

CAP theorem

🕒 Created

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databases

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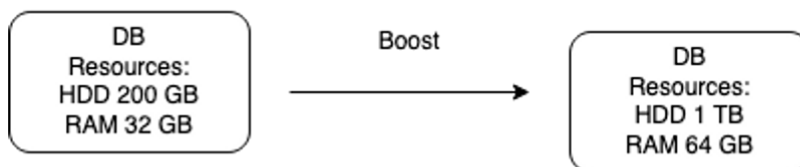
Notes

Sources:

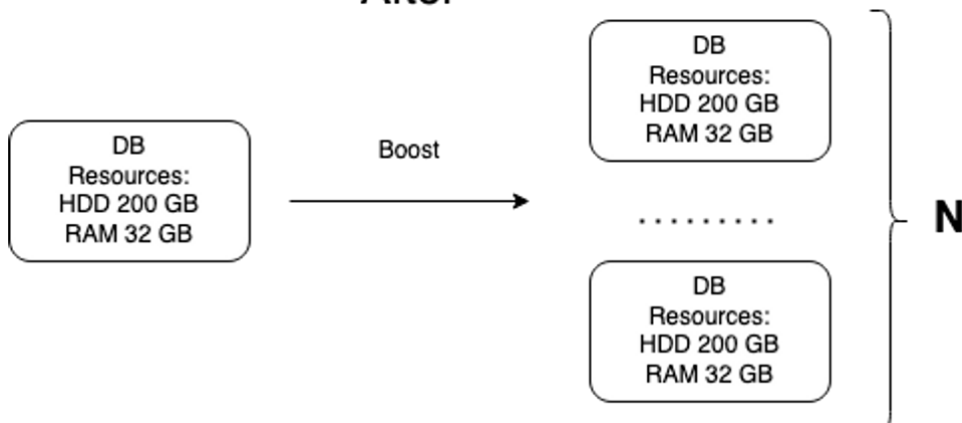
- <https://www.scylladb.com/glossary/cap-theorem/>
- <https://www.scylladb.com/glossary/eventual-consistency/>
- <https://youtu.be/BHqjEjzAicA>
- <https://www.youtube.com/watch?v=KmGy3sU6Xw8>

"Cheap, Fast, and Good: Pick Two"

