Test task

Air companies Management System

Create a Rest API service, which will be able to manage air companies' information such as flights, airplanes data, and air company details.

Database entities should be:

1) Airplane
ID, name, factory serial number, air company id, number of flights, flight distance, fuel capacity, type, created at

2) Air company
ID, name, company type, founded at

3) Flight
ID, flight status, Air company id, airplane id, departure country, destination country, distance, estimated flight time, started at, ended at, delay started at, created at

Flight status could be ACTIVE, COMPLETED, DELAYED, PENDING

Service should have:

1) Simple CRUD operations for an Air company entity.

2) Endpoint to move airplanes between companies (simple endpoint to reassign airplane to another company).

3) Endpoint to find all Air Company Flights by status (use company name for identification of Air Company).

4) Endpoint to find all Flights in ACTIVE status and started more than 24 hours ago.

5) Endpoint to add new Airplane (Could be assigned to a company immediately or moved later).

6) Endpoint to add new Flight (set status to PENDING)

7) Endpoint to change Flight status:
if status to change is DELAYED – set delay started at
if status to change is ACTIVE – set started at
if status to change is COMPLETED set ended at

8) (Optional) Endpoint to find all Flights in COMPLETED status and difference between started and ended time is bigger than the estimated flight time.

Technologies to use

1. Java 8 or 11 (better to use 11)
2. Spring Boot 2.3
3. MySQL
4. Rest API
5. Docker
6. GIT

Requirements for application

Please use features of Java 8+ such as Java Stream API, Optional, Functional Interfaces.

Also please use Docker and dockerize service and database.

Create some test data and put this SQL file under /data folder.

Create a postman collection with all required endpoints.

Create a README file on how to startup your application and what should user do step by step to successfully boot and test your application.

Push code to GIT and provide a link to your project.

You have one week to perform this task. In case of any questions please let me know.