

MyMonit

Overview of the solution

May, 20th, 2022

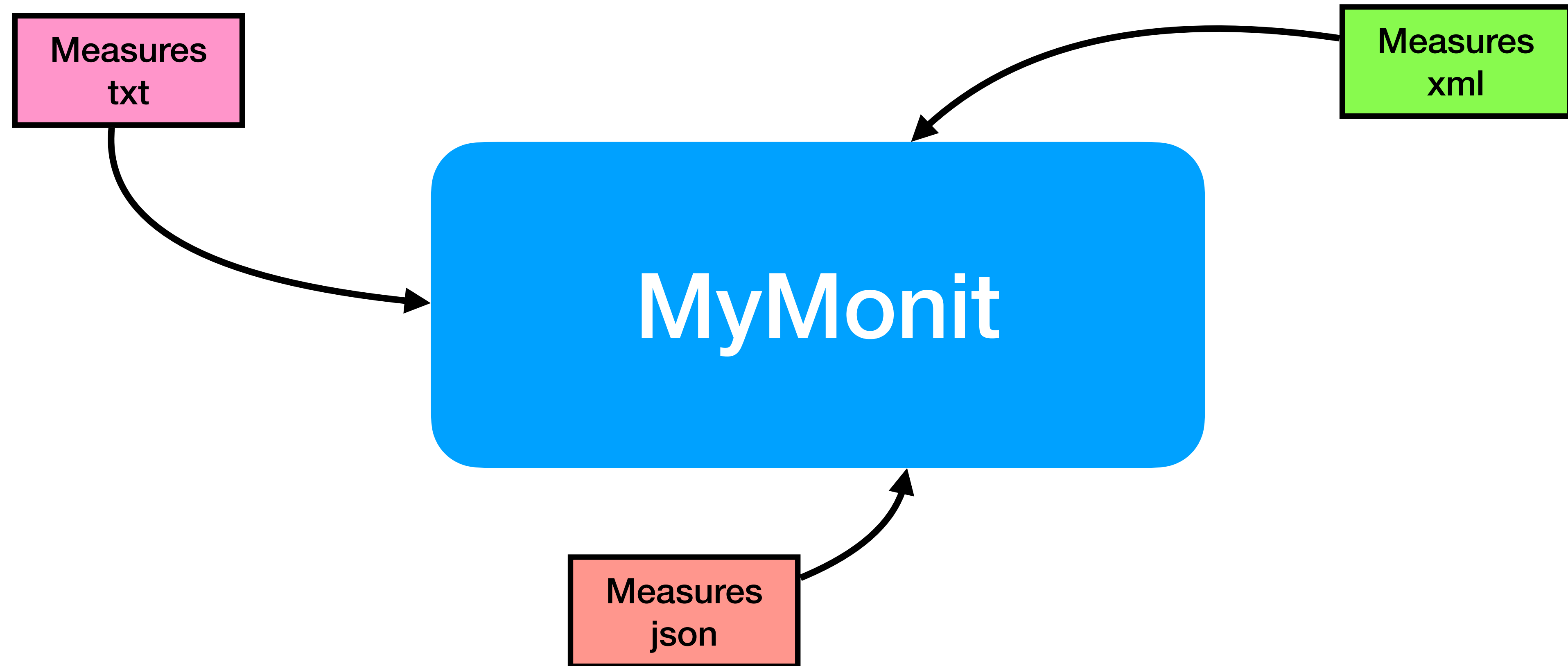
The problem

