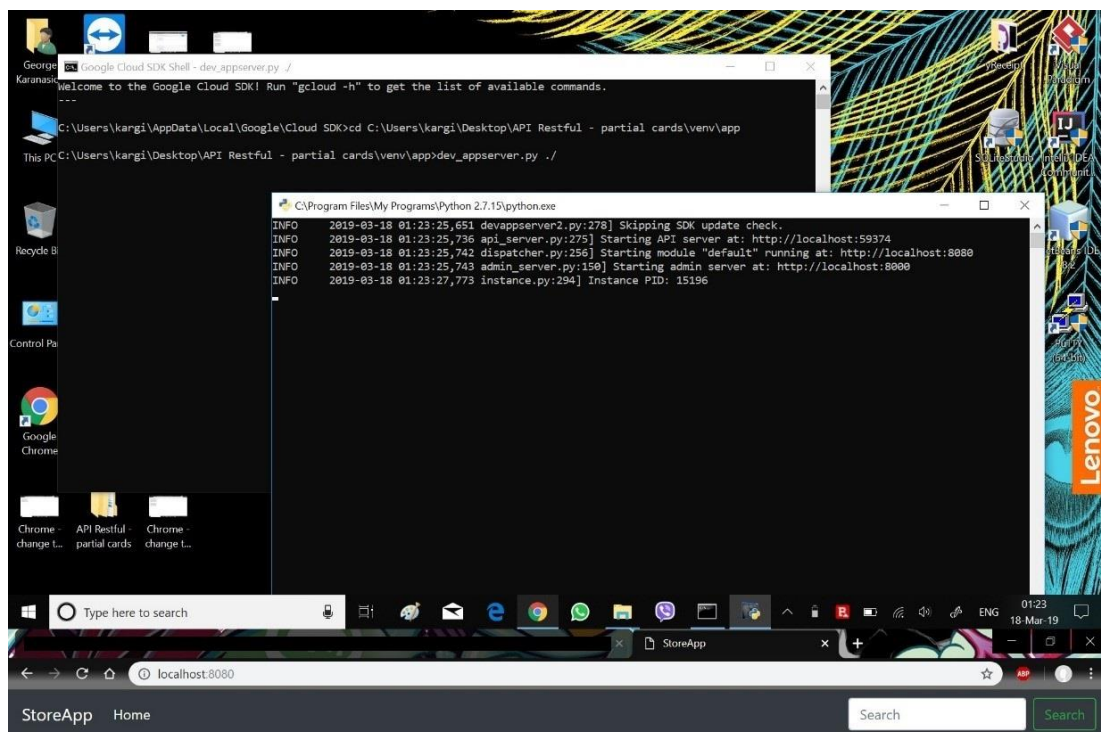


Usage examples

1. Test if the application runs

Steps:

- 1) Open Google Cloud SDK Shell and go to the app's current directory (in this case, C:\Users\kargi\Desktop\API Restful - partial cards\venv\app)
- 2) Run the server (see the commands on picture below)
- 3) Connect on your browser to <http://localhost:8080/>
- 4) Should appear the home.html page (**succeed**)



Under construction

Welcome to our store

To get started, search <http://localhost:5000/customer/>"here write the trailing digits of your credit card"



2. Test GET handler examples

The application already includes a database as a list of objects (in our case customers) which keeps the record of the customers and their partial card details.

