

Abstract

ClikKB is a system owned by the department of regional BKKBN West Java. ClikKB data format stored in an excel file causes many null filling. Null value in ClikKB lead into semi-structured data structure. Semi-structured data can be called with nonuniform data that documents have different attributes. The various of NoSQL variants, document oriented used to overcome the problem of nonuniform data.

Because it covers the West Java area, so ClikKB data is quite large. This system has high accessed about read and write by all departments BKKBN West Java. It will affect system performance. To improve system performance, implemented the distribution process namely of database storage techniques were split to several storage locations that are connected to the network. One of NoSQL DBMS is MongoDB. MongoDB has the capability for data distribution. 3 architecture that is implemented here is a single application of document oriented database server, application sharding with 2 nodes, and sharding 3 nodes. Type of Specification or deviding of the data is horizontal specification because MongoDB have it features. In general, the implementation of the distribution the document oriented database response time resulted in an increase of up to 167.55% when compared with no distribution process.

Keywords: null value, NoSQL, document oriented database, MongoDB, sharding.