Measures
txt

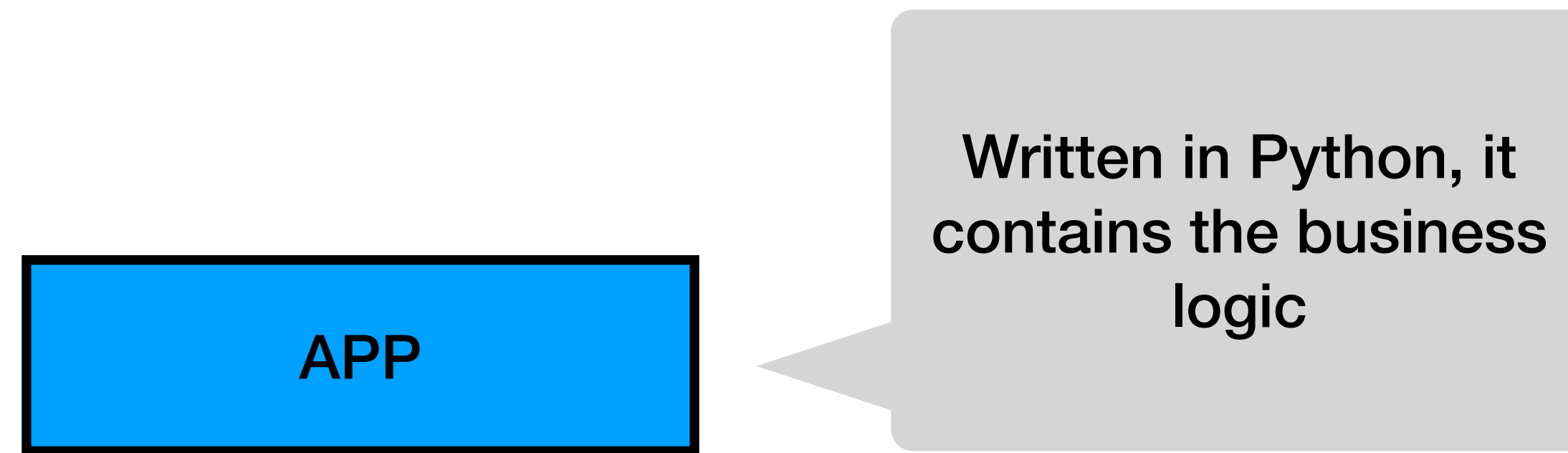
Measures
xml

Measures
json

