

**1. What is a migration? How it works: generating migration file → applying it → version control**

A migration is a code file that defines schema changes to a database, such as creating or modifying tables or columns. The process typically involves generating a migration file, which contains these changes, then applying it to the database to update its structure. These migration files are stored in version control (like Git), so every schema change is tracked, reviewable, and can be synchronized across team environments in a controlled way.

**2. How to seed data, and why?**

Seeding data means populating the database with initial or sample data automatically, often after creating tables. This is useful for development, testing, or demo purposes to have meaningful data without manual entry. Seed scripts insert predefined records, help simulate realistic scenarios, and ensure testing consistency across environments.

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To add a new column safely after the app is in use, create a migration script that adds the column with a default value or nullable option to avoid breaking existing data. Apply the migration during a low-traffic period if possible. Then update the application code to use the new column. This gradual approach avoids downtime or data loss and allows rollback if errors occur.