
OHDM Docker Documentation

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OHDM is a date sensitive map server like open street map.

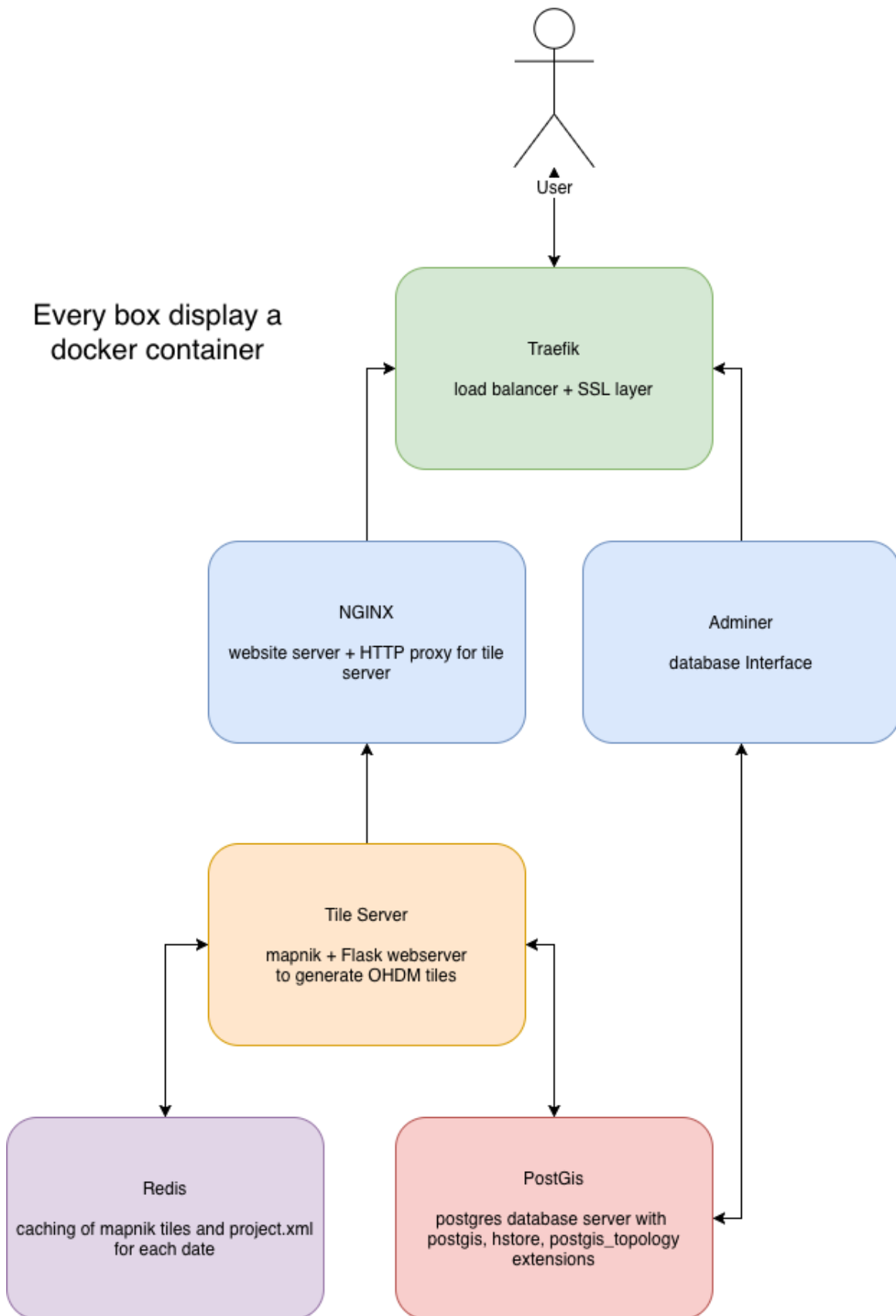


Fig. 1: Project Overview

Install Requirements

The only requirement for this project is Docker & Docker-Compose.

1.1 Docker

To install Docker on Mac & Windows download Docker Desktop <https://www.docker.com/products/docker-desktop>
For Linux users read the doc for your linux distro on <https://docs.docker.com/install/>

1.2 Docker-Compose

In the docs for Docker-Compose are install instruction for Linux, Mac & Windows. Just follow the instruction to get done. <https://docs.docker.com/compose/install/>

1.3 DNS Setup

At the following subdomains to your IP with a A record.

- `www`
- `db-admin`

2.1 Docker

2.1.1 Network

Every Docker container witch should be accessible from internet need for this project in the *web* network. To create the network just run:

```
$ docker network create web
```

2.1.2 Build containers

To manually build every image (need to be in project directory to work):

```
$ docker-compose build
```

Tipp: when you build every container, get you a coffee or a cold beer, it will take some time :)

2.2 Settings (.env)

To use settings copy the *.env-example* to *.env*:

```
$ cp .env-example .env
```

Hostname or Domain of the server:

```
# Hostname  
HOSTNAME=localhost
```

Email address for Let's Encrypt SSL certificate:

```
# SSL
ACME_EMAIL=info@localhost.com
```

Postgis Database & User:

```
# Database
POSTGRES_USER=ohdm
POSTGRES_PASSWORD=ohdm
```

Tile Server& Mapnik style cache time in seconds:

```
# cache expire time in seconds ( 604800 seconds == 7 days )
CAHCE_EXPIRE_TIME=604800
```

Tile Server debug mode:

```
# DEBUG=True
DEBUG=False
```

Tile Server tile & mapnik style cache:

```
CACHE=True
# CACHE=False
```

2.2.1 Start the server

After install the requirements & build the docker images you can start the server with (need to be in project directory to work):

```
$ docker-compose up webserver
```

In Terminal you can see what is going on on every docker container and if everything work fine, you can the website on your host domain like `https://<hostname>/`

To stop the server use `control + c`

Start the server in background use:

```
$ docker-compose up -d webserver
```

2.2.2 Adminer Database Interface

To use the adminer container to edit the database, start at first adminer in background:

```
$ docker-compose up -d adminer-db
```

Than you can go to `https://db-admin.<hostname>/` to enter the adminer database interface.