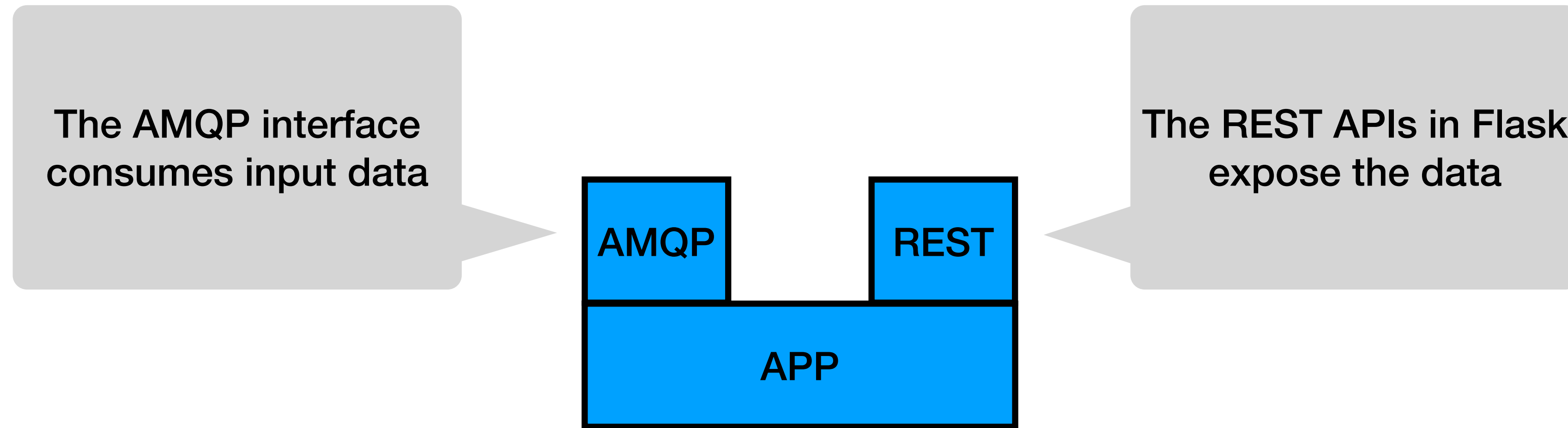
The solution



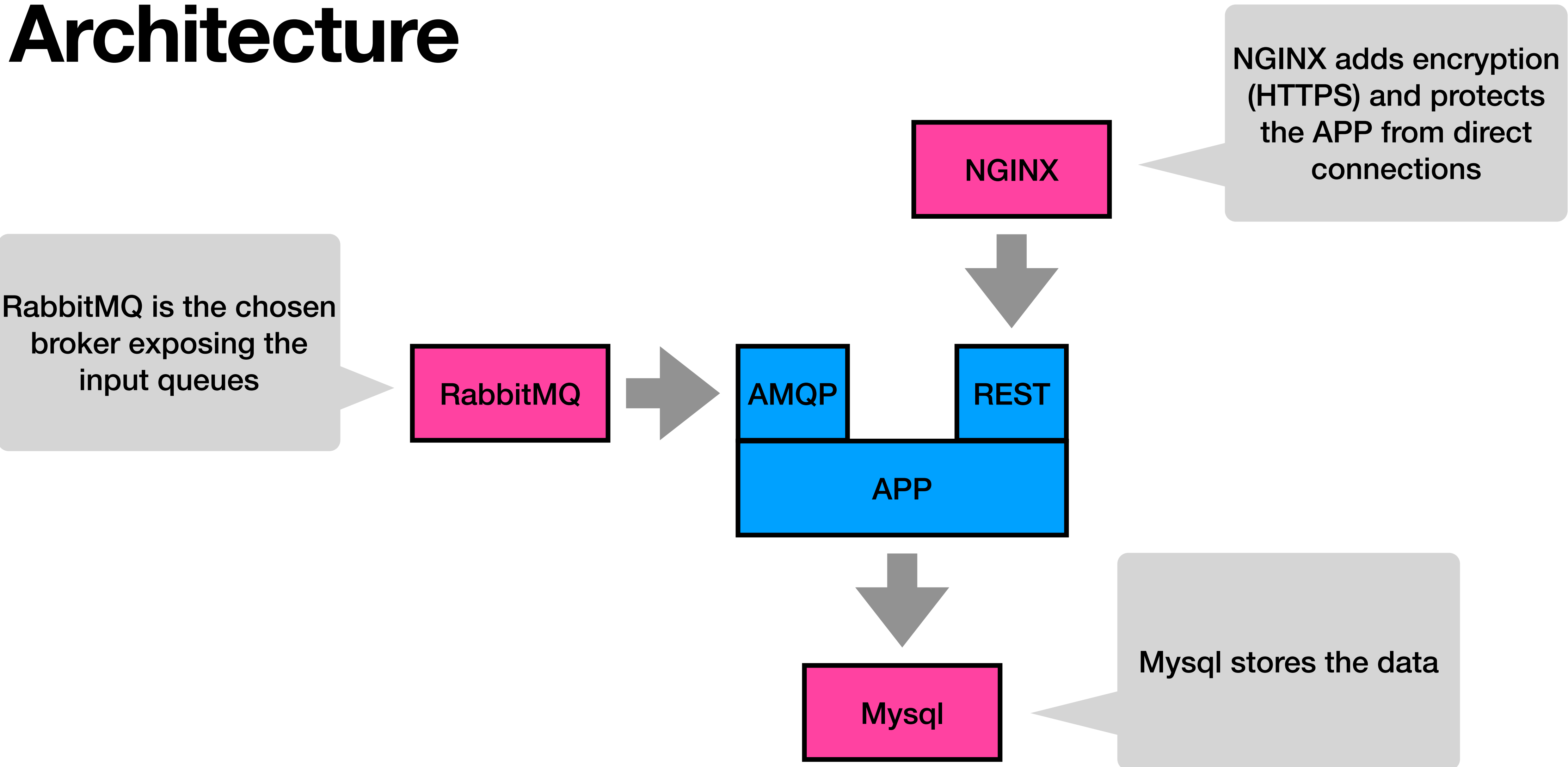
Architecture



