Stripe Demo using Javascript Promises

Team Name: Errors-as-a-Service

Team Members

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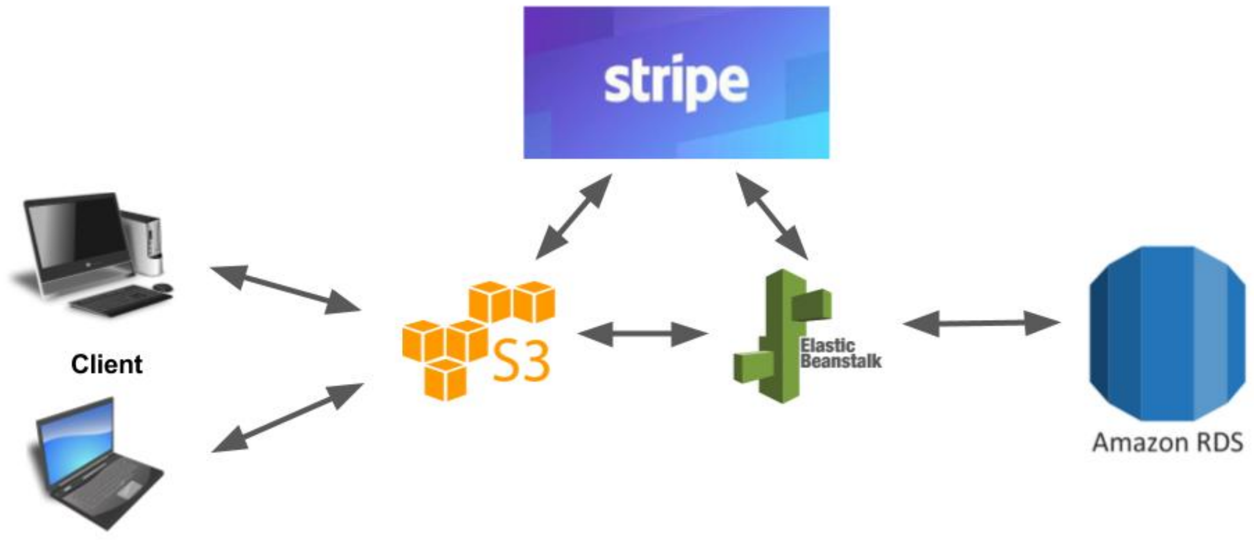
URLs

1. **S3 frontend**: http://s3-us-west-2.amazonaws.com/stripe6998/index.html
2. **Elastic Beanstalk (API URL)**: http://stripedeploy.pmi6pbp3mg.us-west-2.elasticbeanstalk.com/api/

Architecture



Architecture - Stripe Demo

Tech Stack

1. Python (Django REST Framework)
2. HTML5, CSS, Javascript
3. jQuery, Bootstrap
4. MySQL (Storing Hashed passwords with Salt)

Deployment

1. Front end static files hosted on S3 bucket
2. Database hosted on Amazon RDS
3. Backend server hosted on Elastic Beanstalk (Load Balancer + EC2 instance)

Communication with the Stripe Service

Client Side

Stripe.js was used to integrate payment popup on client side'

Server Side

Server end uses the Charge API to communicate with the Stripe service and store the order **meta data** on Stripe and the order status in the database

```
charge = stripe.Charge.create(
            amount=int(product.price*100),
            currency="usd",
            metadata={"order_id": order_id},
            source=stripe_token);
```

API endpoints

Note: Calls authenticated by the token in case of invalid / expired token return 403.

Auth service

POST api/api-token-auth/
Request parameters

```
  {
   "username": "dummy@user.com",
   "password": "password"
}
```

Response: 200 Success

```
{"token":"JWT_TOKEN_HERE"}
```

Response: 400 Failure

```
{"detail":"authorization failure"}
```

SignUp service

POST api/signup/

Request parameters

```
     parameters = {
                "first_name": "foo",
                "last_name": "bar",
                "email": "foobar@gmail.com",
                "password": "password"
            };
```

Response: 201 Success

```
{"success":true}
```

Response: 400 Failure

```
{
   "success": false,
   "error": "failure message here"
}
```

Fetch product catalog service

GET api/product/

Response: 200 Success

```
  [
  {
    "id": 1,
    "price": 100,
    "description": "Brooklyn Bridge",
    "url": "https://c1.staticflickr.com/1/728/31226388014_5558604d0f_k.jpg"
  },
  {
    "id": 2,
    "price": 150,
    "description": "Singapore Grand Prix",
    "url": "https://c1.staticflickr.com/6/5763/20977162524_c8931fe2d3_k.jpg"
  }
]
```