cards\venv\app — Atom

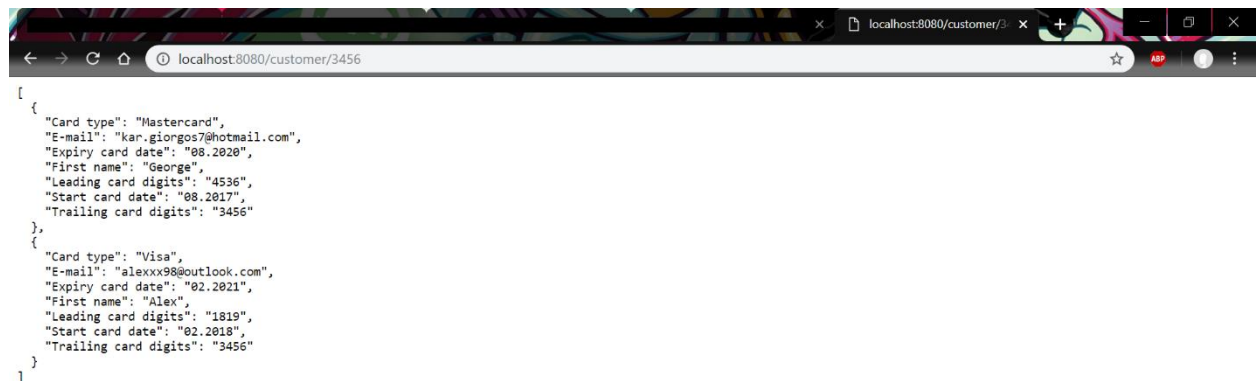
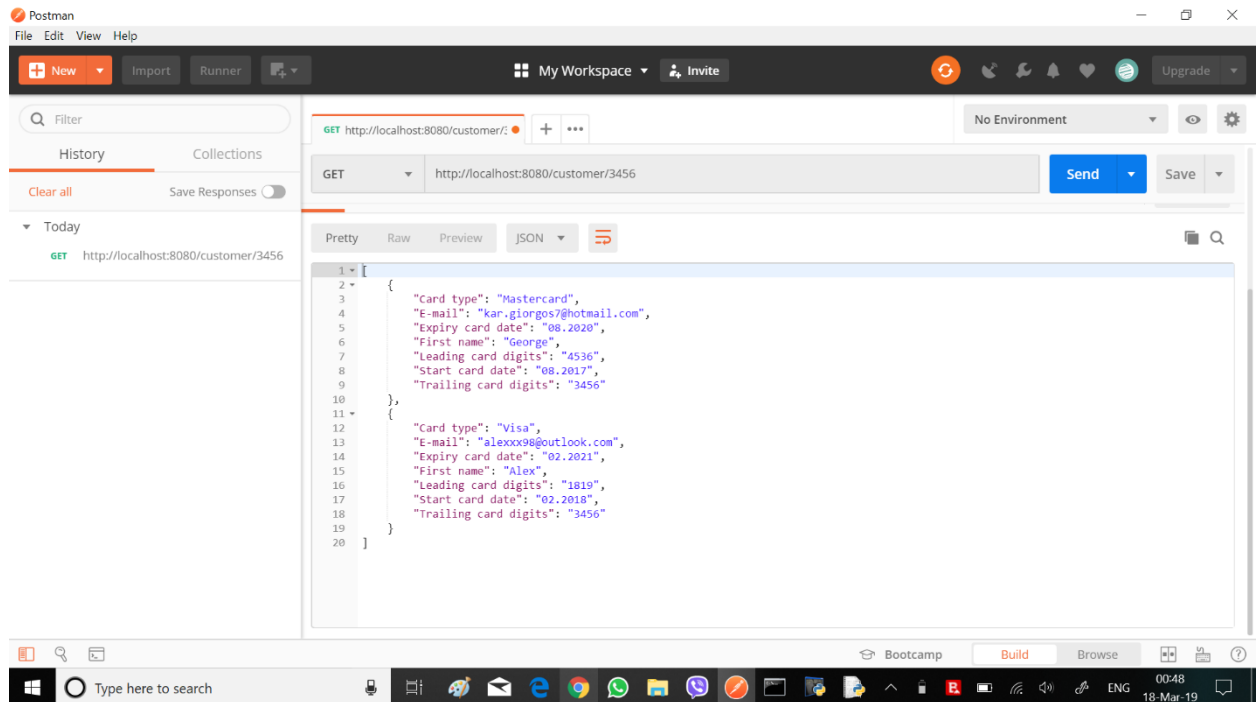
```
app.py
1 from flask import Flask, jsonify, make_response, render_template
2 from flask_restful import Api, Resource, reqparse
3
4 app = Flask(__name__)
5 api = Api(app)
6
7 customers = [
8     {
9         "First name": "George",
10        "E-mail": "kar.giorgos7@hotmail.com",
11        "Trailing card digits": "3456",
12        "Leading card digits": "4536",
13        "Card type": "Mastercard",
14        "Start card date": "08.2017",
15        "Expiry card date": "08.2020"
16    },
17    {
18        "First name": "Nick",
19        "E-mail": "nick888@hotmail.com",
20        "Trailing card digits": "1336",
21        "Leading card digits": "0446",
22        "Card type": "Mastercard",
23        "Start card date": "08.2017",
24        "Expiry card date": "08.2020"
25    },
26    {
27        "First name": "Max",
28        "E-mail": "max887@hotmail.com",
29        "Trailing card digits": "2416",
30        "Leading card digits": "5536",
31        "Card type": "Mastercard",
32        "Start card date": "08.2018",
33        "Expiry card date": "08.2021"
34    },
35    {
36        "First name": "Alex",
37        "E-mail": "alex98@outlook.com",
38        "Trailing card digits": "3456",
39        "Leading card digits": "1819",
40        "Card type": "Visa",
41        "Start card date": "02.2018",
42        "Expiry card date": "02.2021"
43    },
44    {
45        "First name": "Maria",
46        "E-mail": "mariak1998@gmail.com",
47        "Trailing card digits": "1336",
48        "Leading card digits": "2719",
49        "Card type": "Visa",
50        "Start card date": "01.2019",
51        "Expiry card date": "01.2022"
52    },
53    {
54        "First name": "Olga",
55        "E-mail": "olga2000@outlook.com",
56        "Trailing card digits": "2416",
57        "Leading card digits": "5029",
58        "Card type": "Visa",
59        "Start card date": "03.2019",
60        "Expiry card date": "03.2022"
61    }
62 ]
63
64 @app.route('/')
65 def index():
66     return render_template('home.html')
67
68 class Customer(Resource):
69     def get(self, trailingCardDigits):
70         cust = [customer for customer in customers if customer['Trailing card digits'] == trailingCardDigits]
71         for customer in cust:
72             if (customer['Trailing card digits'] == trailingCardDigits):
73                 return make_response(jsonify(cust), 200)
74         return "Customer not found", 404
```

GET handler returns matching customers in JSON given partial details of a credit card. Also, should be mentioned that a partial credit card **always** contains **trailing digits** and may sometimes contain leading digits, a card type, start date, expiry date, or any combination thereof. So, based on the above we will use the GET method by searching the trailing digits of the customers because they always existing in the card.