For the login data use

System	PostgresSQL
Server	postgis
Username	POSTGRES_USER from .env
Password	POSTGRES_PASSWORD from .env
Database	gis

The Tile Server is based on:

Software / Framework	Function
Mapnik	tile gernator
Python bindings for Mapnik	Python bindings for Mapnik
Redis	cache for tiles & Mapnik styles
PostGis	OHDM Database
Flask	Python microservice webserver
openstreetmap-carto	OSM styles for Mapnik
NGINX	Webserver to use flask in production

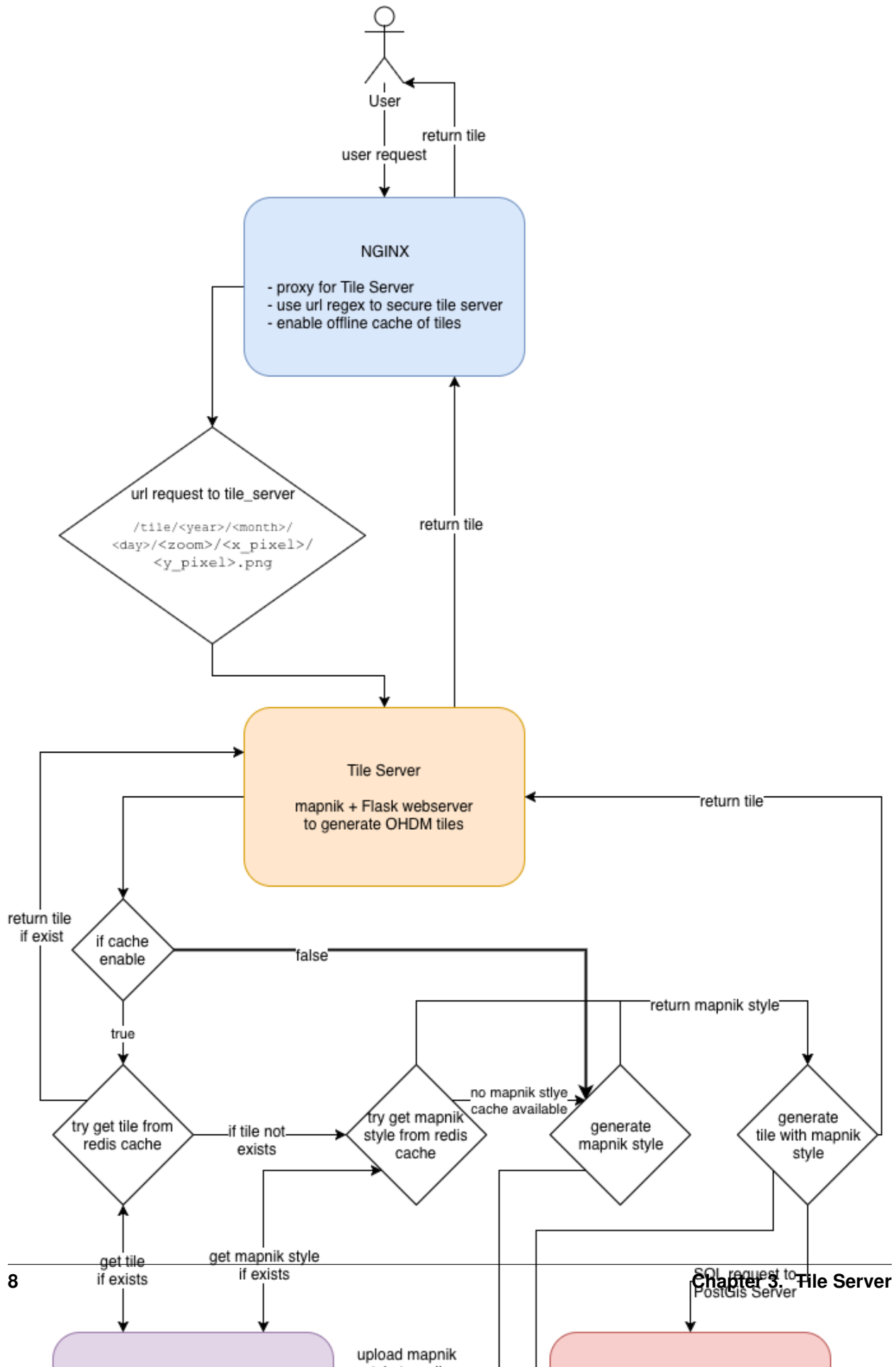
3.1 URL Mapping

The Tile Server listen on `https://<hostname>/tile/<year>/<month>/<day>/<zoom>/<x_pixel>/<y_pixel>.png`

Example for display the World on the 01.01.2019 on the host `example.com` is `https://example.com/tile/2019/01/01/0/0/0.png`

3.2 Source Code

The source code of the Flask microservice is on `tile_server/code/app.py`



CHAPTER 4

Website Integration

The website demo is in the project on `website` and is build with `leaflet` and `Bootstrap 4`

To see how to implement OHDM in `leaflet` just take a look on `website/index.html`. This is just a basic example with everything you need to start :)

CHAPTER 5

Documentation

Comming soon

CHAPTER 6

Indices and tables

- `genindex`
- `modindex`
- `search`