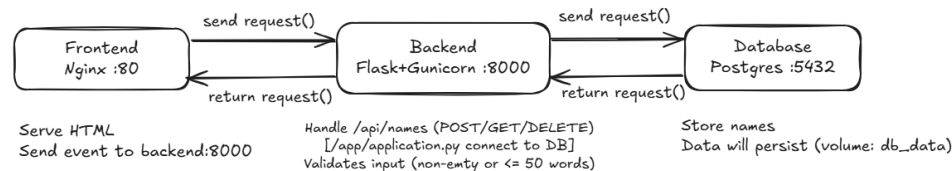


1. How the three components (frontend, backend, database) work together?

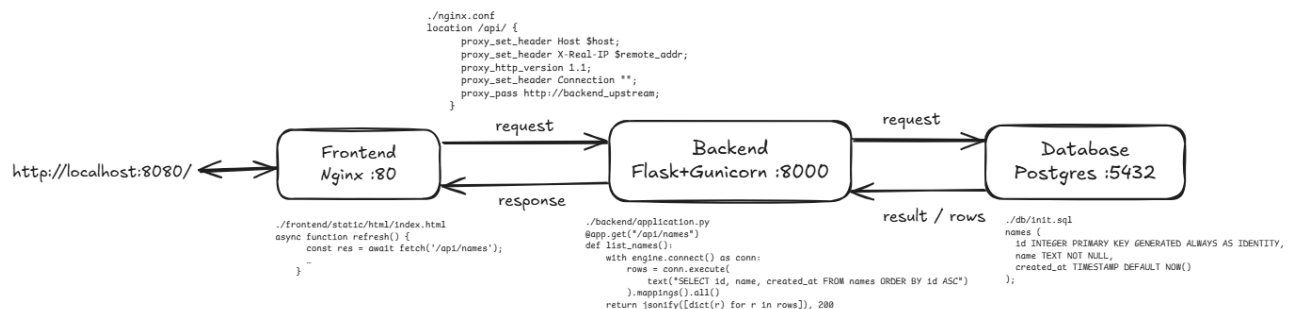
Use docker-compose.yml, we can use this file to define three services (frontend, backend, database) and also include the image in DockerHub.



2. The request/response flow between containers?

I have three container in HW3, I will separately show how they request/response and use user view the HTTP page to make an example:

- The Frontend (Nginx :80 → host :8080) serves index.html for / and proxies any /api/* requests to Backend (Flask+Gunicorn :8000) .
- The backend exposes REST endpoints @app.get("api/names")
- For data, the backend connects to Database (Postgres :5432) and sends SQL commands to the database and Responses flow back to the browser through Nginx.



3. Any challenges faced and how you solved them?

At the beginning of HW3, I don't have background for nginx and flask, so I search on the web to learn information about those, and start to try the code on web to implement the homework. Through hard work and perseverance, I finally finish this time project.