Example 1

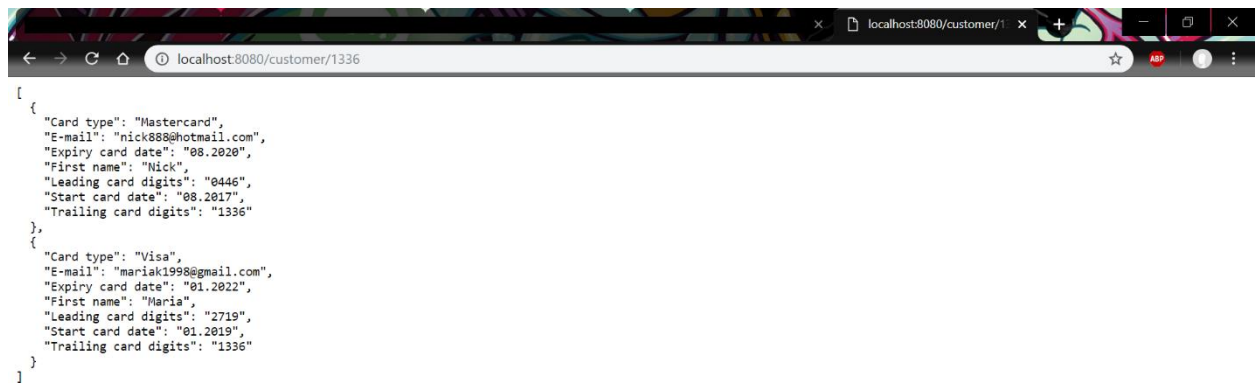
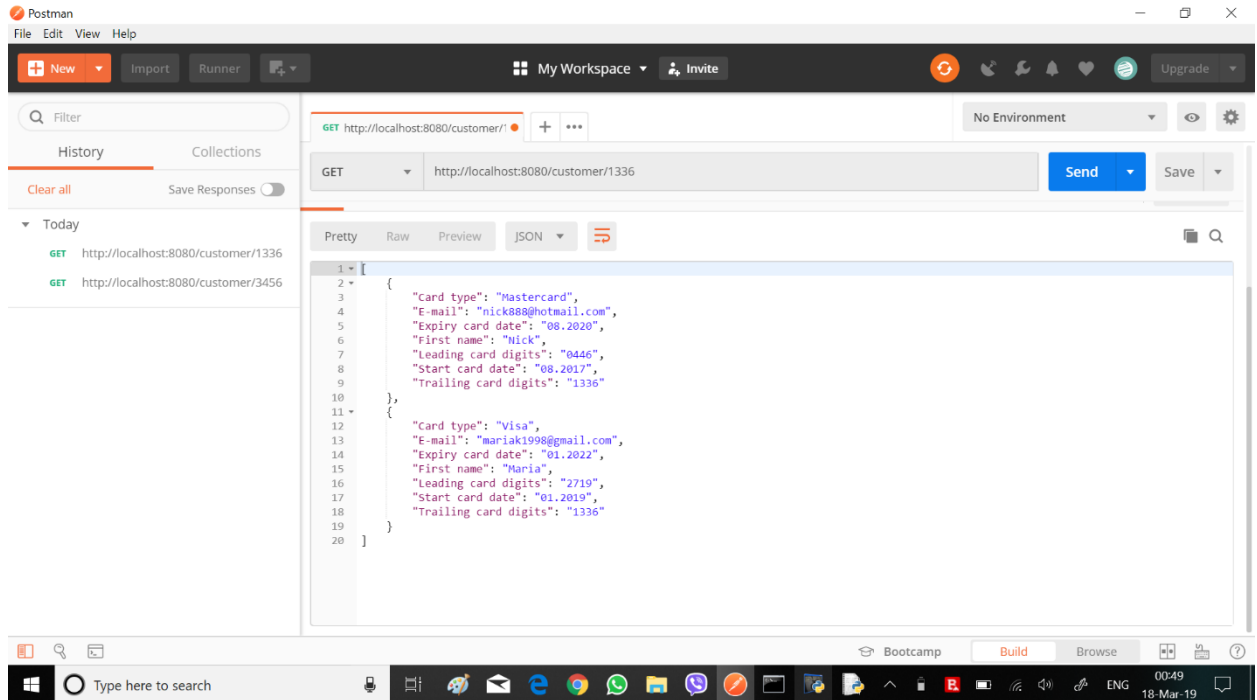
Steps (ZOOM FOR BETTER VIEW):

- 1) On Postman GET -> <http://localhost:8080/customer/3456>
- 2) Expecting to see the records of George and Alex because both have the same trailing digits, same with chrome (**succeed**)



