Atomicity and Isolation

- Atomicity: <u>All or nothing</u> principle: a transaction should either i) complete successfully, so its effects are recorded in the server objects; or ii) the transaction has no effect at all.

- Isolation: Need a transaction to be <u>indivisible</u> (atomic) from the point of view of other transactions
  - No access to intermediate results/states of other transactions
  - Free from interference by operations of other transactions

- But…

- Clients and/or servers might crash

- Transactions could run concurrently, i.e., with multiple clients

- Transactions may be distributed, i.e., across multiple servers

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