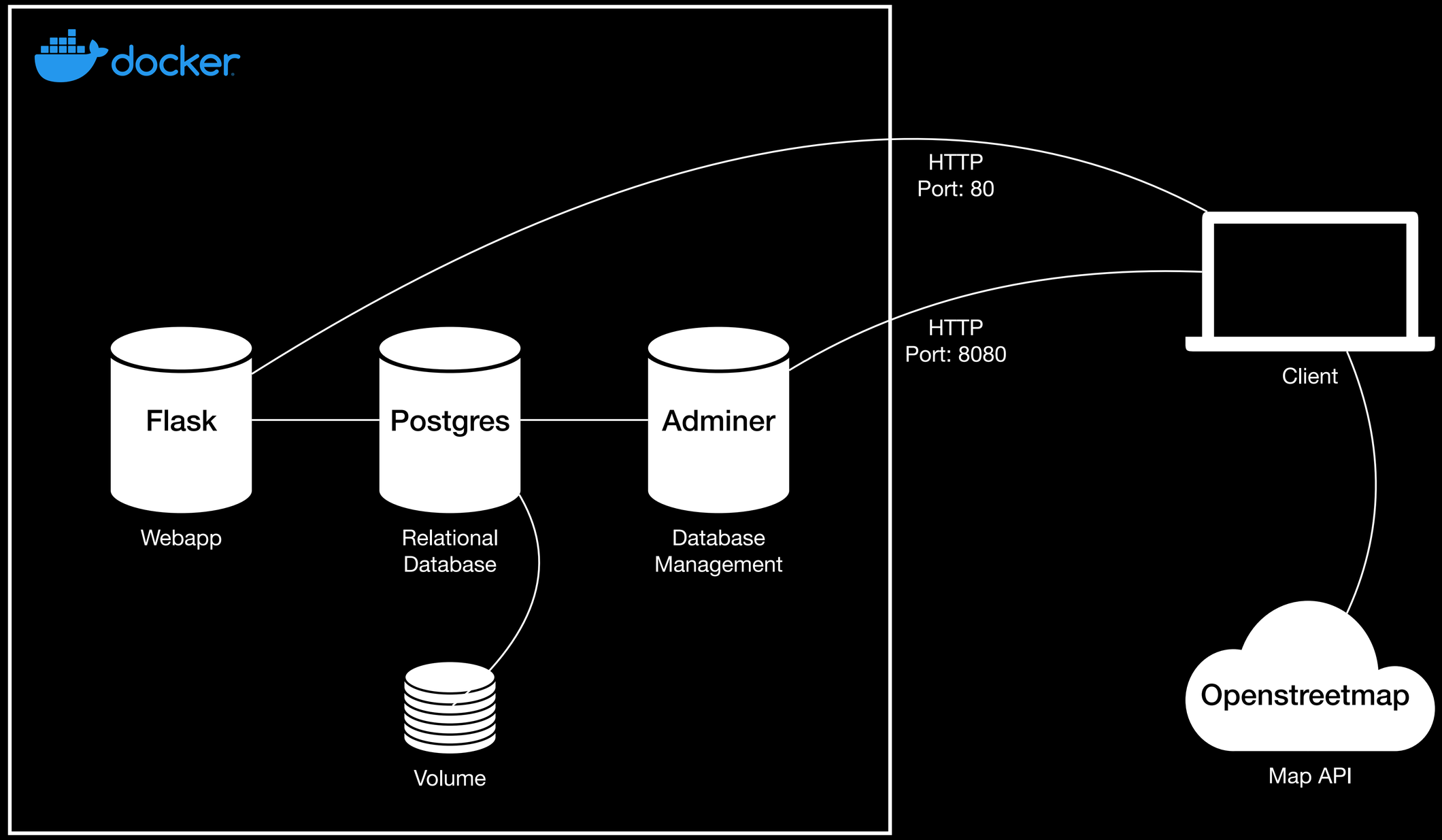
Bike Sharing

Architecture


docker
HTTP
Port: 80
HTTP
Port: 8080
Flask
Postgres
Adminer
Webapp
Relational
Database
Database
Management
Volume
Client
Openstreetmap
Map API

Database

= Primary Key, Underlined = Foreign Key

- PostgresSQL running in Docker Container
- Docker Volume mounted to /var/lib/postgresql/data to persist data

Bike

#id	name	x_coordinate	y_coordinate
Integer	String	Float	Float

Ride

#id	bike_id	user_id	start_time	end_time
Integer	Integer	Integer	DateTime	DateTime

User

#id	email	Password
Integer	String	String

Role

#id	name
Integer	String

RolesUsers

#id	user_id	role_id
Integer	Integer	Integer

Database Management

- Adminer running in Docker Container
- Web based
- Accessible through port 8080

Webserver

- Flask running in Docker Container
- Python based
- Accessible through port 80
- Receives request from clients and responds
- Handles authentication and authorisation (flask-security-too)
- REST API (accepts JSON and x-www-form-urlencoded)
- Database connection managed by SQLAlchemy
- Jinja templates for frontend