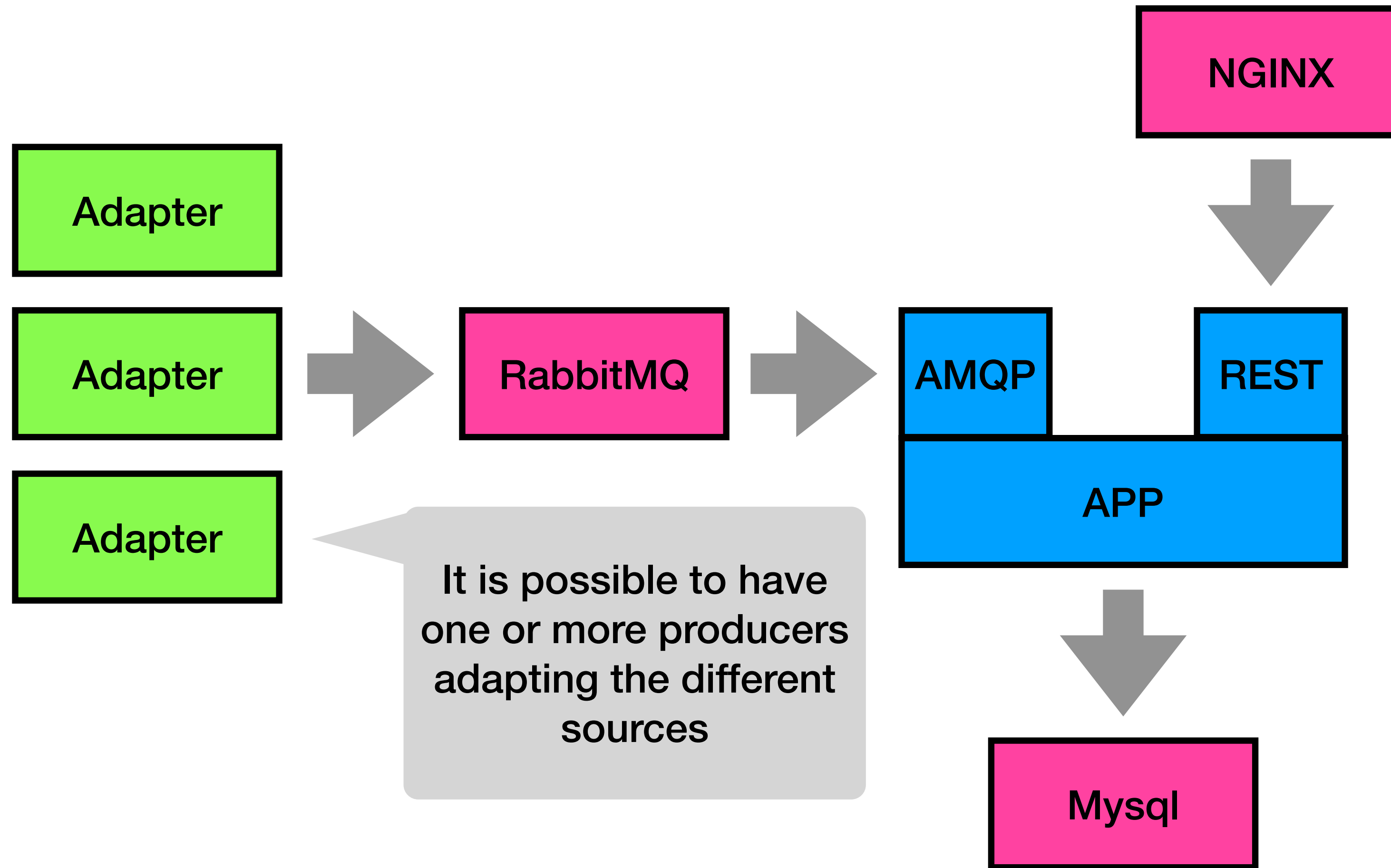
Architecture



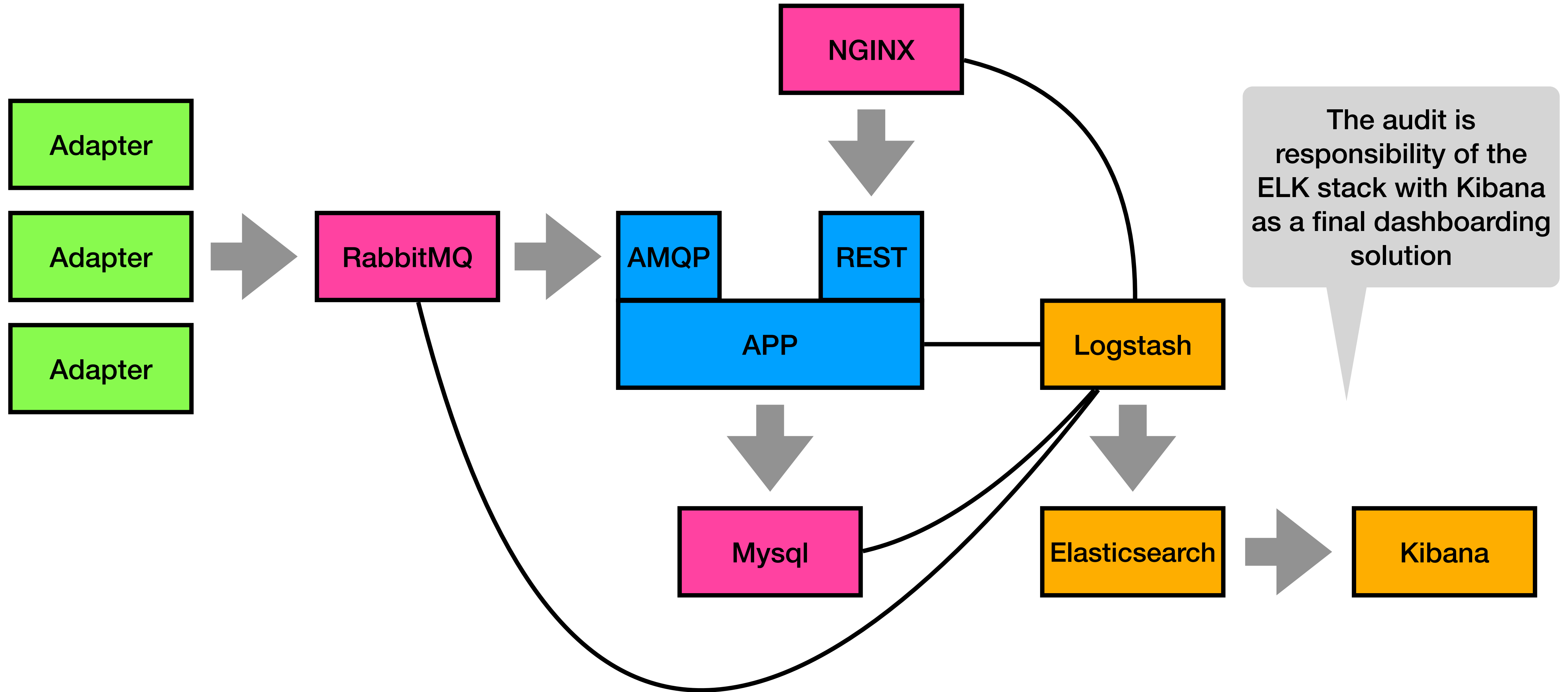
