

Urban Piper Assignment - Currency Exchange API

API calls:

- [POST 127.0.0.1:8000/predict/forecast/](#)

Eg: (Payload)

```
{  "base_currency":"USD",
    "target_currency":"INR",
    "amount":100,
    "max_waiting_time":15,
    "start_date":"2019-06-28"}
```

Returns a Graph representing the forecast for the requested days.

Note – The chart is saved in the forecasted_graphs folder inside the project directory.

- [POST 127.0.0.1:8000/predict/delete_cache/](#)

Eg: (Payload)

```
{ "cache_key":"historical_data"}
```

Deletes the Cache memory generated in the system. – To be used only by the admin and works only when provided the verified key.

Algorithm Used for forecasting:

- ARIMA (Auto Regressive Integrated Moving Averages)

Caching System

- Memcached is used as it is the most and efficient type of caching which django provides.

Charting Library

- Matplotlib is used to generate the projected forecast.
Note – The chart is saved in the forecasted_graphs folder inside the project directory.

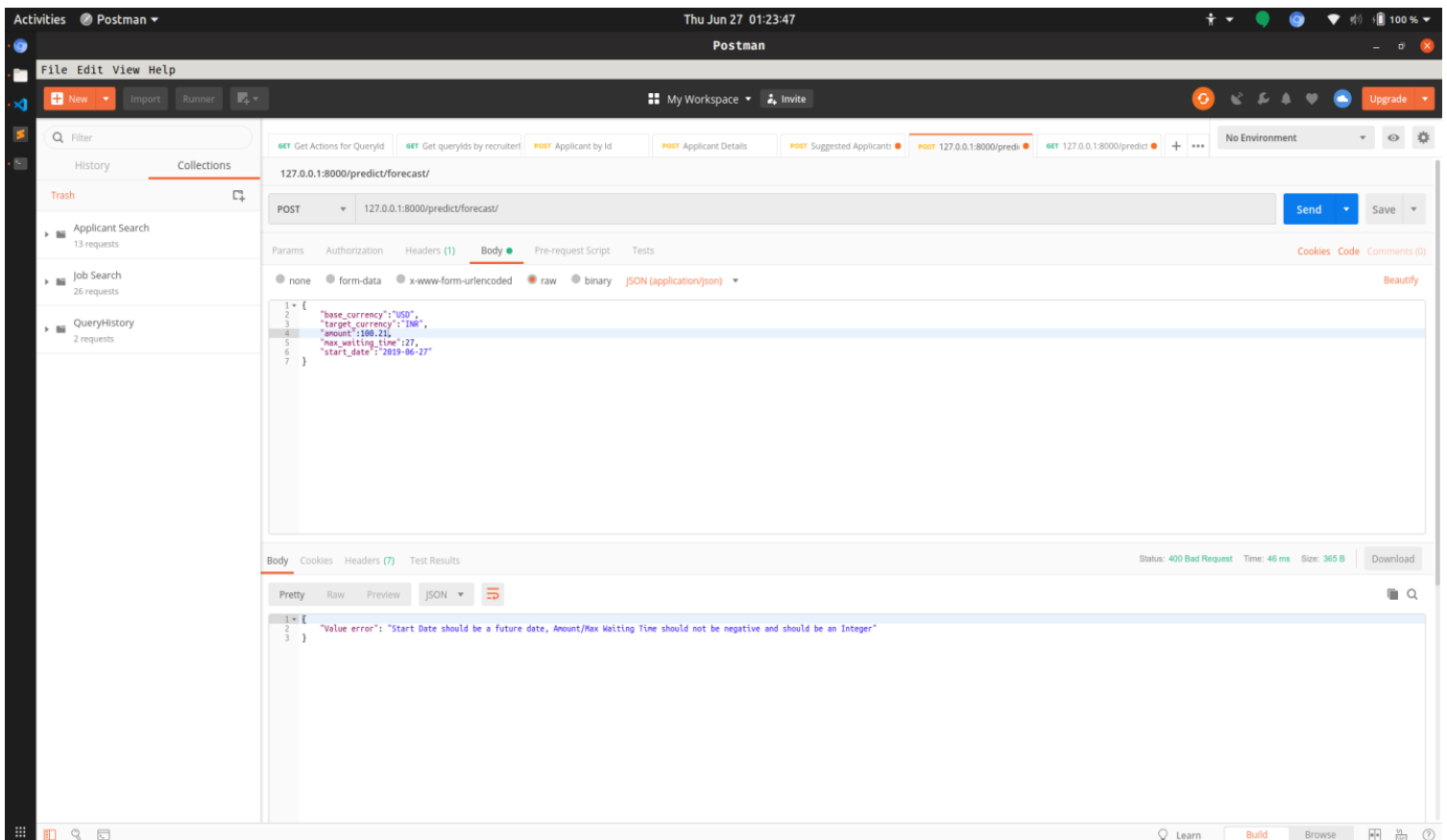
Dependencies

Run the following commands to install:

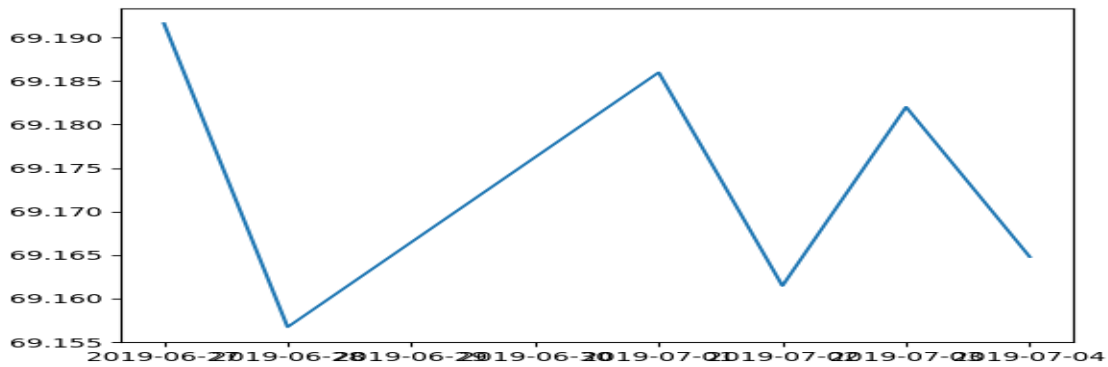
- Pip install python-memcached
- Pip install djangoRESTframework
- Pip install statsmodels
- Pip install requests
- Pip install pandas
- Pip install matplotlib

Sample Test Cases (Please refer these images):

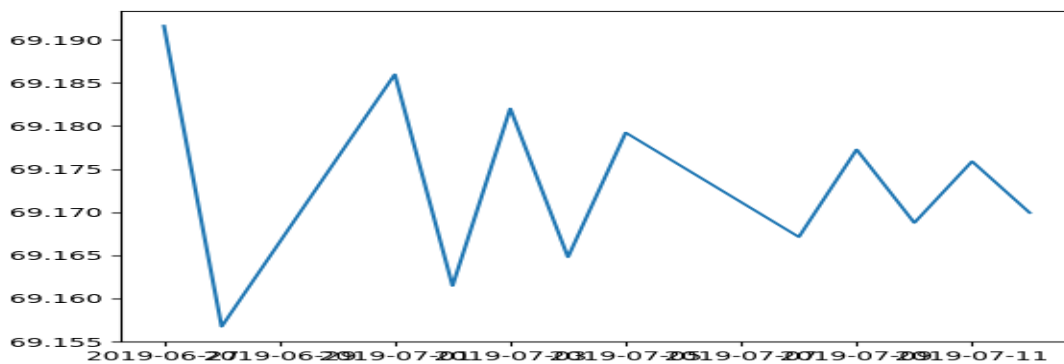
1. When Input data is erroneous :



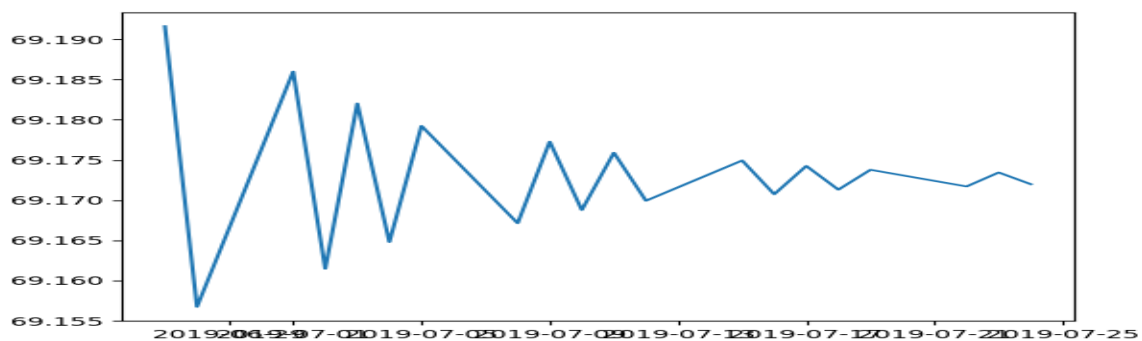
2.The Graphs generated for 3 time intervals :



Forecast for 27,June,2019 to 7,July,2019



Forecast for 27,June,2019 to 17,July,2019



Forecast for 27,June,2019 to 27,July,2019