Fetch orders of logged in user

GET api/order/

Response: 200 Success

```
[
  {
    "id": 14,
    "user": 5,
    "orderdate": "2017-02-11T02:40:24.333429Z",
    "paymentstatus": "PAID",
    "product": {
      "id": 1,
      "price": 100,
      "description": "Brooklyn Bridge",
      "url": "https://c1.staticflickr.com/1/728/31226388014_5558604d0f_k.jpg"
    }
  },
  {
    "id": 15,
    "user": 5,
    "orderdate": "2017-02-11T02:40:56.373584Z",
    "paymentstatus": "PAID",
    "product": {
      "id": 2,
      "price": 150,
      "description": "Singapore Grand Prix",
      "url": "https://c1.staticflickr.com/6/5763/20977162524_c8931fe2d3_k.jpg"
    }
  }
]
```

Submit order & stripe token to backend

POST api/order/

Request parameters

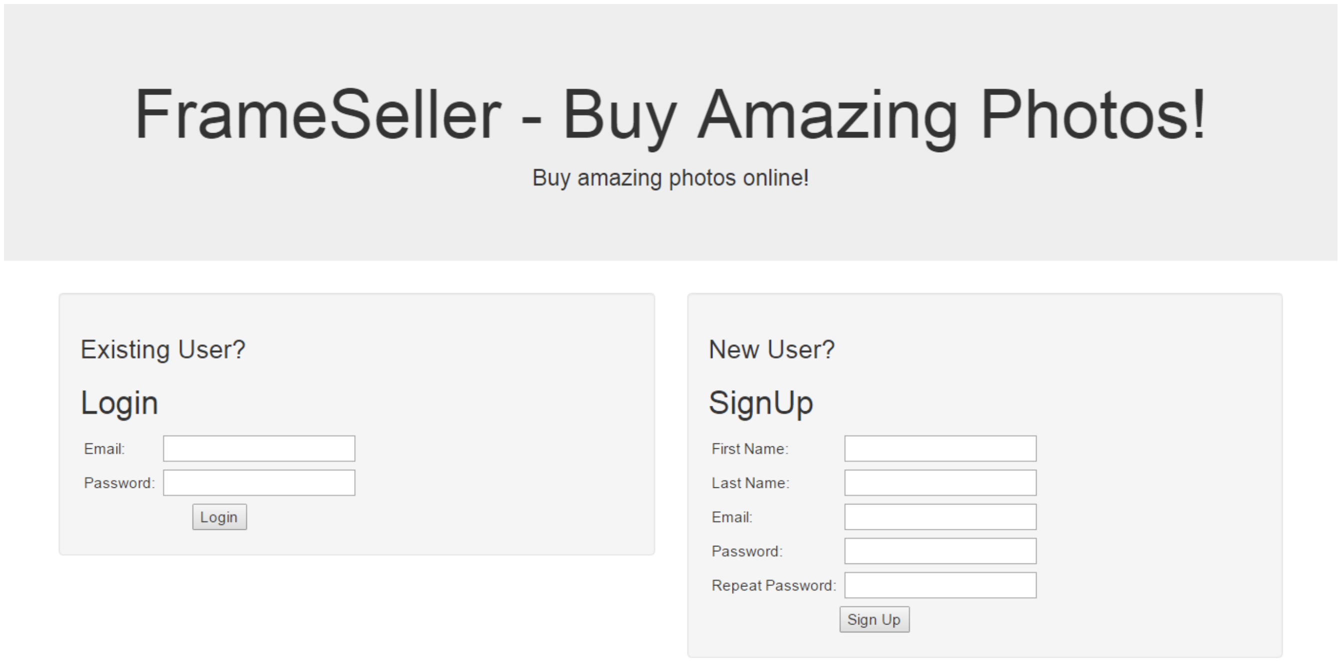
```
{
    "token": "STRIPE_CLIENT_TOKEN",
    "product": "PRODUCT_ID"
}
```

Response: 201 Success

```
{
  "success": true
}
```

Response: 400 Bad request: In case of missing parameters.