Architecture



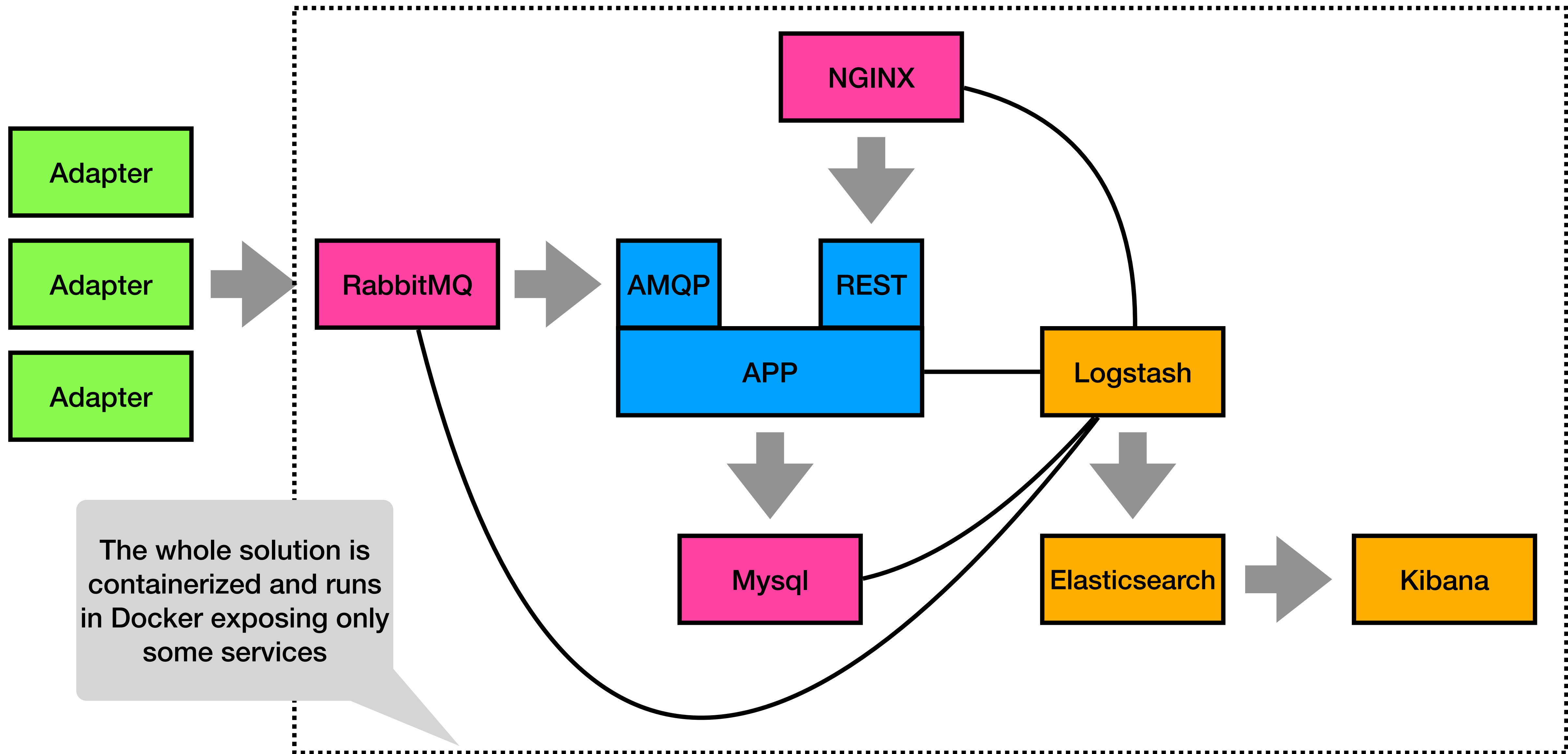
Architecture



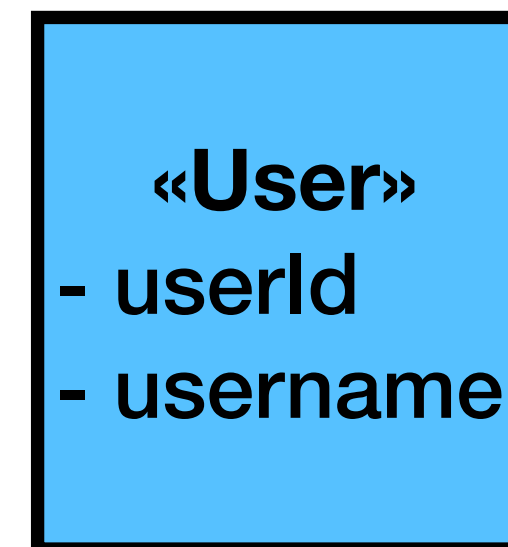