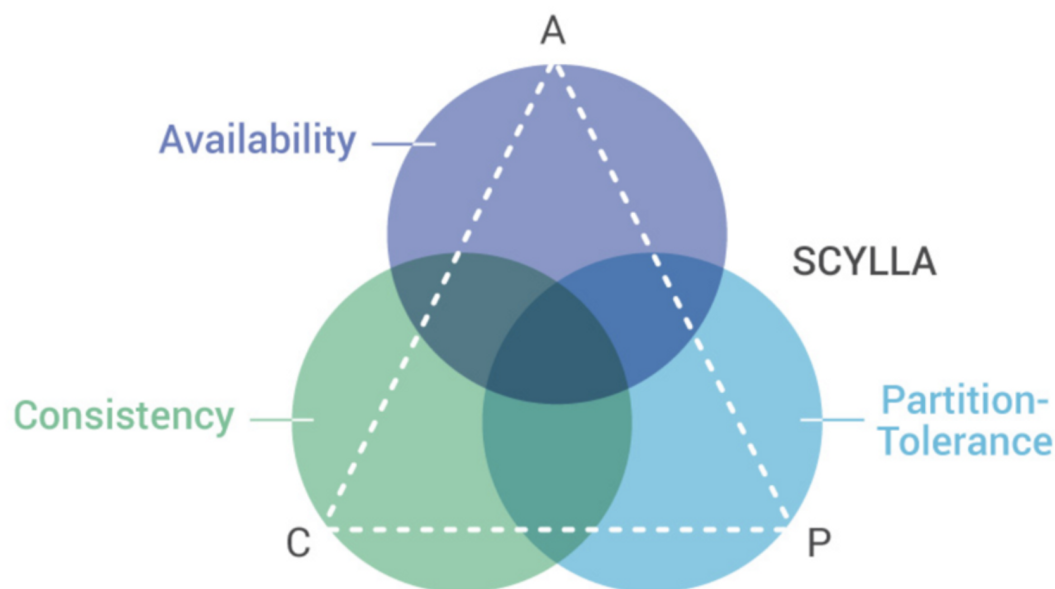
Before



After

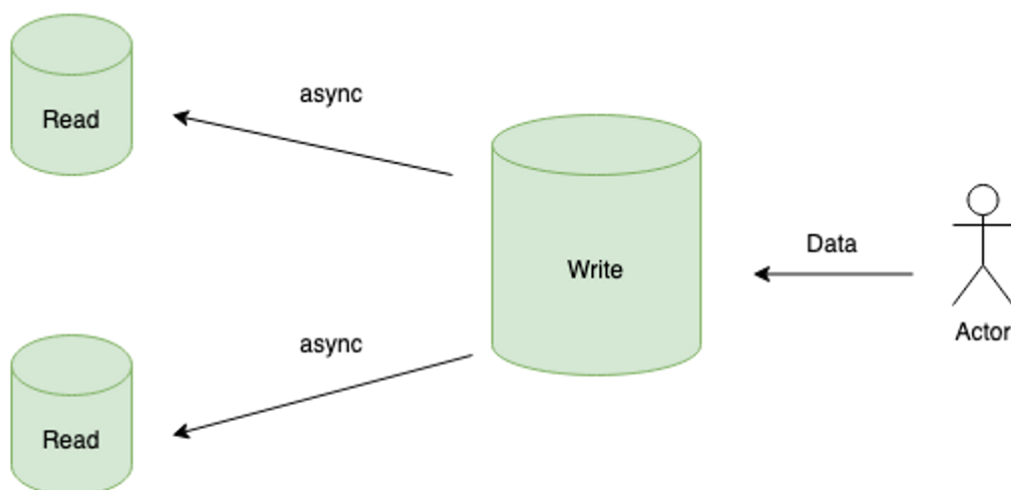


CAP Theorem is a concept that a distributed database system can only have 2 of the 3: Consistency, Availability and Partition Tolerance.