Screenshots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Email:	
Password:	

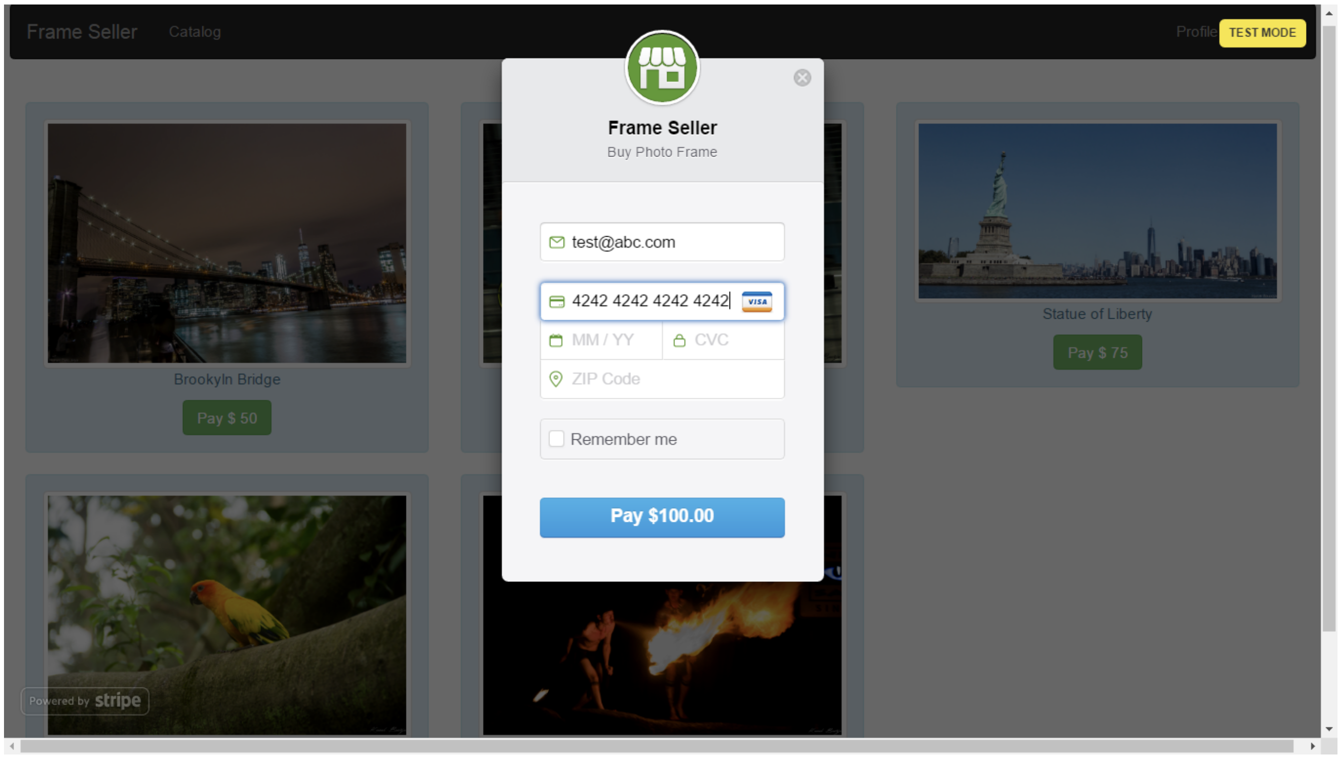
Login

New User?

SignUp

First Name:	
Last Name:	
Email:	
Password:	
Repeat Password:	