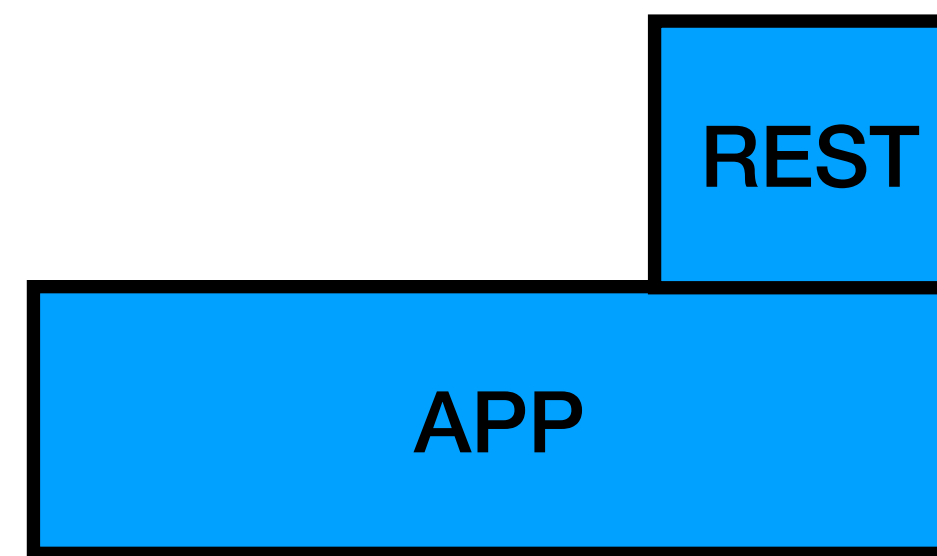
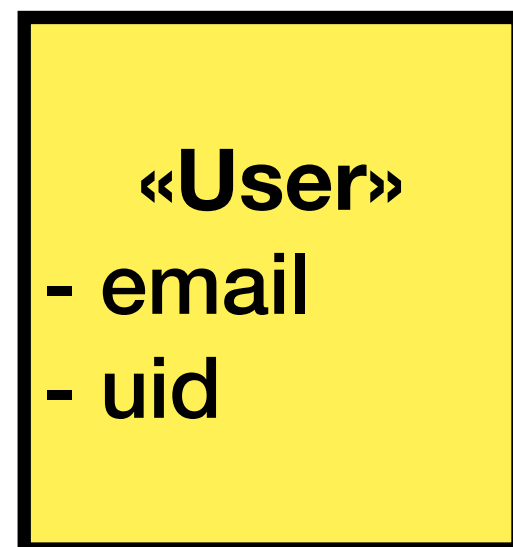
Architecture



