#Used Technologies

Spring-Boot
    JPA
    Spring JDBC-Template
    Thymeleaf (UI)
    Actuator (Health status)
        http://localhost:8080/actuator
PostgreSQL
Lombok
JUnit
Docker (Image published to docker-hub)
    https://hub.docker.com/r/priyanka20210306/chargingstation_api_service

#Developer/User Notes

API Endpoint for Create Station
    curl --location --request POST 'http://localhost:8080/api/stations'
    --header 'Content-Type: application/json'
    --data-raw '{ "name":"Solna Station", "latitude":6.9271, "longitude":79.8612 }'

API Endpoint for Get Stations
    curl --location --request GET 'http://localhost:8080/api/stations'

API Endpoint for Create Station
    curl --location --request POST 'http://localhost:8080/api/companies'
    --header 'Content-Type: application/json'
    --data-raw '{ "name":"A2Z company" }'

API Endpoint for Get Stations
    curl --location --request GET 'http://localhost:8080/api/companies'

 # Notes

PostgreSQL *With-Recursive* formula used to get sub-companies & their stations
Haversine formula applied to get near-by stations using radius/longitude and latitude

Steps to run (i) (API Service & Web)

1. Requirements   Java 16+
   PostgreSQL (create database called : ***charging***)
   Apache Maven
   Postman
2. Git Clone https://github.com/priyankahdp/chargingstations.git
3. Update *application.properties* with Database configurations (username, database, password)
4. *mvn clean install*
5. *mvn spring-boot:run*
6. Refer developer notes area and invoke API Endpoints using Postman
7. *Navigate localhost:8080*

XYZ Company
Xyz sub company
Xyz sub sub company
A2Z company

Station Name	Latitude	Longitude
Luleå, Norrbotten	65.584816	22.156704
Västerås	59.611366	16.545025
Umeå	63.825848	16.545025
Stockholm	59.334591	18.06324
Gothenburg	57.70887	11.97456

Search Stations/Companies	
Search Stations	Search Companies

Home page with All Companies & All Stations

Select Company ▾	Get Sub-Companies/Stations

Company/Sub Companies
XYZ Company
Xyz sub company
Xyz sub sub company
Stations
Gothenburg

Home	Search Stations

Companies - sub-companies & their stations

Radius :

Radius

Longitude :

Longitude

Latitude :

Latitude

Find near by stations

Distance	Station Name	Longitude	Latitude
0.0	Stockholm	18.06324	59.334591
91.1	Västerås	16.545025	59.611366
396.9	Gothenburg	11.97456	57.70887

Home	Search Companies

Nearby Stations

Docker approach

1. Clone the git repository
2. *mvn clean install*
3. Modify *chargingstation.jar* file which located in **target** folder
4. Change DB configurations like below
5. *spring.datasource.url=jdbc:postgresql://**postgres_db**:5432/charging*
6. Run this command ***docker-compose build***
7. Verify docker image using ***docker images***
8. Run this command ***docker-compose up***