
# MySQL - RDBMS

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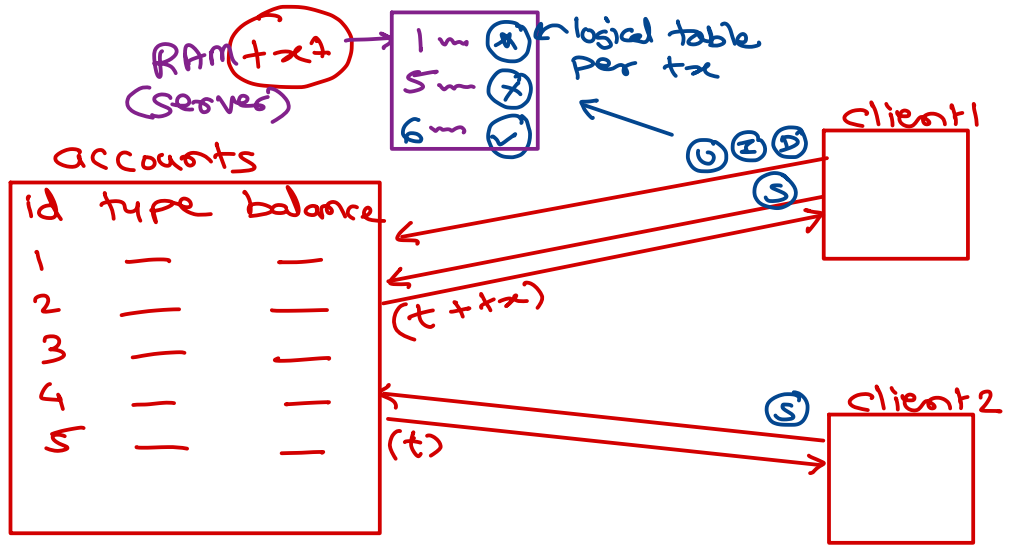
# Transaction

- Transaction is set of DML statements.
- If any DDL statement is executed, current transaction is automatically committed.
- Any power failure, system or network failure automatically rollback current state.
- Transactions are isolated from each other and are consistent.




In MySQL, setting autocommit = 1 (true).
select @@autocommit; → 1

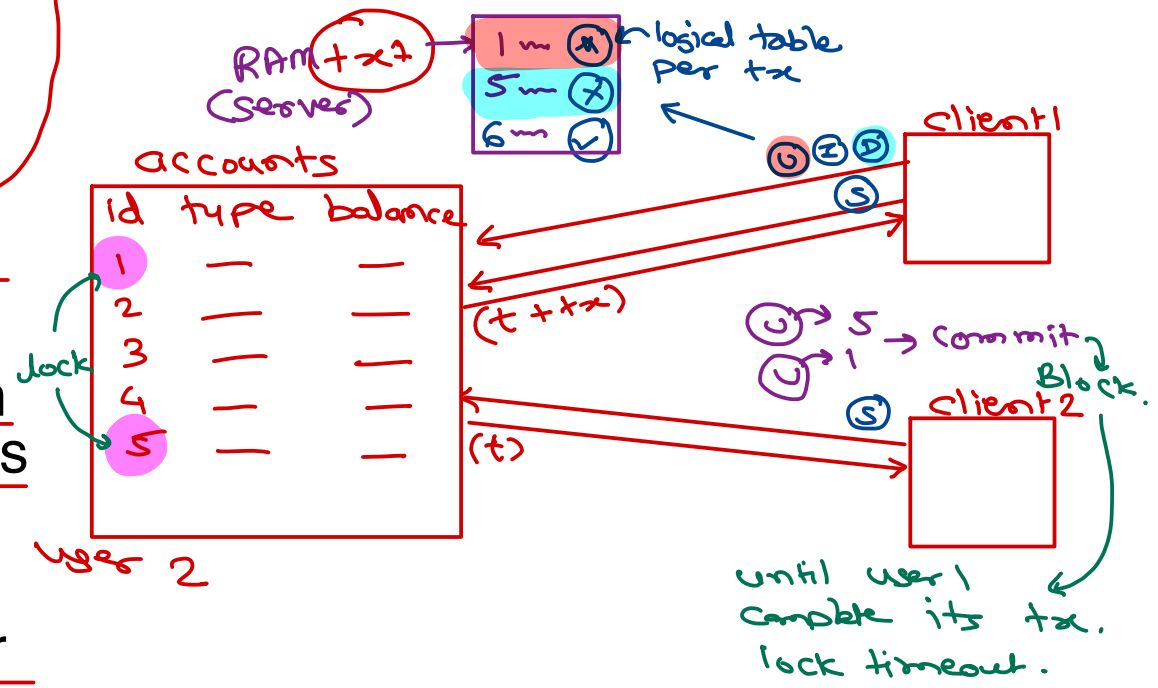
If any dml query is executed, it will be under tx with single query & that tx will be auto-committed.

If autocommit is set to false (0)
way 1: set @@autocommit = 0; → limited to session.
way 2: my.ini → autocommit = 0 → permanent and restart MySQL server. for all users

By default a tx is created (after prev tx is done).
START TRANSACTION; → implicit
User must commit/rollback each tx.

# Row locking

- When an user update or delete a row (within a transaction), that row is locked and becomes read-only for other users.
- The other users see old row values, until transaction is committed by first user.
- If other users try to modify or delete such locked row, their transaction processing is blocked until row is unlocked.
- Other users can INSERT into that table. Also they can UPDATE or DELETE other rows.
- The locks are automatically released when COMMIT/ROLLBACK is done by the user.
- This whole process is done automatically in MySQL. It is called as "OPTIMISTIC LOCKING".




# Thank you!

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