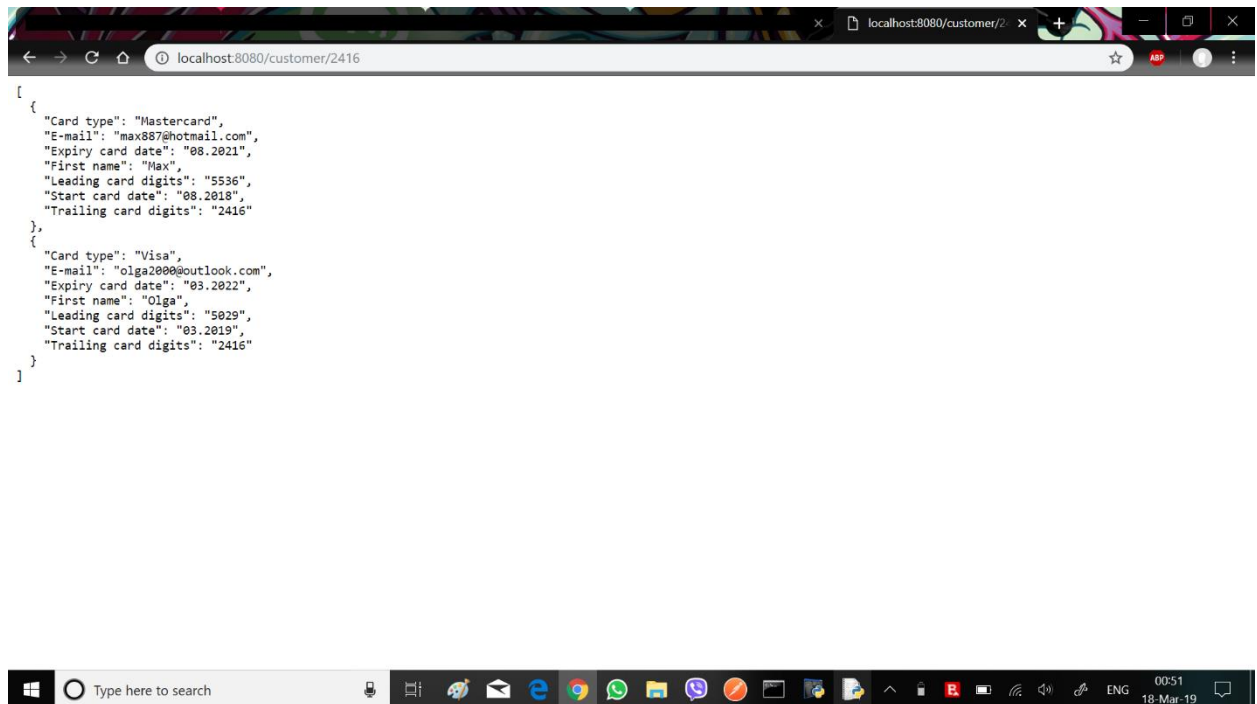
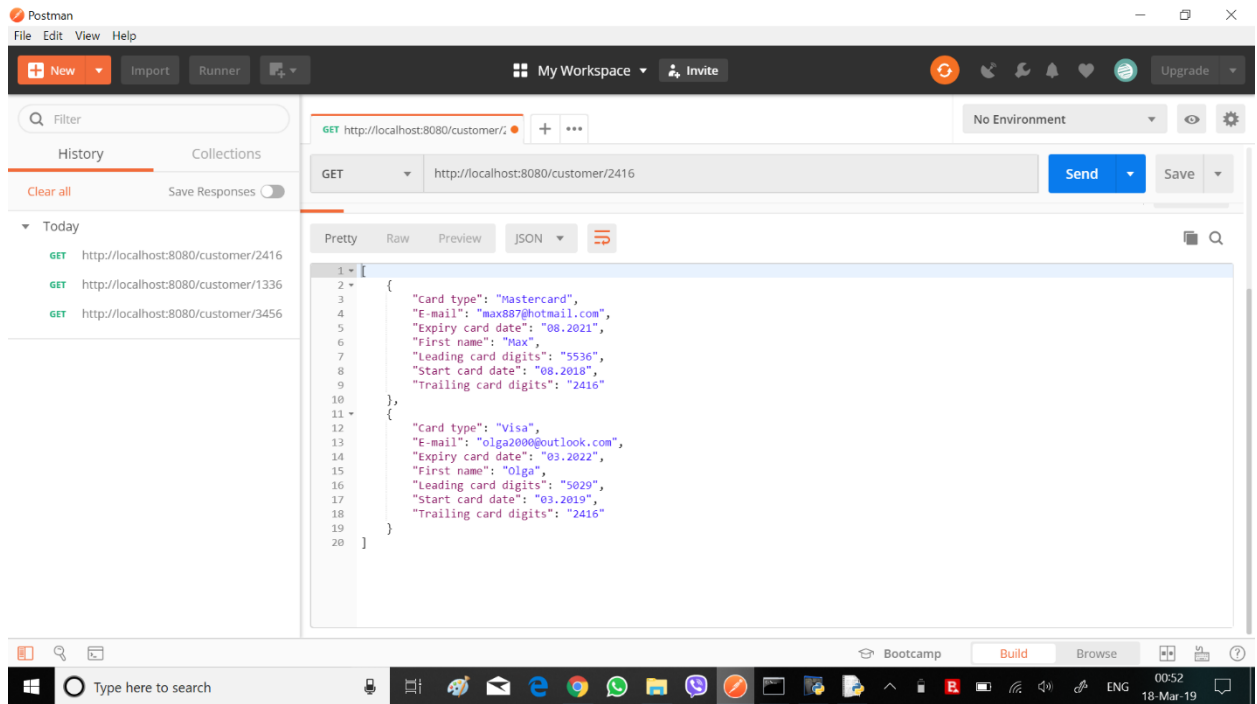
Example 2

- 1) On Postman GET -> <http://localhost:8080/customer/1336>
- 2) Expecting to see the records of Nick and Maria because both have the same trailing digits, same with chrome (**succeed**)

