



Bachelor-, Master- und Doktorandenseminar
des Instituts für Informatik

Architecture design and modeling operations of NoSQL DBMSs: Case of MongoDB

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On the market there are so many services that are available for visitors. But almost all of these applications need storage or indeed operations on the data. To solve the limitation of operations for SQL DBMS, which appears now to be inefficient for real time big data processing with safety properties and others requirements of services, We will present an alternative building of these operations in the new approach of DBMS for same data records to increase the performance of the transactions from the application. The first aim of this thesis is to study some algorithms of operations or mechanism with his data model (JSON Formats, BSON...) for storage and retrieval data in multiple NoSQL DBMSs, so that we can make the test comparison between SQL operations and the same operations in other Systems. We will build some mechanisms, which not exist in some kinds of DBMSs to process Queries, especially in MongoDB, we will extend some Methods, which appear to be not efficient to process queries in JSON complex data structures with multiple levels processing. Example we have in Mongo some Operations like Count, which just make a counting in a simple JSON structure. In this thesis we will present Algorithms that can count at multiple Level, make a sum or average operations.

The second aim is to study the architecture and structure of queries processing, the format used for multiple kinds of dbms, especially binary tree structure of JSON and others Formats supported and the benefits in Comparison with RDBMSs to make a choice for which to use to manage our data, is a challenge that come in this work. It gives a property which is really important for choice DBMS and in which conditions a DBMS is efficiently usable.

At the end of this thesis we will be able to produce Algorithms to traverse collections or documents in complex JSON files in order to extend Method processing queries with complex structures in NoSQL dbms, which has an efficient wise to store in real time millions of data.

Mittwoch, den 19.08.2015, 11 Uhr s.t. im
Besprechungsraum 106, Ifl, Julius-Albert-Straße 4