

## **An Open Source, Java Based NoSQL Distributed Database System**

Big data, many users and cloud computing is motivating us towards NoSQL technology. Today's applications can have millions of users around the globe using it simultaneously, and also a mobile application can grow from one user to millions overnight. NoSQL database implementation can provide the required scalability, fault tolerance, and low-latency availability of data resources for today's requirements.

If you are in need of a NoSQL database system that is scalable, reliable, low cost and able to offer performance levels comparable to the operational systems used in real environment, then this announcement can be really useful to you.

Through hard work for 3 months, master students at the university of KTH managed to build a distributed NoSQL key-value database prototype that can store 10 million records on 10 distributed nodes, with one node acting as master (can write and read data ) and the remaining nodes acting as a slave (can read only).

Our key-value store database system can serve changing latency clients with adaptive roles between the serving nodes while providing high availability and failover mechanisms. The database system keep optimizing itself automatically to allow optimum connection to the client nodes. The clients can only write data to the master node, but all the nodes will have the same data, thanks to an automatic replication mechanism that allow the master to update the other nodes about any new data.

The system was tested while running on a network emulator (Mininet) using YCSB benchmarking tool and managed to reach 2000 read/sec and 500 write/sec while running the whole system on a single machine. Better performance can be expected when you run the system on separate machines.

For more information, you can check the project Github, read the project report or watch this video demo.