Sign Up



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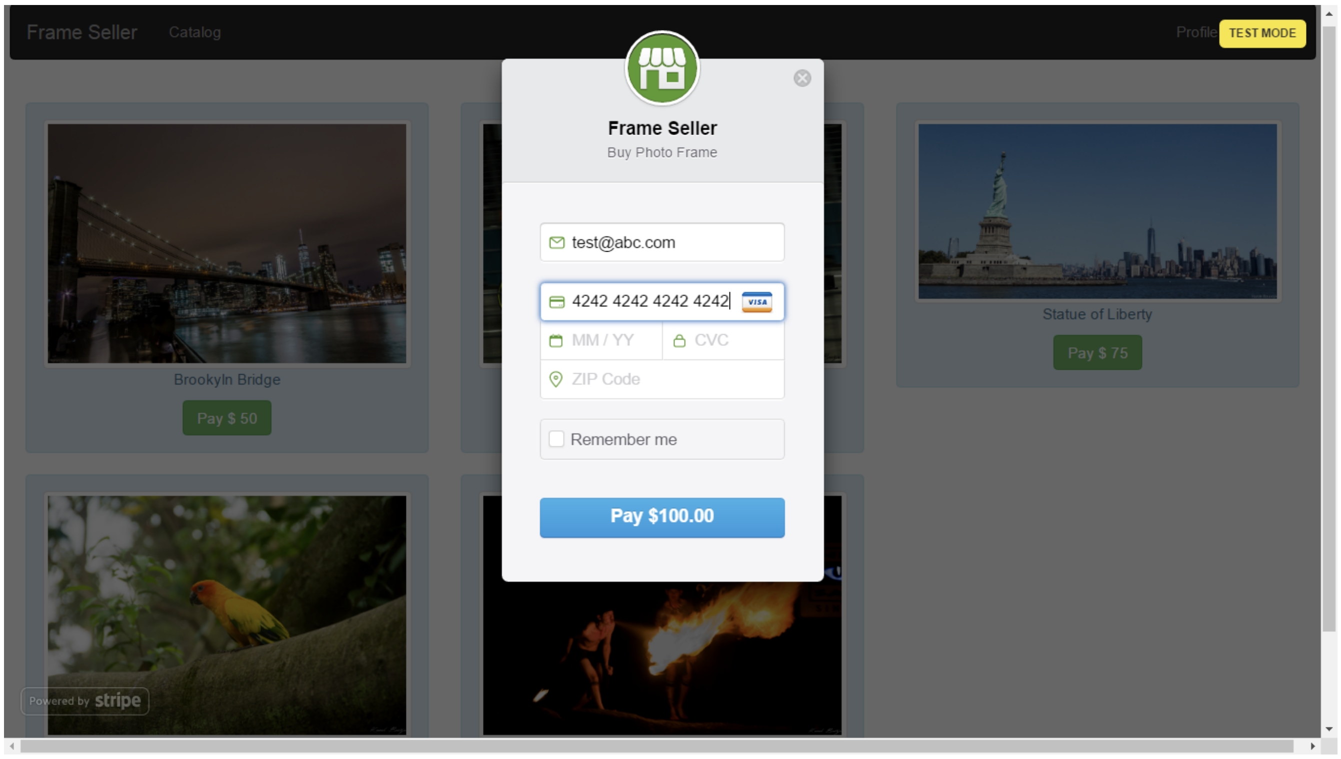
Remember me

