Fullstack Development

Preflight project - backend

Github Repo

Node JS backend framework

https://github.com/vanodevium/node-framework-stars

Packages

- Express JS
    - `npm i express cors helmet body-parser`
- Typescript
    - `npm i typescript ts-node tsconfig-paths`
    - `npm i -D @types/cors @types/express tsc-alias`
- ORM
    - `npm i drizzle-orm postgres dotenv`
    - `npm i -D drizzle-kit nodemon`

ORM code

- All files in `./db` folder.
    - No need to copy `migration` folder.
- Change schema if needed.
- `.\drizzle.config.ts` (Link)

Files

- `.env` (Copy from here)
- `nodemon.json` (Link)
- `.gitignore` (Link)

Typescript

- `npx tsc --init`
- Note the `outDir` and `include` fields in `./tsconfig.json`. (See code on the next page)
  - Once we use `outDir` option any non-`./src` folder needs to be included, including the root.

./tsconfig.json

```json
{
  "ts-node": {
    "require": ["tsconfig-paths/register"]
  },
  "compilerOptions": {
    // ...
    "outDir": "./dist",
    "baseUrl": "./",
    "paths": {
      "@src/*": ["./src/*"],
      "@db/*": ["./db/*"]
    }
    // ...
  },
  "include": ["./*", "./src/**/*", "./db/**/*"]
}
```

Script

```json
{
  // ...
  "scripts": {
    "db:generate": "drizzle-kit generate",
    "db:push": "drizzle-kit push",
    "db:migrate": "ts-node ./db/migrate.ts",
    "db:prototype": "ts-node ./db/prototype.ts",
    "dev": "nodemon",
    "build": "tsc && tsc-alias",
    "start": "node ./dist/src/index.js"
  }
}
```

Backend logic

- `./src/index.ts` (Link)
- Start dev
  - `npm run dev`
- Build
  - `npm run build`
- Start production
  - `npm run start`

Containerization

- 💾 `./Dockerfile` (Link)
- 💾 `./dockerignore` (Link)
- 💾 `./docker-compose.yml` (Link)
- 💾 `./.env.test` from `./.env.test.example` (Link)
- ⌨️ `docker compose --env-file ./.env.test up -d --force-recreate --build`

Push to Dockerhub

- Create an account at https://hub.docker.com.
- Create repository called `preflight-backend`.
- Tag image
  - ⌨️
    ```
    docker tag preflight-backend [DOCKERHUB_ACCOUNT]/preflight-backend:latest
    ```
-
  ```
  docker login
  ```
- Push image
  - ⌨️
    ```
    docker push [DOCKERHUB_ACCOUNT]/preflight-backend:latest
    ```

Userful docker commands

- Inspect
  - `docker ps`
  - `docker network ls`
  - `docker volume ls`
- Cleaning
  - `docker image prune -a`
  - `docker builder prune`
  - `docker volume prune`
  - `docker network prune`