Automate MongoDB Migration

Project Presentation
CSE 716

Group members

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What is Database Migration?

Database Migration is the process of updating a Collection Schema and/or adapting the existing data for new requirements.
For example:
- A new course is added
- A course is removed
- A course is renamed
- The type of a course is changed
- The representation of a course is changed

Why database migrations?

Some questions may arise:

1. What state is the database in on this machine?
2. Has this script already been applied or not?
3. Has the quick fix in production been applied in test afterwards?
4. How do you set up a new database instance?

More often than not the answer to these questions is: "WE DON'T KNOW."

Why database migrations?

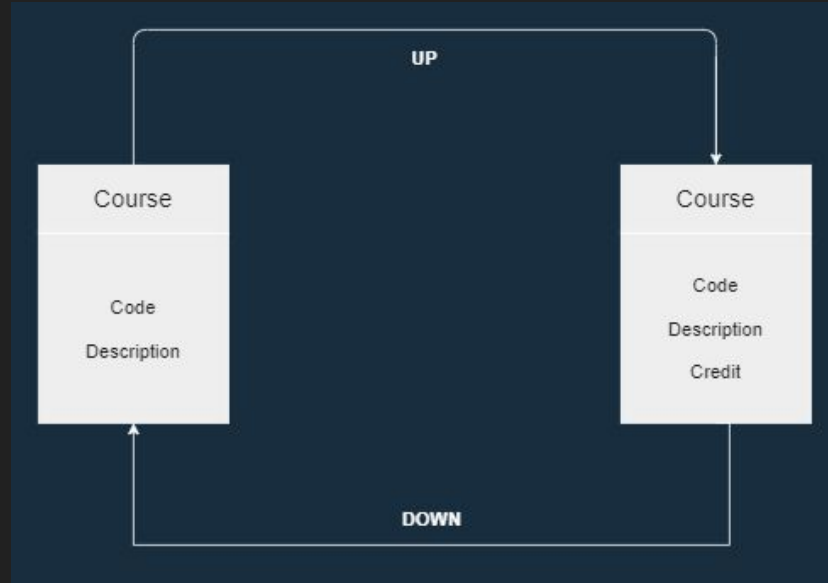Database migrations are a great way to regain control of this mess.

1. Recreate a database from scratch
2. Make it clear at all times what state a database is in
3. Migrate in a deterministic way from your current version of the database to a newer one

Migration Tool: migrate-mongo

migrate-mongo is a database migration tool for MongoDB running in Node.js

❖   Create migration
❖   Upgrade schema
❖   Downgrade schema
❖   Show status

Migrate-mongo: Upgrade - Downgrade

Migrate-mongo: Migration Status

Filename	Applied At
20210902174706-initial-courses.js	2021-09-24T03:46:14.503Z
202210916041529-add-credit-column.js	2021-09-24T03:46:14.505Z
20210916150748-update-values-of-credit-columns.js	2021-09-24T03:46:14.507Z
20210916151122-rename-credit-column-name.js	PENDING

Filename	Applied At
20210902174706-initial-courses.js	2021-09-21T16:37:52.127Z
202210916041529-add-credit-column.js	2021-09-21T16:37:52.130Z
20210916150748-update-values-of-credit-columns.js	2021-09-21T16:37:52.133Z
20210916151122-rename-credit-column-name.js	2021-09-24T06:08:59.122Z

Conclusion

By using a database schema migration tool we can achieve

- Incremental

- Reversible

- Version-controlled

way to apply schema and data changes.