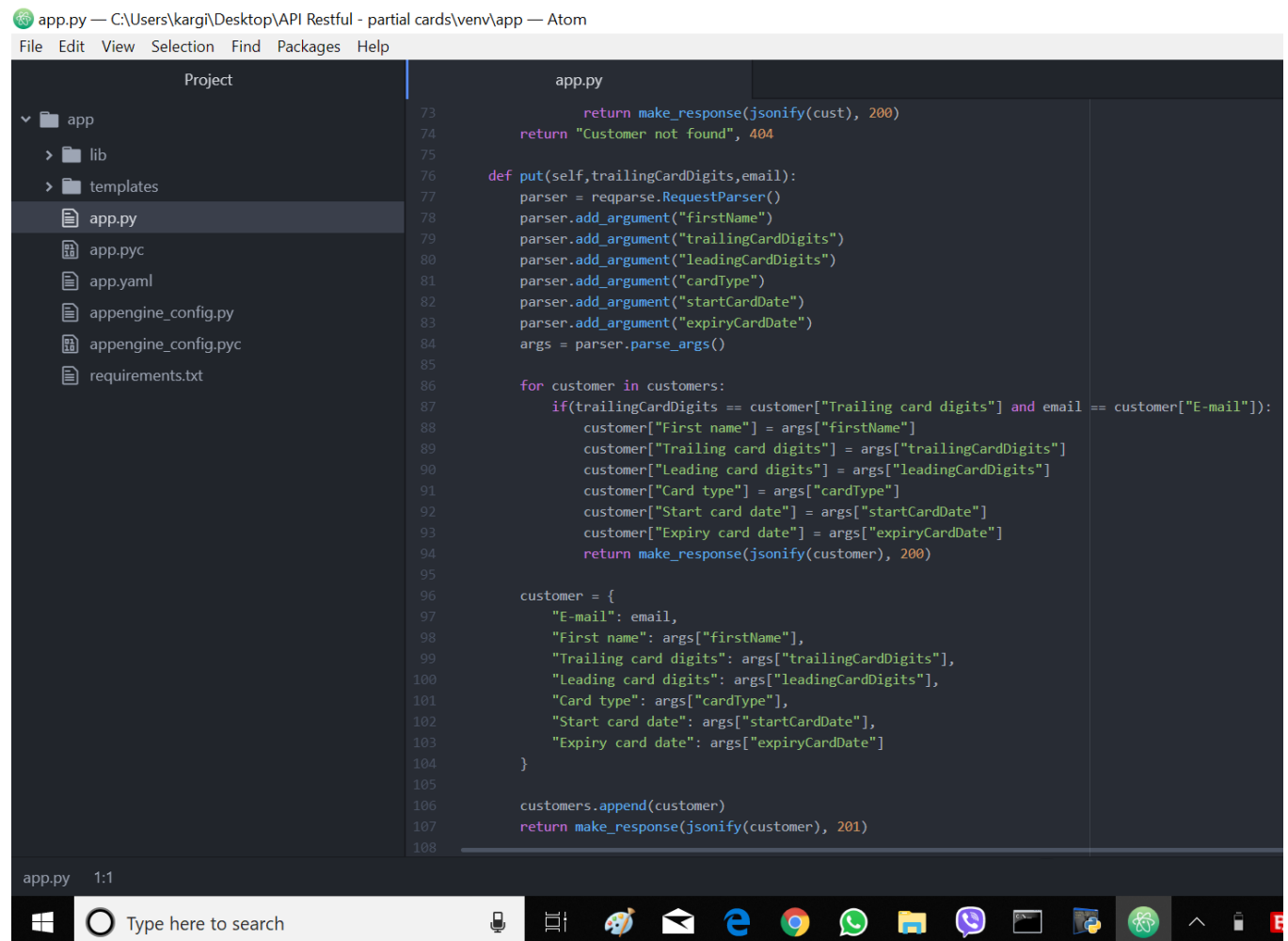


Example 3

- 1) On Postman GET -> <http://localhost:8080/customer/2416>
- 2) Expecting to see the records of Max and Olga because both have the same trailing digits, same with chrome (**succeed**)



