

RoomPriceGenie Task №1

Task description

You will be asked to implement two modules: Data Provider and the Dashboard Service. You can use any framework for both modules, however using FastAPI/Django/Flask is preferred. Below you can find the description of the modules and the requirements for each of them.

Data Provider

The Data Provider is a service that provides booking and cancellation events happening within a particular hotel. The following is an example of a single booking event:

```
{
  "id": 1,
  "hotel_id": 1,
  "timestamp": "2020-01-01T00:00:00Z",
  "rpg_status": 1, // 1 - booking, 2 - cancellation
  "room_id": 1,
  "night_of_stay": "2020-01-01",
}
```

The Data Provider should provide the following endpoints:

- GET /events - returns a list of events happened within a particular hotel. The list should be sorted by the timestamp in ascending order. The following query parameters should be supported:
 - hotel_id - the ID of the hotel
 - updated__gte - the start date of the event
 - updated__lte - the end date of the event
 - rpg_status - the status of the event (1 - booking, 2 - cancellation)
 - room_id - the ID of the room
 - night_of_stay__gte - the start date of stay
 - night_of_stay__lte - the end date of stay
- POST /events - creates a new event. The event should be validated according to the schema above. The event should be saved to the database.

Dashboard Service

The Dashboard Service is a service that provides the following information: - The monthly number of bookings for a particular hotel for the year of choice - The daily number of bookings for a particular hotel for the year of choice

The Dashboard Service should provide the following endpoints:

- GET /dashboard - returns the dashboard information for a particular hotel. The following query parameters should be supported:
 - hotel_id - the ID of the hotel
 - period - the period of the dashboard. The following values are supported:
 - month - the monthly dashboard

- day - the daily dashboard
- year - the year of the dashboard

End goal

1. Some data has to be periodically added to the **Data Provider's** database using POST /events endpoint - this is basically a simulation of data coming from the hotel into the booking management system.
2. There needs to be a periodic task that fills in the **Dashboard Service's** database using the **Data Provider's** GET /events endpoint. The data should be requested based on the event's timestamp(please, reference the request parameters).
3. We should be able to trigger the GET /dashboard endpoint through Swagger and get the necessary data.

Requirements

- Tests should have mocks for external services(keep in mind that the Data Provider is an external service for the Dashboard Service)
- Swagger/OpenAPI documentation should be provided for both modules Dockerized solution should be provided(with docker-compose)

Data

You can find the sample data for the Data Provider [here](#)