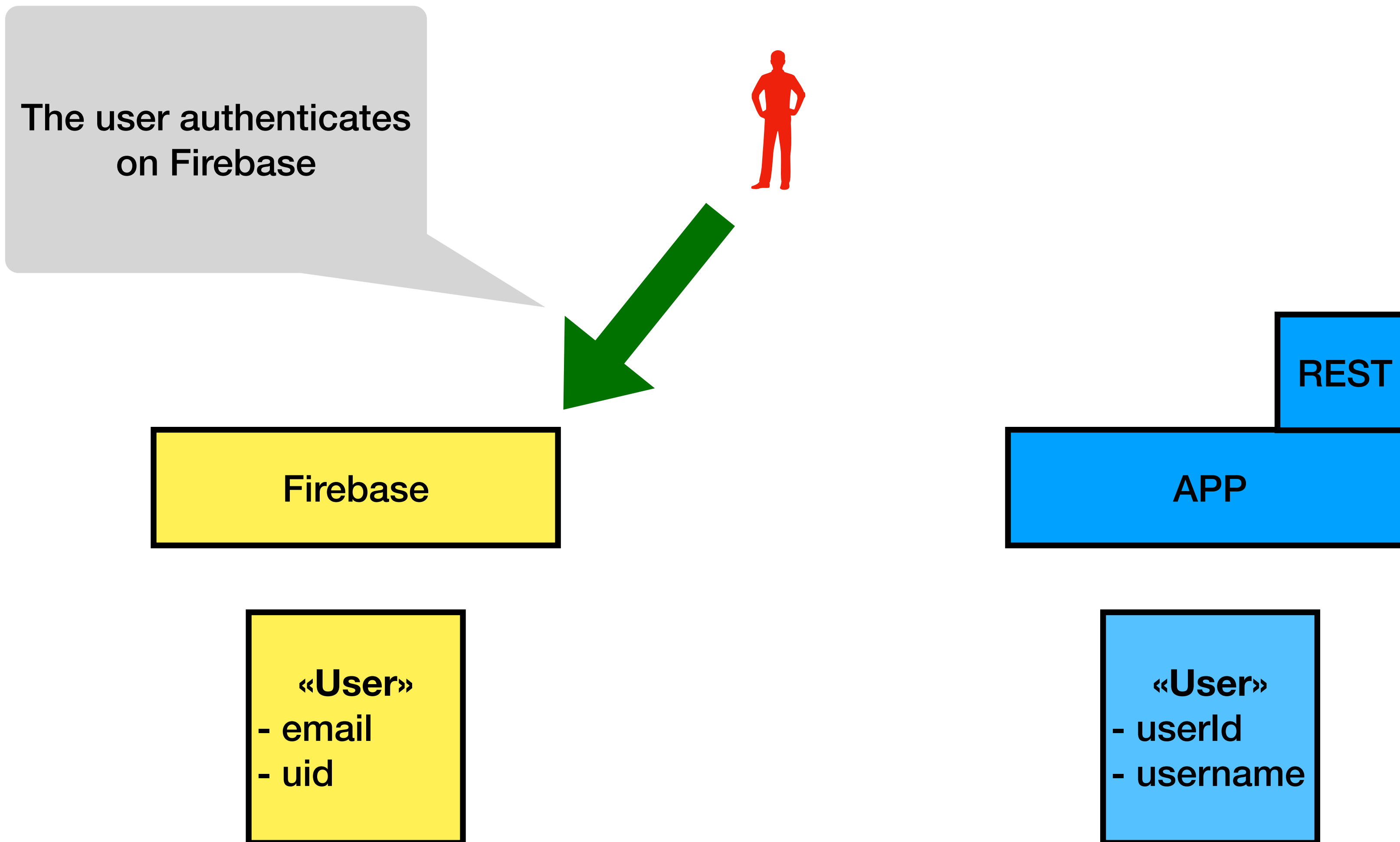
Architecture



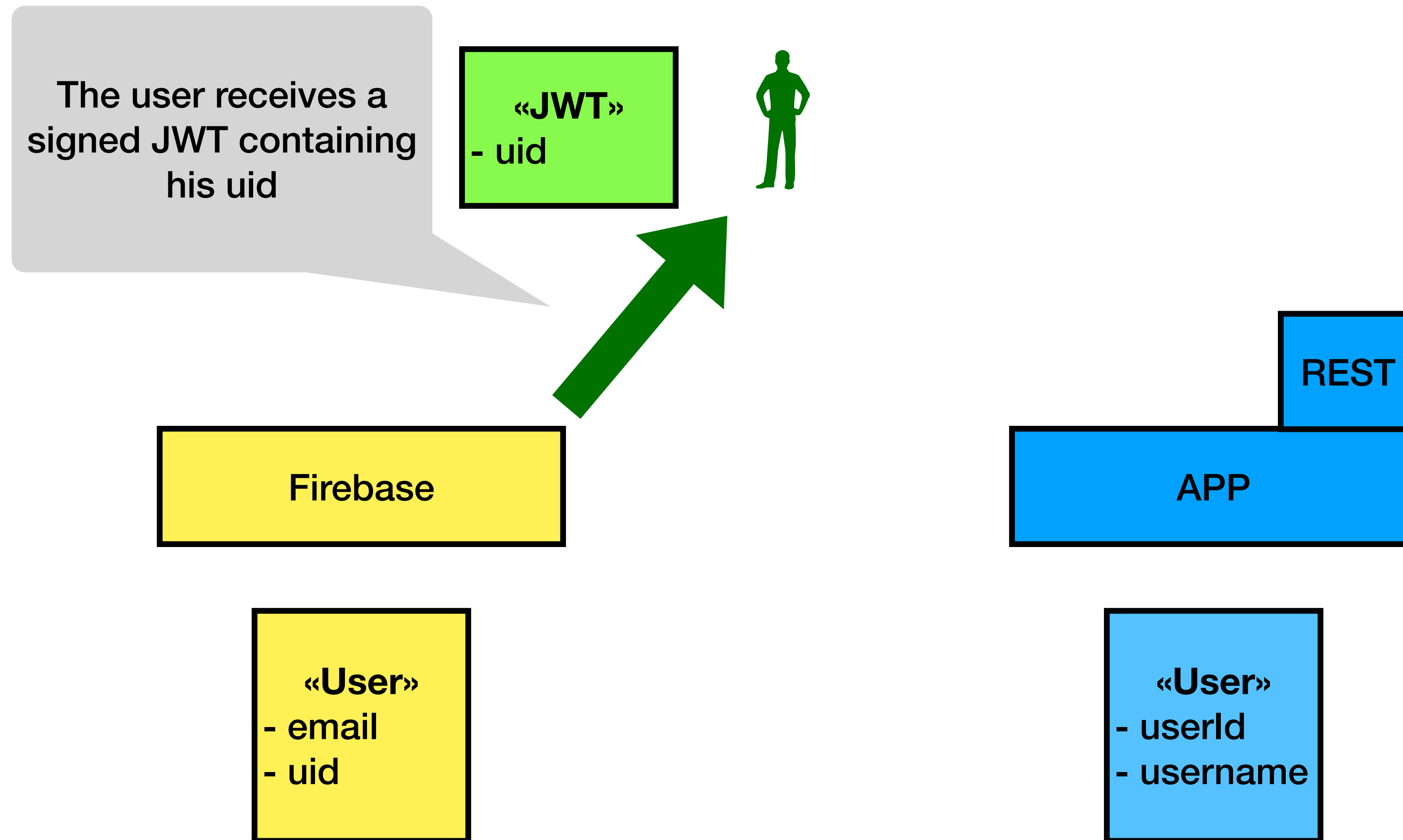
