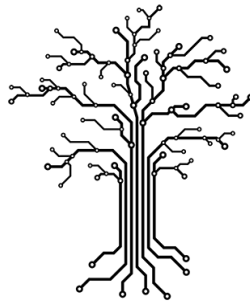# CLIMATETREE

Places Microservice

Developer Guide

Overview

Places Microservice is the backend architecture and logic for handling geo-location data associated with ClimateTree.wiki. Places contains 3 parts - a PostgreSQL database, a Java server, and a GeoServer. The database contains information on about 70000 nations, states, counties, and urbanextents across the world. The Java server is the backend architecture that hosts API endpoints and contains the logic for querying and returning information from the database. GeoServer serves as an alternative to some of the API endpoints from the Java server.

Goals and Audience:

Developers – who wish to learn how the Places microservice is being implemented and want to scale it further

Tools, technologies, and servers used

- PostgreSQL
    - PostGIS extension
- Java
    - Spring boot and Maven
- Geoserver

Running Locally

1. Clone the repo from https://github.com/climatetree/places-microservice
2. To run the server you'll need to add the database connection string as an environment variable named POSTGRES_CONNECTION_URL in the application.properties file. **spring.datasource.url=${POSTGRES_CONNECTION_URL}**
3. Run the server locally through an IDE like Eclipse or Intellij. You can alternatively run it from the command line if Maven is added to your path using mvn spring-boot:run. (the database connection string must be added as an env variable wherever you decide to run the app)

API documentation link

https://documenter.getpostman.com/view/10295047/Szf55VXU?version=latest

Database Structure

https://tinyurl.com/yaa3rfp3

Folder Structure

- Java Server
    - Within src/main/java/com/climatetree/places
        - Controller - Defines the API endpoints
        - DAO - Defines the repository and functions that accesses the postgres database
        - DTO - Defines a Places data transfer object
        - Model - Defines a Places object
        - Service - Intermediary class between the Controller and the Dao that performs additional data processing steps.

    - Tests can be found in src/test/java/com/climatetree/places