Pay $100.00



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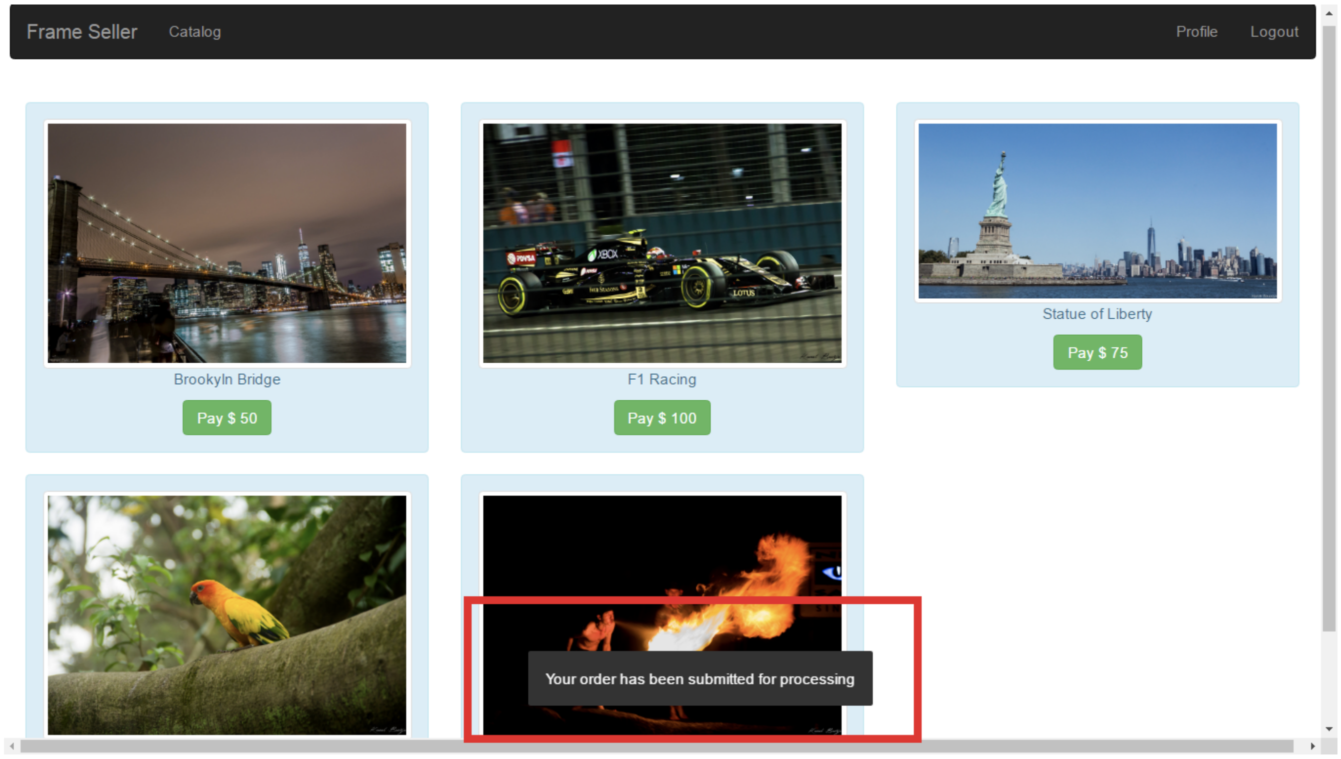
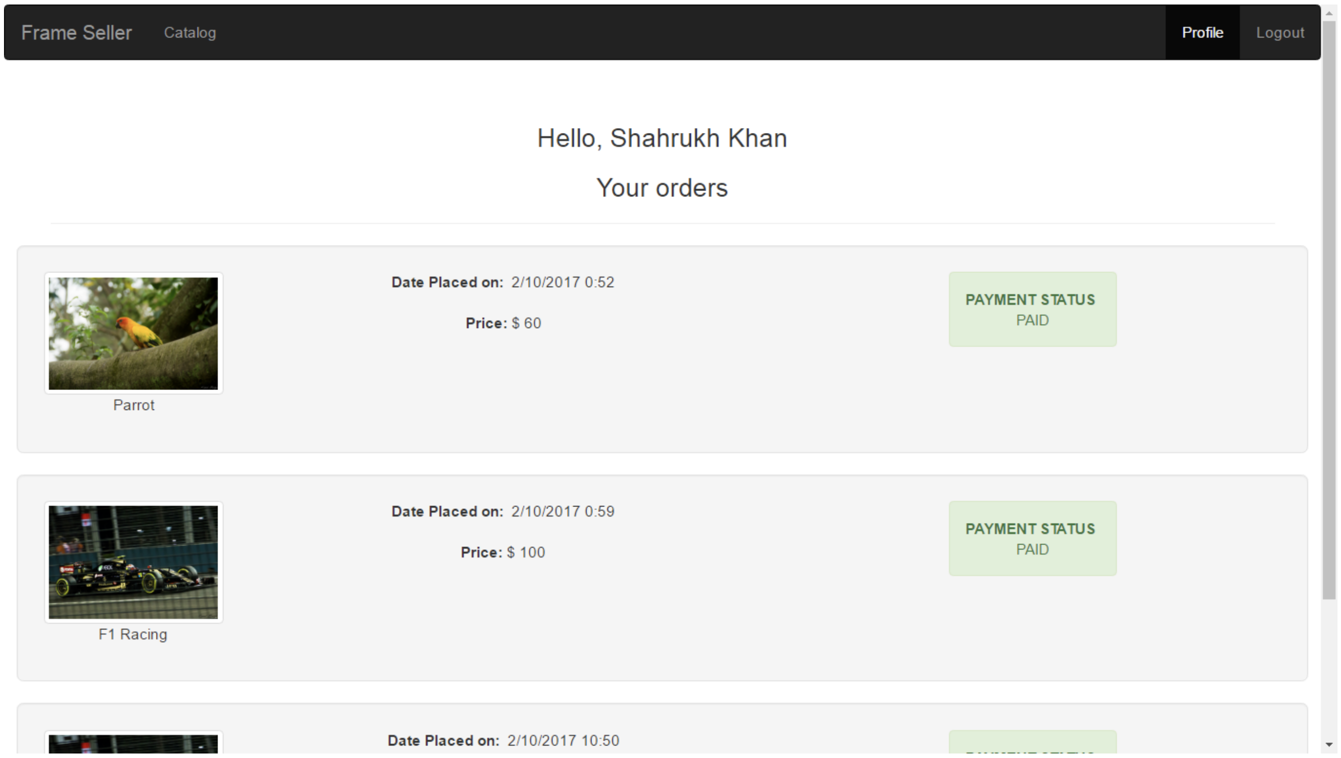


