RentPath™

Take Home Project: Listing Analytics API

Everyday, Lovely hosts hundreds of thousands of apartment listings nationwide. As one of the largest online providers of rental inventory, Lovely has accumulated millions of apartment descriptions from many different data sources. Managing that quantity of data can be cumbersome, and often messy. We'd like to develop a service to help manage that data, to ultimately create analytics around listings.

1. We'd like to create a service that can take several csvs of listings and input them into a datastore. The datasets provided (listings1.csv, listings2.csv, listings3.csv) contains information on the bed count, price, city, state and abstract. We'd like for only the new listings to be added to our datastore. You can use any datastore or language you wish, but a relational database and python is strongly preferred.

For example:
python input_listings.py listings1.csv listings2.csv listings3.csv

Returns:
X new listings were entered into the database

2. We'd like to extend this service, by building an API that gives us more contextual information about a given listing. Pick 5 common descriptive statistics (e.g. mean) and return them for the price, for a given city, state and bed count. The API should be able to accept a request like the one below.

For example:
curl -d '{"city": "San Francisco", "state": "CA", "beds": 1}' -H 'Content-Type: application/json'
http://127.0.0.1/dataset/common_stats

Returns:
{"price": {"mean": 3000, "standard deviation": 200, ... }}

3. Now that we have the service and API developed, we'd like to deploy it to production. To best standardize the procedure, let's create a docker container. Once the docker image containing the datastore and code is built, the api should be able to be hit.

For example
docker build -t listing-analytics .
docker run listing-analytics (with any relevant parameters)

Please provide the source code and instructions on how to run this API locally. Please also use best practices for app organization and style. Most of all, have fun!