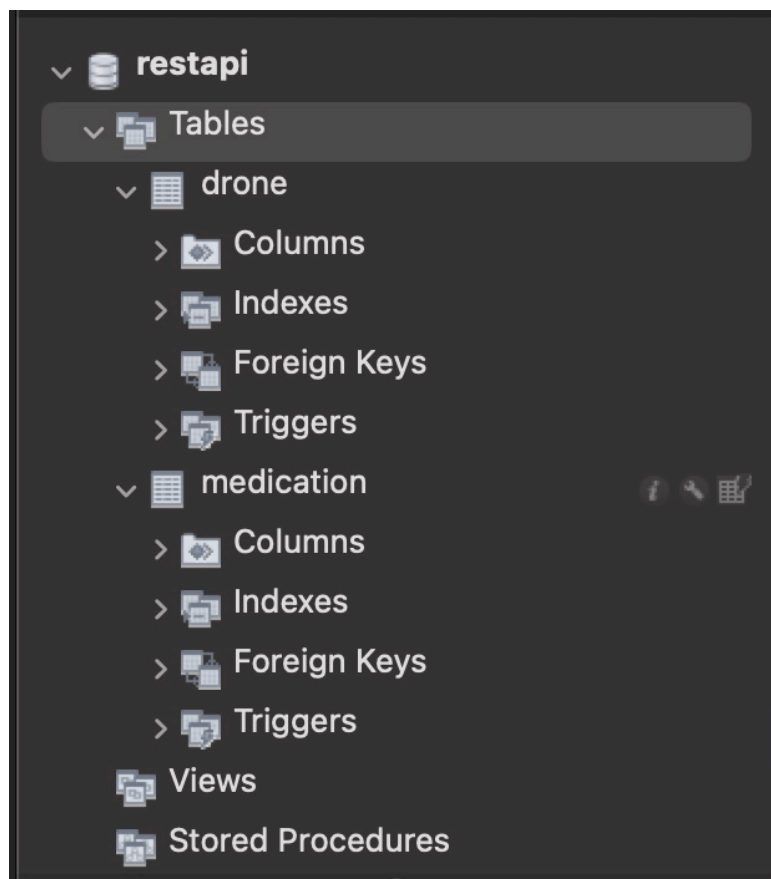Marina Ghobrial
17 June 2023

DRONES

Musala Soft Java Task

Database

- The used database is MySQL.

- We have two tables; Drone and Medication.

- I added an extra column to table Medication called Drone ID so we can keep track of which medication is loaded on which drone.

- The database connection is set in the application.properties file of the spring boot project.

- You will need MySQLBench to apply the attached Schema Query and have the database loaded locally.

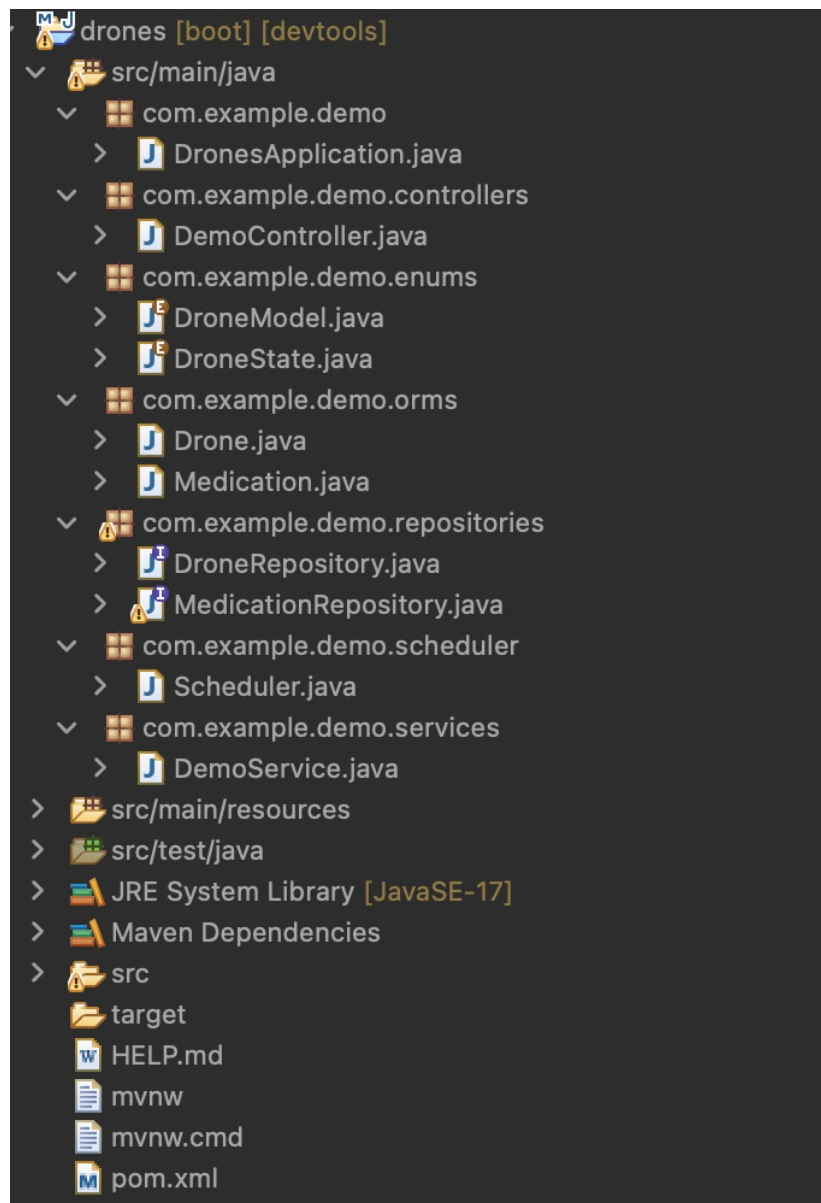- The tables should be already loaded with data.

