Meanwhile, edges are lines that connect between nodes. In this paper, the authors compare and analyze the performance of the SQL (MySQL) and NoSQL (Neo4j) databases in terms of memory usage, execution time and also their flexibility using the data for public policy decision making by the Deputies. The results show that MySQL has a faster execution time than Neo4j, Although, both databases have the same time complexity. Apart from that, MySQL also has a smaller memory usage than Neo4j. However, it is known that Neo4j has better flexibility than MySQL especially for handling unstructured format data.

Keywords: data, database, performance, mysql, neo4j