faire.ai's Engineering case study

Hi and welcome to the faire.ai's case study that we hope you'll enjoy to develop with your best skills and creativity. The following sections describe the case study (we call it Tiny weather *bulletin*) and a few constraints to make the implementation consistent with some non-functional requirements.

Tiny weather bulletin

At faire.ai we really care about the right mood of our employees and we think that the weather can influence our employees' happiness (we are not sure about that)). For this reason, we are planning to introduce a service that, given a city (where the employees work), provides the weather forecast for the next two days.
Said that, we want to build the Tiny weather bulletin that will be used by employees to check the weather conditions in the cities where other team mates work. This service must use the OpenWeather API (https://openweathermap.org/api) to retrieve the weather forecast and, given a city, must provide the following information for the next 2 days:

- average maximum/minimum temperatures and humidity during the working hours expressed with 2 hours intervals (one value every 2 hours);
- average maximum/minimum temperatures and humidity outside the working hours expressed with 2 hours intervals (one value every 2 hours).

The service must expose a RESTful API to make requests for weather forecasts so that it will be easy to use and working hours must be configurable.

Needs

- The service implementation must use Spring Boot framework.
- Code must be written in Java with a version greater than or equal to 8 and should prove a good knowledge of Java's functional interfaces and streams.
- Documentation of the service API must be available.
- Documentation to build and run the must should be available in a README file.
- The service project must contain tests (unit tests, integration tests) that guarantee a robust implementation.
- The submitted project must contain a Dockerfile to run the service in a Docker container.

Case study submission

For submitting the case study and, for you, to keep track of your work, we'd like to get the code from a GIT repository: you can choose GitHub or GitLab or other providers that offer free repositories.