ACID Properties

ACID properties are the fundamental building blocks that help make databases reliable, trustworthy, and consistent - even when lots of different people and processes are accessing the data at the same time. It's the hidden framework that keeps everything running smoothly behind the scenes

Essentially, the ACID acronym stands for:

Atomicity - this means that a transaction is treated as a single, indivisible unit. Either the whole transaction completes successfully, or none of it does.

Consistency - the database has to maintain a valid state before and after a transaction. The data has to conform to all defined rules and constraints.

Isolation - transactions are performed independently, without interference from other transactions happening at the same time. It's like each one has its own little private sandbox.

Durability - once a transaction is committed, its effects are permanent, even in the event of a system failure. The data changes stick around.