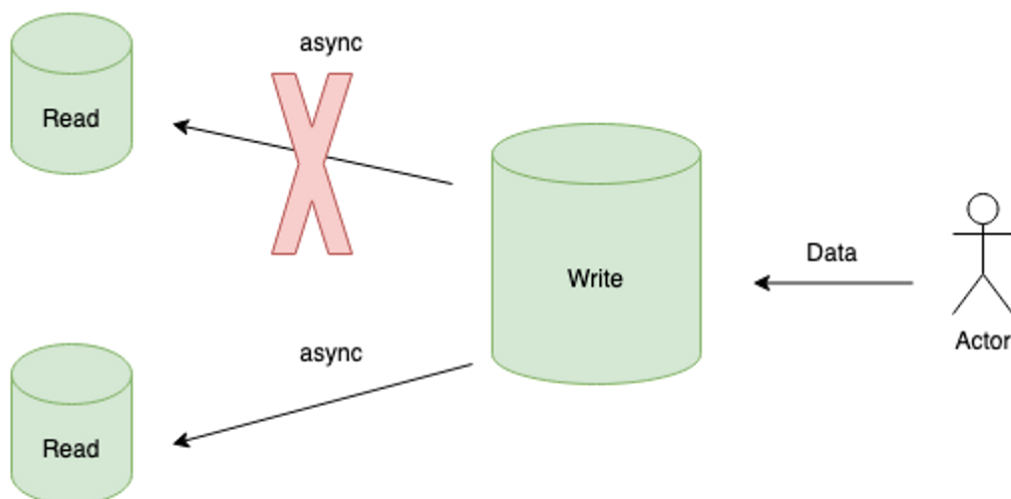


AP

Normal scenario

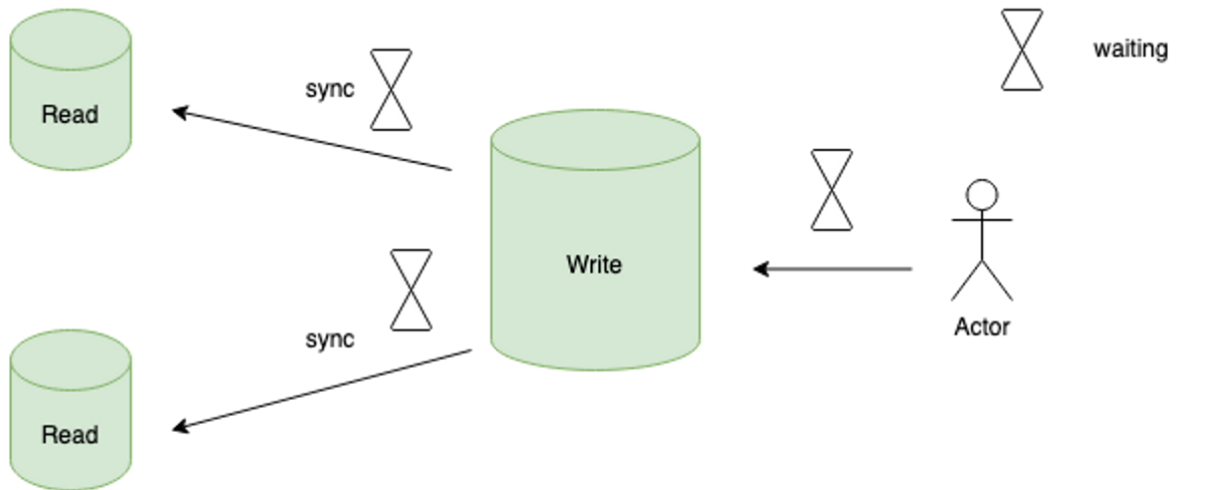


Partion happened

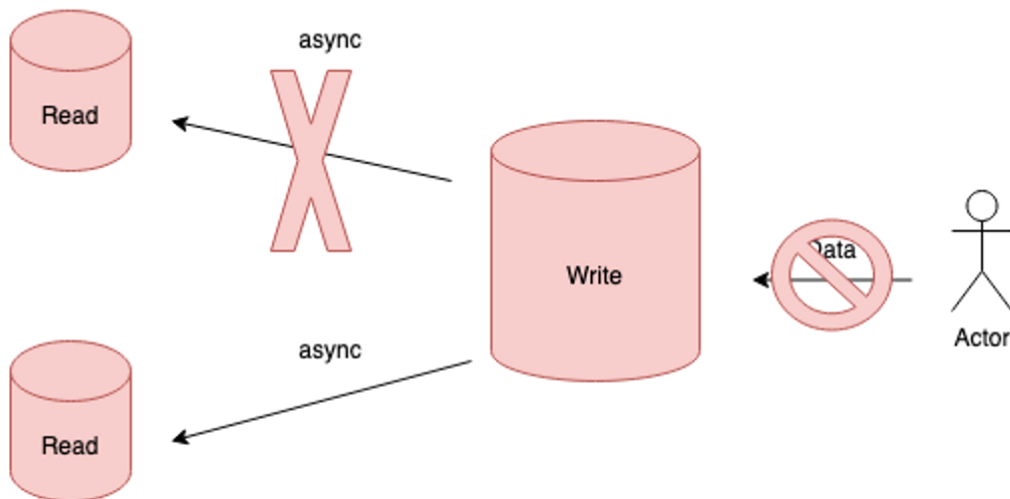


CP

Normal scenario



Partion happened



Need to say:

- Eventual consistency (ScyllaDB, Cassandra)
- Database systems such as RDBMS that are designed in part based on traditional ACID guarantees choose consistency over availability. In contrast, systems common in the NoSQL movement designed around the BASE philosophy select availability over consistency.
- PACELC

CP - MongoDB, Redis, makes outaged cluster unavailable before it fixed

AP - Cassandra, CouchDB, ScyllaDB

PACELC