3. Test PUT handler – Add new customer/partial card record



```
app.py — C:\Users\kargi\Desktop\API Restful - partial cards\venv\app — Atom
File Edit View Selection Find Packages Help

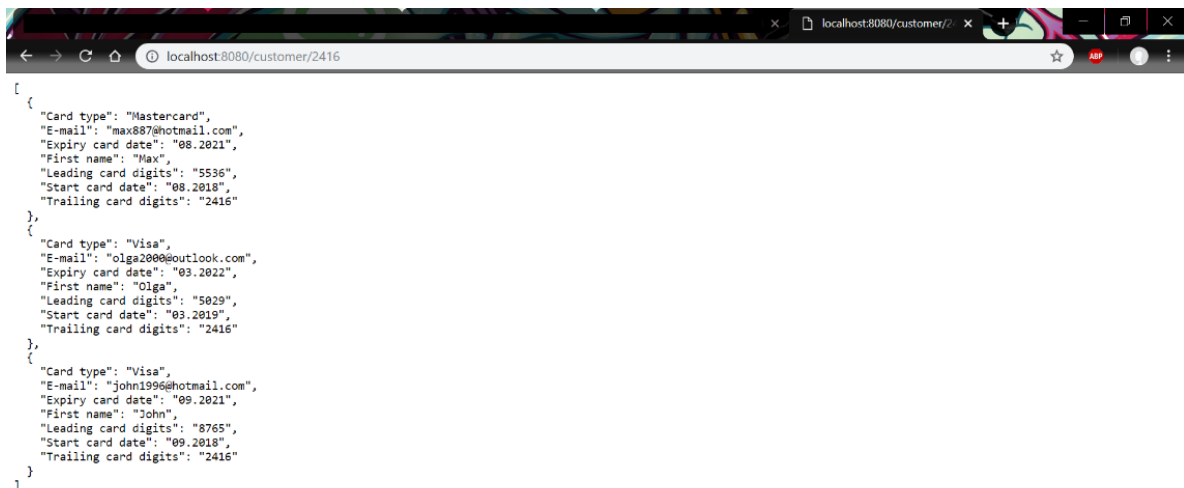
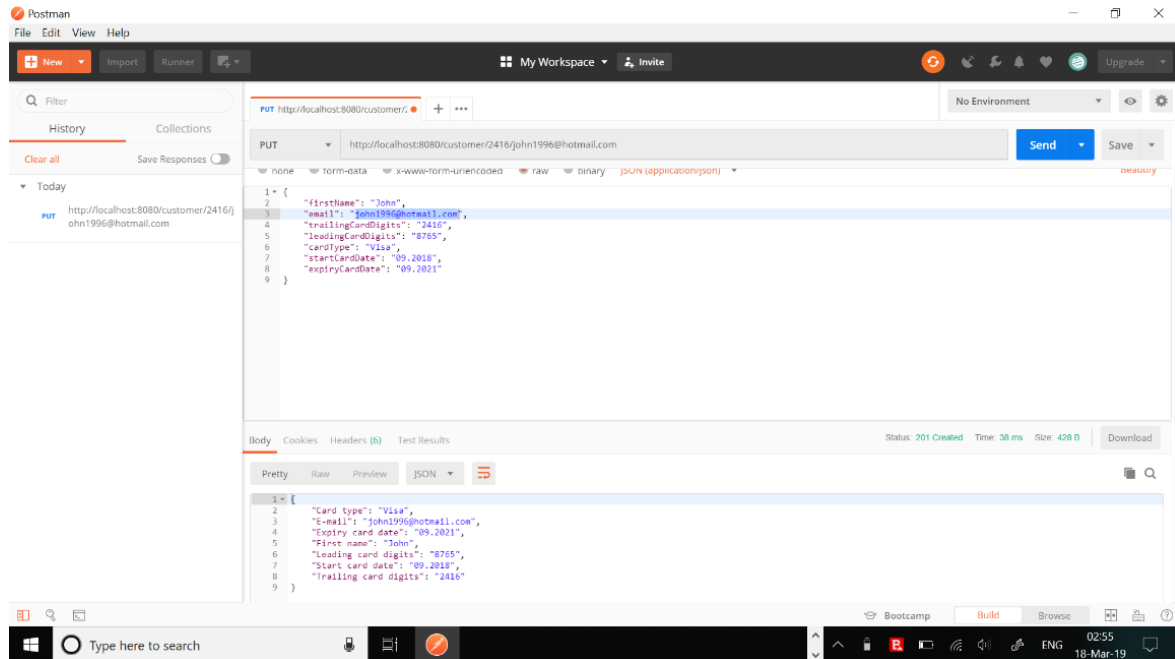
Project
  app
  lib
  templates
  app.py
  app.pyc
  app.yaml
  appengine_config.py
  appengine_config.pyc
  requirements.txt

app.py
73     return make_response(jsonify(cust), 200)
74     return "Customer not found", 404
75
76 def put(self, trailingCardDigits, email):
77     parser = reqparse.RequestParser()
78     parser.add_argument("firstName")
79     parser.add_argument("trailingCardDigits")
80     parser.add_argument("leadingCardDigits")
81     parser.add_argument("cardType")
82     parser.add_argument("startCardDate")
83     parser.add_argument("expiryCardDate")
84     args = parser.parse_args()
85
86     for customer in customers:
87         if(trailingCardDigits == customer["Trailing card digits"] and email == customer["E-mail"]):
88             customer["First name"] = args["firstName"]
89             customer["Trailing card digits"] = args["trailingCardDigits"]
90             customer["Leading card digits"] = args["leadingCardDigits"]
91             customer["Card type"] = args["cardType"]
92             customer["Start card date"] = args["startCardDate"]
93             customer["Expiry card date"] = args["expiryCardDate"]
94             return make_response(jsonify(customer), 200)
95
96     customer = {
97         "E-mail": email,
98         "First name": args["firstName"],
99         "Trailing card digits": args["trailingCardDigits"],
100        "Leading card digits": args["leadingCardDigits"],
101        "Card type": args["cardType"],
102        "Start card date": args["startCardDate"],
103        "Expiry card date": args["expiryCardDate"]
104    }
105
106    customers.append(customer)
107    return make_response(jsonify(customer), 201)
108
```

PUT handler accepts partial credit card and customer information in JSON and stores it. In general, the PUT method has the ability to change or add new customer/card details. In my application, in order to change or add a new customer, first, you must specify the customer by using also his e-mail address (the only unique information) in the link. You cannot just use his trailing digits only because in this way the application will not understand who should be changed as other customers may have the same trailing digits.

Steps (ZOOM FOR BETTER VIEW):

- 1) On Postman PUT -> <http://localhost:8080/customer/2416/john1996@hotmail.com>
- 2) Add a new Customer with:
(Trailing digits: 2416, First name: John, E-mail: john1996@hotmail.com,
Leading card digits: 8765, Card type: Visa, Start Card Date: 09.2018,
Expiry Card Date: 09.2021)
- 3) Expecting to see his record in <http://localhost:8080/customer/2416> with the others who have the same trailing card digits, same with chrome (**succeed**)