Your order has been submitted for processing



Hello, Shahrukh Khan

Your orders

Parrot

Date Placed on: 2/10/2017 0:52

Price: $ 60

PAYMENT STATUS
PAID

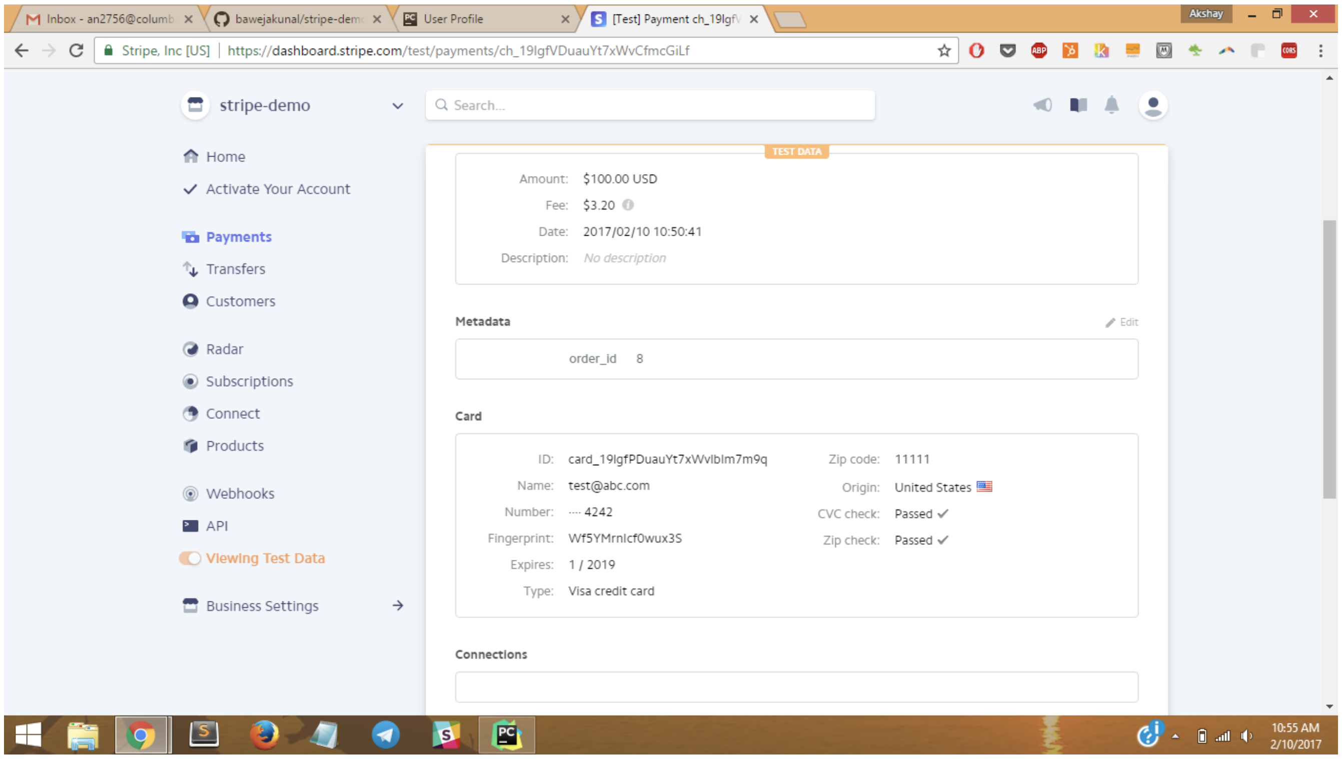
F1 Racing

Date Placed on: 2/10/2017 0:59

Price: $ 100

PAYMENT STATUS
PAID

Date Placed on: 2/10/2017 10:50



Amount: $100.00 USD
Fee: $3.20
Date: 2017/02/10 10:50:41
Description: *No description*

Metadata

order_id 8

Card

ID:	card_19lgfPDuauYt7xWvlbIm7m9q	Zip code:	11111
Name:	test@abc.com	Origin:	United States
Number:	···· 4242	CVC check:	Passed ✓
Fingerprint:	Wf5YMrnlcf0wux3S	Zip check:	Passed ✓
Expires:	1 / 2019		
Type:	Visa credit card		

Connections

Further Improvements

1. Use AngularJS in future assignments
2. As suggested by Prof. Donald Ferguson, segregate the microservices further into Order, Payment and User services.

3. Add randomly generated `idempotency_key` in `stripe.Charge.create()` method call to implement Stripe Idempotent Requests for retrying payment requests that fail due to network errors.