

Payments API

Design

Overview

Context

Goals

Milestones

Solution

Spring 5 and Spring Boot2 with Webflux reactive endpoints

PROS:

- the key expected benefit of reactive and non-blocking is the ability to scale with a small, fixed number of threads and less memory.

CONS:

- Currently Swagger doesn't support functional endpoints (todo: manually describe API's)

Testability

TDD

BDD (cucumber)

Payments API

Get payment resource

```
GET /v1/payments/{id}
```

Get all payment resources

```
GET /v1/payments/
```

Create a payment resource

```
POST /v1/payments/ -H 'Content-Type: application/json' -d '{paymentResource}'
```

Update a payment resource

```
PUT /v1/payments/{id} -H 'Content-Type: application/json' -d '{paymentResource}'
```

Delete a payment resource

```
DELETE /v1/payments/{id}
```

Delete all payment resource

```
DELETE /v1/payments/ (use carefully)
```

Models

Activity diagram

Class diagram

Payment resource example

```
{  
  "type": "Payment",
```

```
"id": "4ee3a8d8-ca7b-4290-a52c-dd5b6165ec43",
"version": 0,
"organisation_id": "743d5b63-8e6f-432e-a8fa-c5d8d2ee5fcb",
"attributes": {
  "amount": "100.21",
  "beneficiary_party": {
    "account_name": "W Owens",
    "account_number": "31926819",
    "account_number_code": "BBAN",
    "account_type": 0,
    "address": "1 The Beneficiary Localtown SE2",
    "bank_id": "403000",
    "bank_id_code": "GBDSC",
    "name": "Wilfred Jeremiah Owens"
  },
  "charges_information": {
    "bearer_code": "SHAR",
    "sender_charges": [
      {
        "amount": "5.00",
        "currency": "GBP"
      },
      {
        "amount": "10.00",
        "currency": "USD"
      }
    ],
    "receiver_charges_amount": "1.00",
    "receiver_charges_currency": "USD"
  },
  "currency": "GBP",
  "debtor_party": {
    "account_name": "EJ Brown Black",
    "account_number": "GB29XABC10161234567801",
    "account_number_code": "IBAN",
    "address": "10 Debtor Crescent Sourcetown NE1",
    "bank_id": "203301",
    "bank_id_code": "GBDSC",
    "name": "Emelia Jane Brown"
  },
  "end_to_end_reference": "Wil piano Jan",
  "fx": {
    "contract_reference": "FX123",
    "exchange_rate": "2.00000",
    "original_amount": "200.42",
    "original_currency": "USD"
  },
  "numeric_reference": "1002001",
  "payment_id": "123456789012345678",
  "payment_purpose": "Paying for goods/services",
```

```
"payment_scheme": "FPS",
"payment_type": "Credit",
"processing_date": "2017-01-18",
"reference": "Payment for Em's piano lessons",
"scheme_payment_sub_type": "InternetBanking",
"scheme_payment_type": "ImmediatePayment",
"sponsor_party": {
  "account_number": "56781234",
  "bank_id": "123123",
  "bank_id_code": "GBDSC"
}
}
```