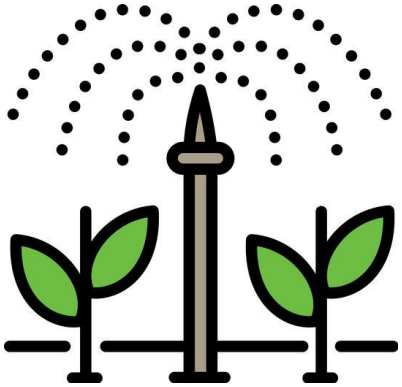
Automatic irrigation system App



This is an irrigation scheduling system that automate

the scheduling of land irrigation base on start and end date

and amount of water configuration

Database

- There Is three Entity from database (**land** - **landconfig** - **irrigation_transactions**)

- **Land** is contain the information of land (code -agric type - area - land type)

- **Landconfig** contain the information of Sensor to irrigation

(device name - interval in day - start date - end date - amount of water - land)

- **Irrigation transaction** the information of irrigation schedule

(amount of water - irrigation date - landconfig - status of sensor)

- There is a **One to Many** relation between **land** and **landconfig**

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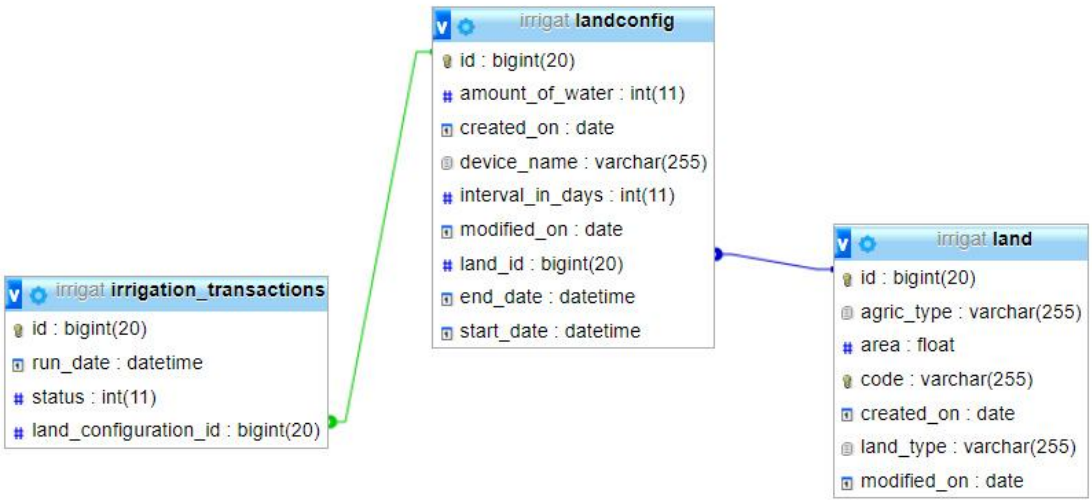

To Run the app

Open postman and create requests:-

1- Add new plot of land Create **POST** request **http://localhost:8080/api/v1/land**

```
{

    "code": "73732823y723899",
    "area": 2000,
    "landType": "Sandy",
    "agricType": "Rice farming"
}
```

2- To Edit a plot of land Create **put** request **http://localhost:8080/api/v1/land/{landId}**

```
{

    "code": "73732823y723899",
    "area": 2000,
    "landType": "Sandy",
    "agricType": "Mango farming"


}
```

3- Configure a plot of land Create **POST** request **http://localhost:8080/api/v1/land/{landId}/configure**

```
{
    "deviceName": "Sensor 2",
    "startDate":"2022-09-30T22:09:32.000+00:00",
    "endDate":"2022-10-19T22:09:32.000+00:00",
    "intervalInDays": 2,
    "amountOfWater": 2000

    }
```

4- List all plots and it's details **navigate** to **http://localhost:8080/api/v1/land/**

```
{
        "id": 1,
        "code": "2938833",
        "landType": "sandy",
        "agricType": "Rice farming",
        "area": 2000.0,
        "landConfigurations": [
            {
                "id": 1,
                "deviceName": "Sensor 1",
                "startDate": "2022-09-30T22:09:32.000+00:00",
                "endDate": "2022-10-19T22:09:32.000+00:00",
                "intervalInDays": 5,
                "amountOfWater": 2000,
                "irrigationTransactions": null,
                "createdOn": "2022-10-13T22:00:00.000+00:00",
                "modifiedOn": null
            }
```

- **Schedule job to get all lands need irrigate in day every 20 second**

By get Land from land configuration need to irrigate in period between Start Date and End Date and check if Land have maximum irrigation in this day or less if less then call Sensor if Sensor Status Not Available retries call it No. of times if Still Not Available then record it in irrigation transactions by irrigation status is O but if Sensor Status is Available then record it in irrigation transactions by irrigation status is 1

And if have a maximum irrigation for that day then

This land have the maximum irrigation in this day and not record any irrigation transactions