How to test cloud dependencies with Localstack

About me

- http://github.com/eduardompinto
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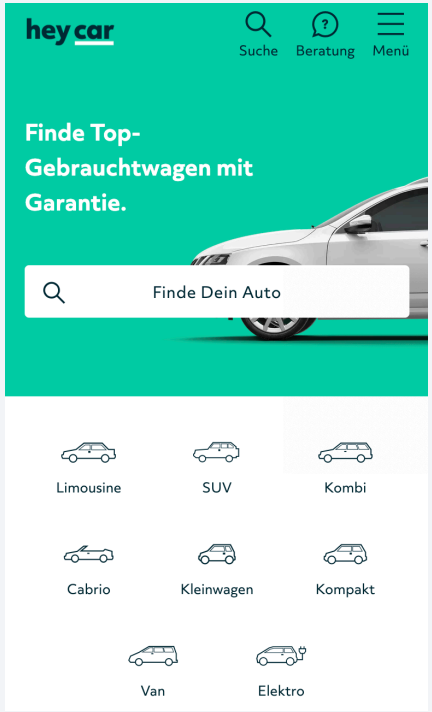
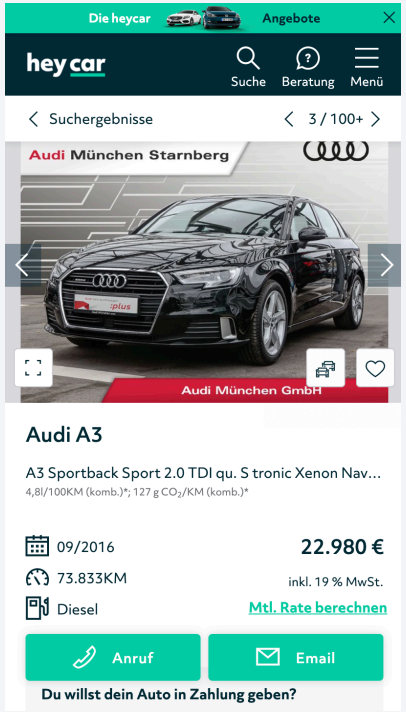
- Telegram: @eduardompinto
- Kotlin slack: @Eduardo Pinto
- Brazilian
- kotlin, go, python
- First talk in a foreign land/language

About heycar

Our engineering context

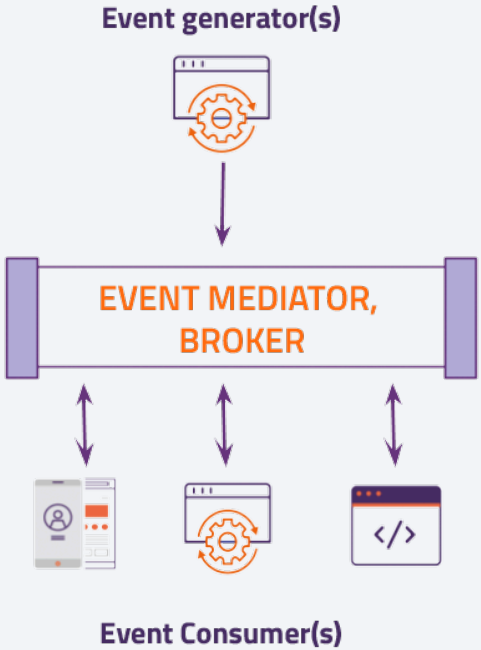
- http://hey.car
- http://github.com/hey-car
- +40 microservices
- +50 people in engineering
- +15 nationalities
- Java + Spring -> Kotlin + Spring
- Event-driven architecture
- AWS





Event-driven

- We didn't miss a change
- Changes are streamed
  - Consumed by how wants to know about that
- Kinesis
- On the right corner is a generic image ☺

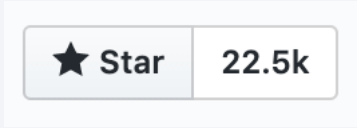


Source: https://sensedia.com/wp-content/uploads/2019/07/Event-Driven-Components.png

Localstack

"LocalStack - A fully functional local AWS cloud stack"

- https://github.com/localstack/localstack
- SQS, Dynamodb, Kinesis, SQS ...
- Easy to setup
- Compatible with multiple languages

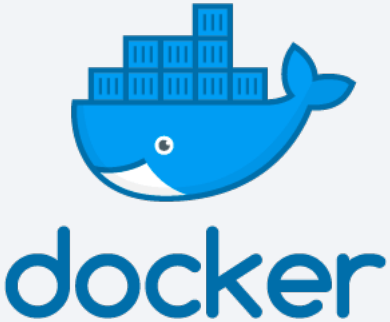


Setup

How to run it?

- Needs docker and docker-compose

```yaml
version: '3.2'
services:
  localstack:
    image: localstack/localstack:latest
    ports:
      - '4560-4576:4560-4576'
      - '8082:8080'
    environment:
      - SERVICES=kinesis,sqs,dynamodb
    volumes:
      - './.localstack:/tmp/localstack/data'
      - '/var/run/docker.sock:/var/run/docker.sock'
```



Creating resources

- Same syntax of using aws-cli on your console
- https://aws.amazon.com/cli/

```
aws-cli:
  image: mesosphere/aws-cli:1.14.5
  volumes:
    - './scripts:/project/scripts'
  environment:
    - AWS_ACCESS_KEY_ID=foo
    - AWS_SECRET_ACCESS_KEY=bar
    - AWS_DEFAULT_REGION=eu-central-1
  entrypoint: '/project/scripts/setup.sh'
```

Creating resources

How to run it?

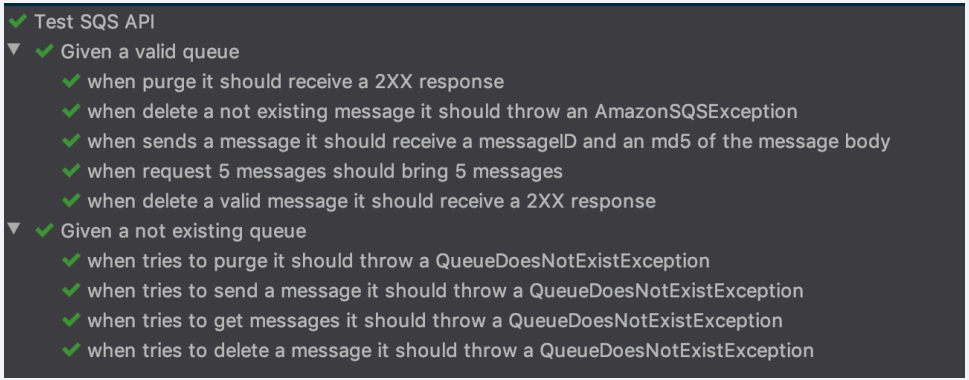
- Content of the setup script

```
echo "Waiting for localstack to be ready"
# There's better ways to do this :)
sleep 20
aws sqs create-queue --endpoint-url=http://localstack:4576 --queue-name test-queue
aws kinesis create-stream --endpoint-url=http://localstack:4568 --shard-count 1 --stream-name test-stream
```

Kotlin

After all this is a kotlin meetup

- Localstack provides better integration tests
- Demo



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