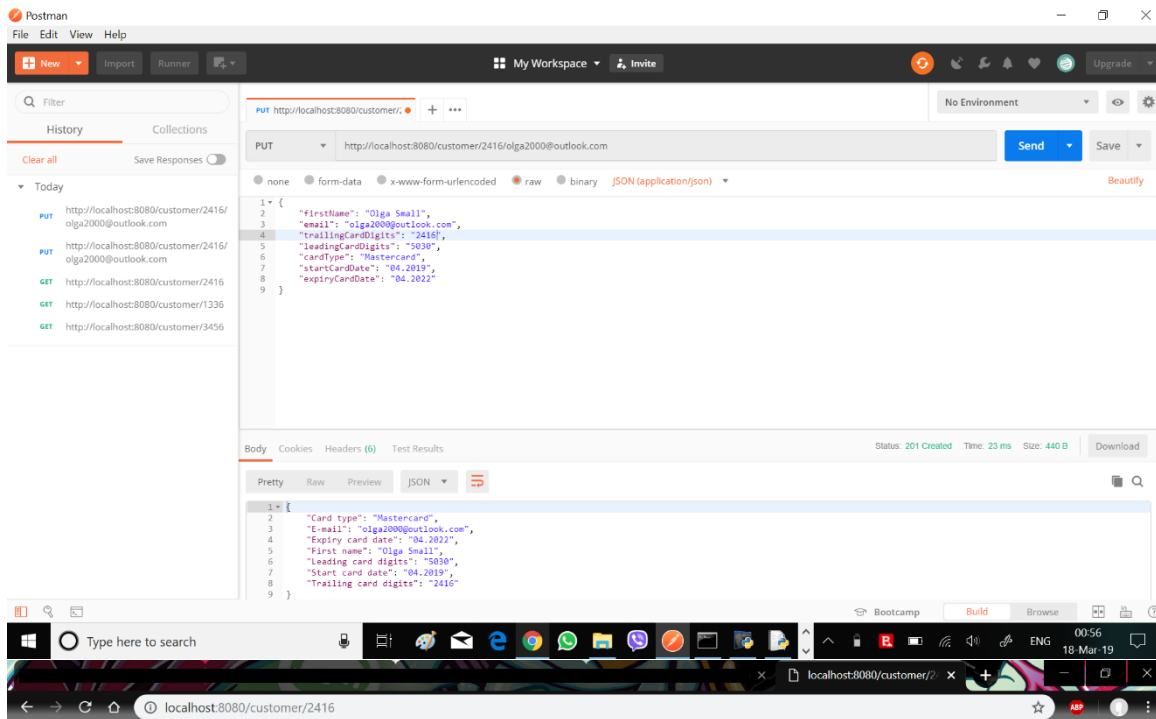


4. Test PUT handler

Example 1 (change some details)

Steps (**ZOOM FOR BETTER VIEW**):

- 1) On Postman: PUT -> <http://localhost:8080/customer/2416/olga2000@outlook.com>
- 2) Change the customer called Olga to:
(Trailing digits: 2416, First name: Olga -> Olga Small, E-mail: olga2000@outlook.com,
Leading card digits: 5029 -> 5030, Card type: Mastercard, Start Card Date: 08.2018 -> 04.2019,
Expiry Card Date: 08.2021 -> 04.2022)
- 3) Expecting to see her changes in <http://localhost:8080/customer/2416> with Max who has the same trailing card digits, same with chrome (**succeed**)

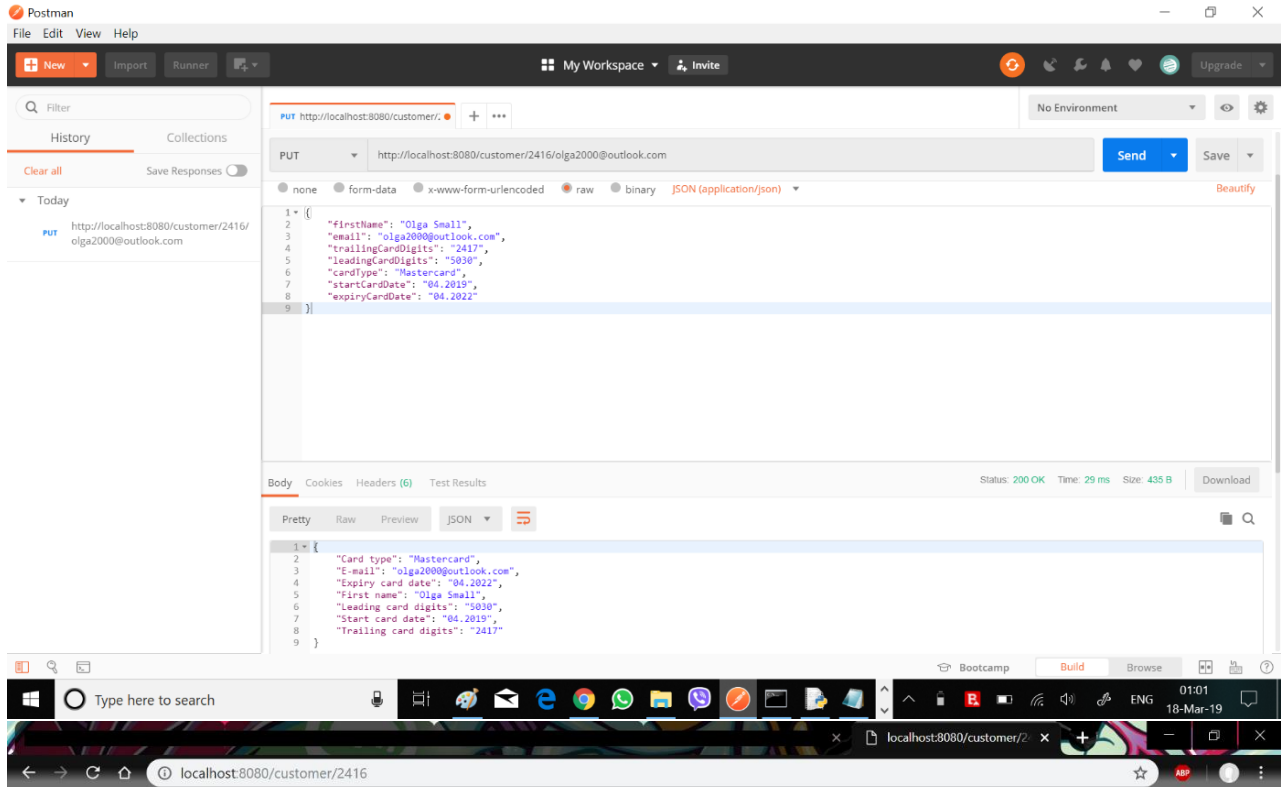


```
[
  {
    "Card type": "Mastercard",
    "E-mail": "max887@hotmail.com",
    "Expiry card date": "08.2021",
    "First name": "Max",
    "Leading card digits": "5536",
    "Start card date": "08.2018",
    "Trailing card digits": "2416"
  },
  {
    "Card type": "Mastercard",
    "E-mail": "olga2000@outlook.com",
    "Expiry card date": "04.2022",
    "First name": "Olga Small",
    "Leading card digits": "5030",
    "Start card date": "04.2019",
    "Trailing card digits": "2416"
  }
]
```

