

Yahoo Cloud Storage Benchmark for State-Machine Replication

The YCSB is an open source benchmarking specification and framework for evaluating the performance of database-like software. Since its release in 2010, it has evolved into a de facto standard for benchmarking commercial products like Redis, HBase, Cassandra and many others.



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Not only in the industry, but also in the scientific community, many researchers are using the YCSB to evaluate and compare their scientific findings and software artifacts against other published solutions.

This project should create a YCSB Client implementation and workloads for benchmarking our platform for replicated state-machines built within our institute in the recent years. State-machine replication is a technique for providing high levels of fault-tolerance. In research projects we extended the existing BFT-SMaRt framework for our use. In the future we would like to use the results of this project to evaluate performance changes when extending the framework further.

Students with previous knowledge in these areas are preferred, but the necessary skills can also be acquired during the project. At the end of the project, a thorough comparison of the newly YCSB-enabled software artifacts should be conducted.

Suitable for all master students fluent in Java, preferably with prior fundamental knowledge on fault-tolerant systems (e.g. after the lecture FTDS). Language for Supervision is German or English.

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If you are interested or need additional details, feel free to contact me for a non-binding chat.