id	serial_number	model	weight_li...	battery_capac...	state	
3	6475738593	Cruiserweight	300	80	LOADED	
4	9467435473	Heavyweight	400	70	DELIVERING	
5	6577499444	Middleweight	200	60	DELIVERED	
6	9743674738	Heavyweight	150	50	RETURNING	
NULL	NULL	NULL	NULL	NULL	NULL	

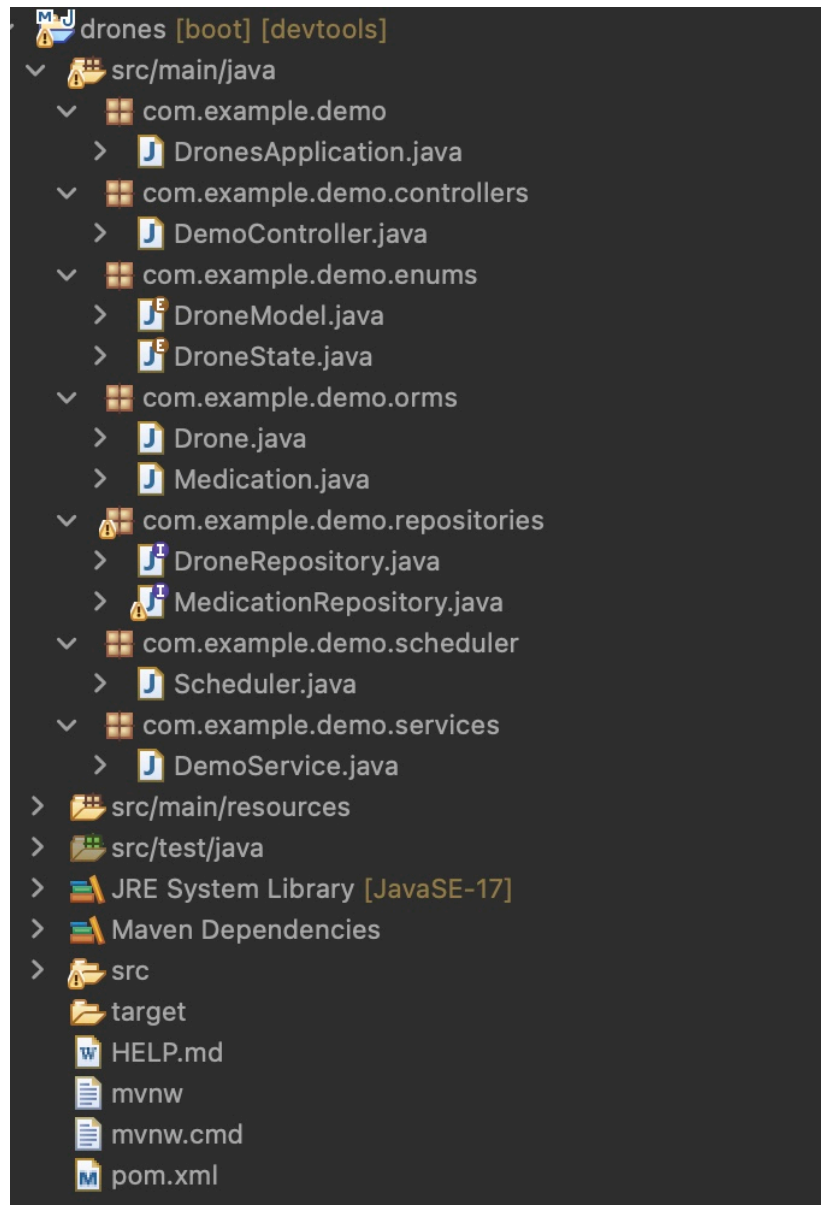| id	name	weight	code	image	drone_id	
1	med1	50	MED_1	NULL	NULL	
2	med2	150	MED_2	NULL	NULL	
3	med3	200	MED_3	NULL	NULL	
4	med4	250	MED_4	NULL	NULL	
NULL	NULL	NULL	NULL	NULL	NULL	

Code

- I used Spring Tool Suite 4.

- Maven for dependency injection.

- I divided the code into packages; controllers, services, repositories and ORMs. We have also two extra packages for enums and the scheduler.

- We have one controller called DemoController that handles everything:

  1. Registering a drone.

  2. Loading a drone with medication items.

  3. Checking loaded medications for a given drone.

  4. Checking available drones for loading (assuming available drones are the drones that have the state IDLE).

5. Checking battery level for a specific drone.

6. Retrieving all drones.

7. Retrieving all medications.

8. Adding an image to a medication.

• The DemoService is mainly responsible for adding/updating drones/medications. And it's also responsible for validating them. It's divided into three parts; retrieval, adding/updating and validations.

• You can run the app as a Spring boot application from STS and enter the endpoint you would like to test in the url of your browser hosting on localhost:8080. The endpoints are specified in the DemoController.

Challenges

- Having the scheduler log only the battery capacity.

- Uploading the project to Github (problems with my credentials).

- Some environment problems.