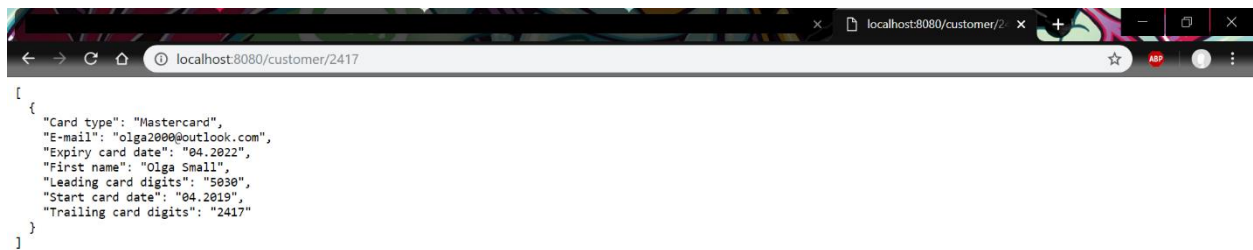
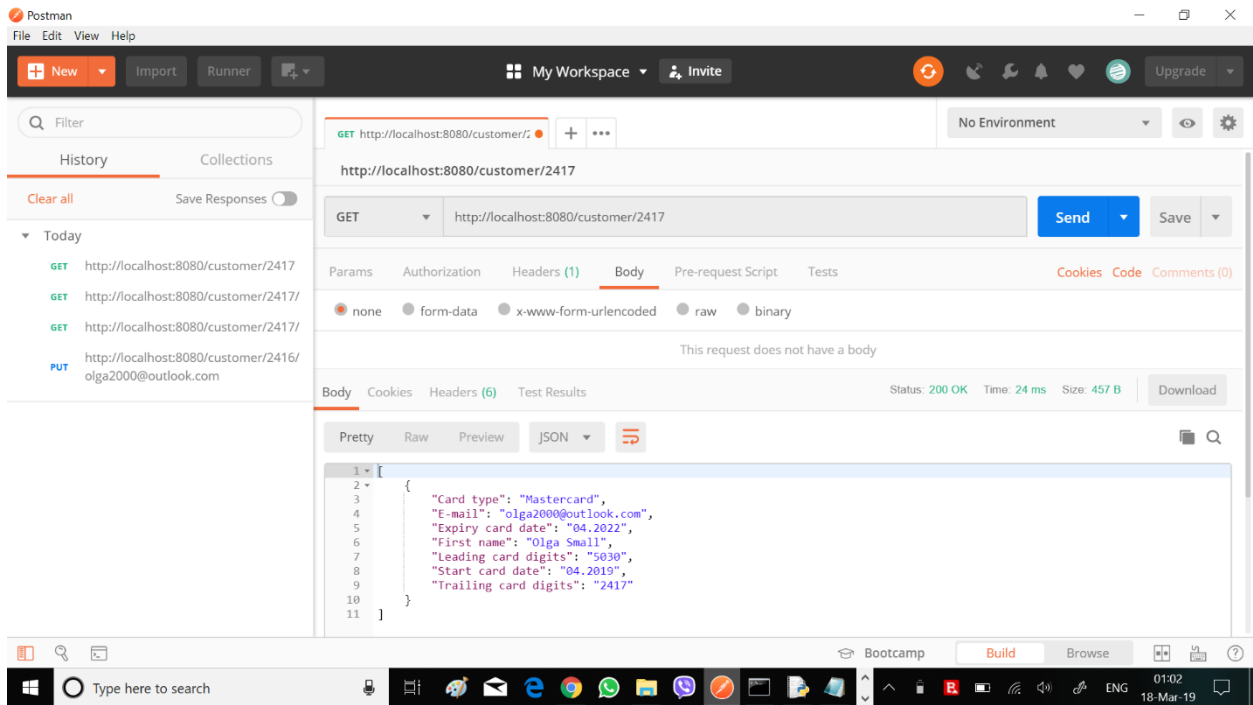

Example 2 (change trailing digits)

Steps (**ZOOM FOR BETTER VIEW**):

- 1) On Postman: PUT -> <http://localhost:8080/customer/2416/olga2000@outlook.com>
- 2) Change the Trailing digits of customer called Olga Small (previous case) from 2416 to 2417
- 3) Expecting to disappear from the <http://localhost:8080/customer/2416> and appear to <http://localhost:8080/customer/2417> as is the only one who has 2417 as trailing card digits now, same with chrome (**succeed**)



```
[
  {
    "Card type": "Mastercard",
    "E-mail": "max887@hotmail.com",
    "Expiry card date": "08.2021",
    "First name": "Max",
    "Leading card digits": "5536",
    "Start card date": "08.2018",
    "Trailing card digits": "2416"
  }
]
```



Example 3 (change trailing digits)

Compared to the last example, now we want to change the customer's e-mail too, but we have to specify his new e-mail in the link, not the old one. Else, the application will not accept the change.

Steps (ZOOM FOR BETTER VIEW):

- 1) On Postman PUT -> <http://localhost:8080/customer/2416/olga2001@outlook.com>
- 2) Change the customer called Olga to:
(Trailing digits: 2416 -> 2417, e-mail olga2000@outlook.com -> olga2001@outlook.com)
- 3) Expecting to disappear from the <http://localhost:8080/customer/2416> (like before) and to appear with the changes (new e-mail) to <http://localhost:8080/customer/2417> as is the only one who has 2417 as trailing card digits now, same with chrome (**succeed**)

