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Benchmark Frameworks

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Definition

A benchmark framework is a collection of tools for generating and executing benchmarks. Examples include HammerDB and YCSB;

HammerDB is a tool for executing benchmarks on relational database systems. It supports a range of existing relational database systems. It is configured to run TPC-C and TPC-H benchmarks (including schema creation, data generation, measurements, and workload execution). It can also capture and replay traces on Oracle databases. HammerDB provides a visual interface and a command line interface for additional scripting and automation.

YCSB is a tool for characterizing the performance of cloud-based data serving systems. It supports a range of existing data platforms including document databases, key-value stores, full-text search engines, BigTable databases, block stores, and relational databases. It is configured

to run latency benchmarks (with variable load on the data serving system) as well as throughput benchmarks (with a variable number of servers attached to the data serving system). Workloads represent a mix of read/write operations, data sizes, and request distributions. A core package is provided and users can develop their own (by changing existing configurations or writing new code).

URL to Code and Data Sets

HammerDB: <http://www.hammerdb.com/>

YCSB: <https://github.com/brianfrankcooper/YCSB>

Cross-References

► [Benchmarks](#)

Recommended Reading

1. Cooper BF, Silberstein A, Tam E, Ramakrishnan R, Sears R. Benchmarking cloud serving systems with YCSB. In: Proceedings of the 1st ACM symposium on cloud computing (SoCC'10), ACM, New York; 2010. p. 143–154. doi:[10.1145/1807128.1807152](https://doi.org/10.1145/1807128.1807152).