Drone with Medication Task By Warren Zingwena

https://github.com/zingwena-softwares/drone_delivery_musalasoft.git

Assumptions made for the task

- A drone is first registered with zero weight

- Drone weight is the medication weight loaded in it

- Battery is registerd with 100% battery capacity

- The drone is registed with IDLE state

- Medication can be registered with eor without a drone and load it later to the drone

How it works

- The weight of the drone is increased as the load of the medication increases untill it reaches the maximum weight of 500 and a warning is populated

- Only IDLE and LOADING states will be available

- The drone will not load if the battery is 25% or less

Implemenation and configurations

- I used MYSQL database , java 11, spring v2.7.12 ,

- a default database **dronedb.sql** is given under resourses folder

- import the db locally and run the app

- Postman collection of the requests is given in resources/static/delivery_drone_musalasoft_postman.postman_collection.json

- Battery level is checked at every 1minute and logs are saved in drone_delivery.log

- JUnit test are provided for the controllers only and are implemented using mockito to avoid the alteration of the database when testing

Feel Free to get in touch with me for any query on setup ,running, builing or any fuctionality of the projects on warrenzingwena@gmail.com

Below are some of the screens representing functionality of the API on postman

POST ∨ http://localhost:8080/api/v1/medication/register   Send ∨

Params Authorization Headers (9) Body ● Pre-request Script Tests Settings   Cookies

○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL JSON ∨   Beautify

1 {
2   "code": "38290675",
3   "name": "Pain_Ease",
4   "picture":"image string url",
5   "weight":345
6 }

Body Cookies Headers (5) Test Results   ⊕ Status: 200 OK Time: 39 ms Size: 257 B 🖺 Save as Example •••

Pretty Raw Preview Visualize JSON ∨

1 {
2   "code": "38290675",
3   "name": "Pain_Ease",
4   "picture": "image string url",
5   "weight": 345,
6   "drone": null
7 }

GET ∨ http://localhost:8080/api/v1/drone/getavailable   Send ∨

Params Authorization Headers (6) Body Pre-request Script Tests Settings   Cookies

Query Params

Key	Value	Description	•••	Bulk Edit
Key	Value	Description		

Body Cookies Headers (5) Test Results   ⊕ Status: 200 OK Time: 126 ms Size: 634 B 🖺 Save as Example •••

Pretty Raw Preview Visualize JSON ∨

1 [
2   {
3   "serialNumber": "rt03370042",
4   "weight": 0,
5   "capacity": 78,
6   "state": "IDLE",
7   "model": "LIGHTWEIGHT"
8   },
9   {
10   "serialNumber": "rt033p0042",
11   "weight": 0,
12   "capacity": 78,

Save ⌄ ooo

GET ⌄   http://localhost:8080/api/v1/drone/getcapacitybyserial/w78888290   **Send**

Params   Authorization   Headers (6)   Body   Pre-request Script   Tests   Settings   Cooki

Query Params

Key	Value	Description	···	Bulk
Key	Value	Description		

Body   Cookies   Headers (5)   Test Results   Status: **200 OK**   Time: **12 ms**   Size: **167 B**   Save as Example

Pretty   Raw   Preview   Visualize   JSON ⌄

```
1   100
```

GET ⌄   http://localhost:8080/api/v1/drone/getmedications/w78888290   **Send** ⌄

Params   Authorization   Headers (6)   Body   Pre-request Script   Tests   Settings   Cookies

Query Params

Key	Value	Description	···	Bulk Edit
Key	Value	Description		

Body   Cookies   Headers (5)   Test Results   Status: **200 OK**   Time: **21 ms**   Size: **539 B**   Save as Example   ooo

Pretty   Raw   Preview   Visualize   JSON ⌄

```json
1   [
2       {
3           "code": "00005665556",
4           "name": "paracetamo23",
5           "picture": "picture String",
6           "weight": 100,
7           "drone": {
8               "serialNumber": "w78888290",
9               "weight": 400,
10              "capacity": 100,
11              "state": "LOADING",
12              "model": "LIGHTWEIGHT"
13          }
14      },
15      {
```

GET ▼ http://localhost:8080/api/v1/drone/getbystate/IDLE | **Send** ▼

Params Authorization Headers (6) Body Pre-request Script Tests Settings | Cookies

Query Params

Key	Value	Description	⋯ Bulk Edit
Key	Value	Description	

Body Cookies Headers (5) Test Results

🌐 Status: **200 OK** Time: **8 ms** Size: **537 B** 🖫 Save as Example ∘∘∘

Pretty Raw Preview Visualize JSON ▼

```
1   [
2       {
3           "serialNumber": "rt03370042",
4           "weight": 0,
5           "capacity": 78,
6           "state": "IDLE",
7           "model": "LIGHTWEIGHT"
8       },
9       {
10          "serialNumber": "rt033p0042",
11          "weight": 0,
12          "capacity": 78,
13          "state": "IDLE",
14          "model": "LIGHTWEIGHT"
15      },
```

PUT   http://localhost:8080/api/v1/drone/loaddrone?droneSerial=w78888290&medicationCodes=00005665556,0000655   Send

Params ●   Authorization   Headers (7)   Body   Pre-request Script   Tests   Settings   Cookies

Query Params

	Key	Value	Description	··· Bulk Edit
☑	droneSerial	w78888290		
☑	medicationCodes	00005665556,0000655		
	Key	Value	Description	

Body   Cookies   Headers (4)   Test Results   Status: 500 Internal Server Error   Time: 775 ms   Size: 277 B   Save as Example   ···

Pretty   Raw   Preview   Visualize   JSON

```
1   {
2       "timestamp": "2023-04-28T09:38:23.705+00:00",
3       "status": 500,
4       "error": "Internal Server Error",
5       "path": "/api/v1/drone/loaddrone"
6   }
```

POST   http://localhost:8080/api/v1/drone/register   Send

Params   Authorization   Headers (8)   Body ●   Pre-request Script   Tests   Settings   Cookies

○ none   ○ form-data   ○ x-www-form-urlencoded   ● raw   ○ binary   ○ GraphQL   JSON   Beautify

```
1   {
2       "serialNumber": "rt03370042",
3       "weight": 300,
4       "capacity":78,
5       "state":"LOADING",
6       "model":"LIGHTWEIGHT"
7   }
```

Body   Cookies   Headers (5)   Test Results   Status: 200 OK   Time: 72 ms   Size: 255 B   Save as Example   ···

Pretty   Raw   Preview   Visualize   JSON

```
1   {
2       "serialNumber": "rt03370042",
3       "weight": 0,
4       "capacity": 78,
5       "state": "IDLE",
6       "model": "LIGHTWEIGHT"
7   }
```