# CockroachDB (Database)

CockroachDB is a cloud-native SQL database for building global, scalable cloud services that survive disasters. It is a distributed SQL database built on top of a transactional and consistent key:value store. The primary design goals are support for ACID transactions, horizontal scalability and survivability. It aims to tolerate disk, machine, rack, and even datacenter failures with minimal latency disruption and no manual intervention. CockroachDB nodes are symmetric; a design goal is homogeneous deployment (one binary) with minimal configuration. One important feature of CockroachDB is that it provides snapshot isolation (SI) and serializable snapshot isolation (SSI) semantics, allowing externally consistent, lock-free reads and writes--both from an historical snapshot timestamp and from the current wall clock time.

Developed by Cockroach labs- ex-google employees, CockroachDB has 57 releases since its first release in March-2016. There are 146 contributors, and they have made 20722 commits in total. There’s a huge global community of developers who use it, build on it, and contribute to it.The issues related to this project are open for anyone to look at and contribute towards solution. The documentation is quite extensive on their website- <https://www.cockroachlabs.com>. They follow typical style guide and review each code in order to include it as contribution.

CockroachDB has many edges over other traditional databases, for example its features like automated scaling, automated failover, and consensus-based replication are not there in leading traditional databases. And, beacasue of this reason it is very liked among the users and has a whopping 10702 stars on Git. There’s extensive documentation, for each and every feature, for the users as well.

In conclusion, CockroachDB is an open source database, which is better for developers as well as for operators. Developers can iterate quickly without sacrificing consistency using CockroachDB’s modern SQL API, ACID transactions, and distributed query execution. They can build applications on CockroachDB using many diferrent languages like Python, GO, Ruby etc. It also Minimize operator overhead with the easiest scaling story in the industry, implemented through a shared-nothing architecture composed of fully symmetric nodes and no external dependencies. It Protects always-on services from outages with its multi-active availability designed for fully automated failover, load rebalancing, and data recovery.

References:

<https://github.com/cockroachdb/cockroach/>

<https://www.cockroachlabs.com/>

<https://stackoverflow.com/questions/tagged/cockroachdb>