

MSc Project Report

A Non-Relational Solution
for Faster Reporting
of E-Learning Systems with Relational Databases

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Abstract

Even with the popularity of big data and NoSQL databases, web applications still tend to be integrated into relational databases as their data storage layer. One of the major reasons for this is the strong transactional processing properties of relational databases. Once the systems are being used by a large number of audiences for a long period of time, the need to perform analytics and the need to analyse various unstructured data sources arise. NoSQL data storage tools are highly recommended for analytics and unstructured data processing. If a system is able to do the routine transactional processing using relational databases and perform the aggregations and generate analytical reports using NoSQL databases, that would be the ideal solution.

The proposed solution can export a selected set of data from the relational database into a NoSQL data store. The users of the system will be able to generate reports and perform various other analytics using the exported data.

Key words:

Relational databases, reporting, Hive, NoSQL database, Data warehouse, data analytics, aggregations