Authentication



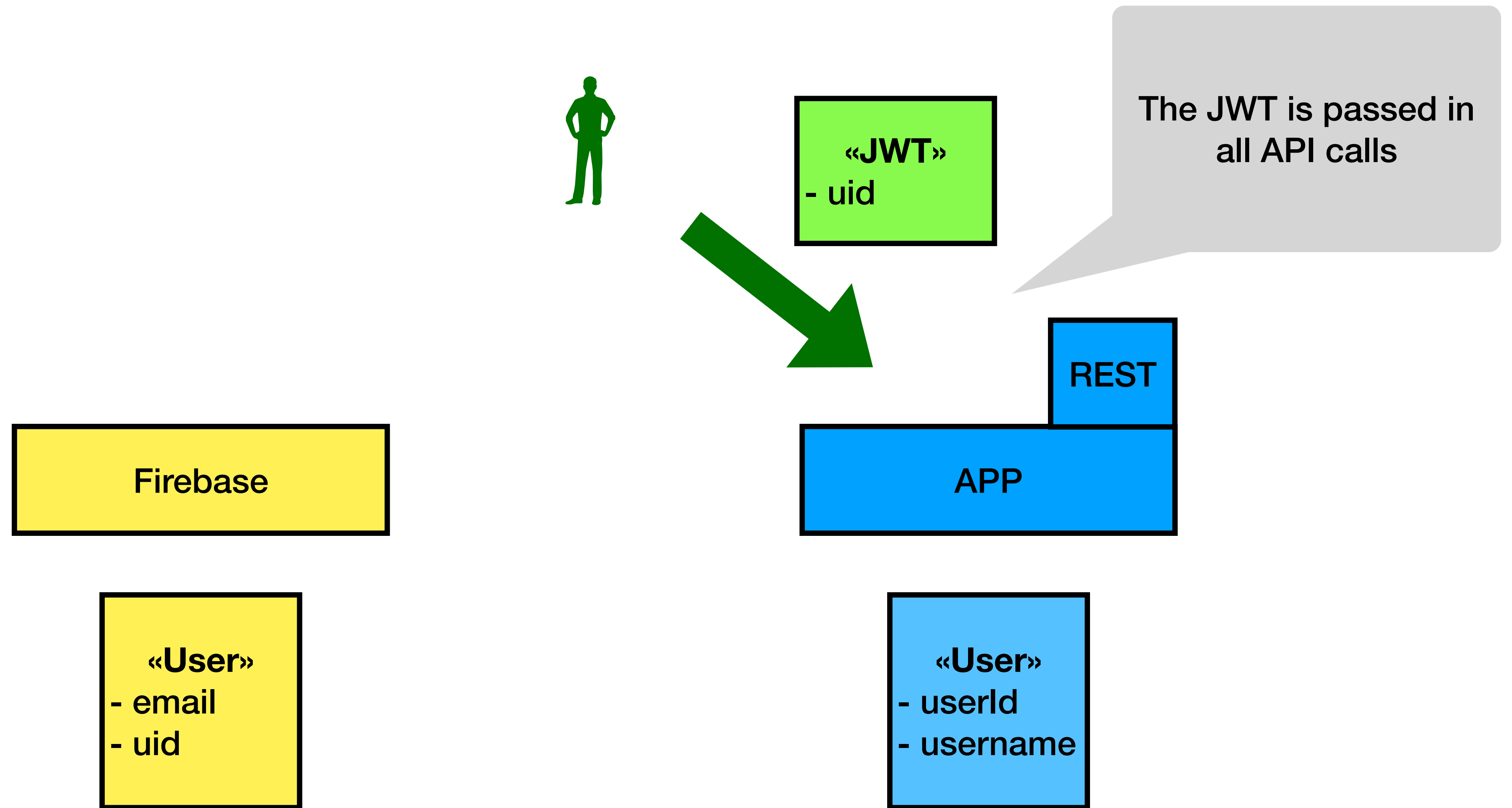
Authentication



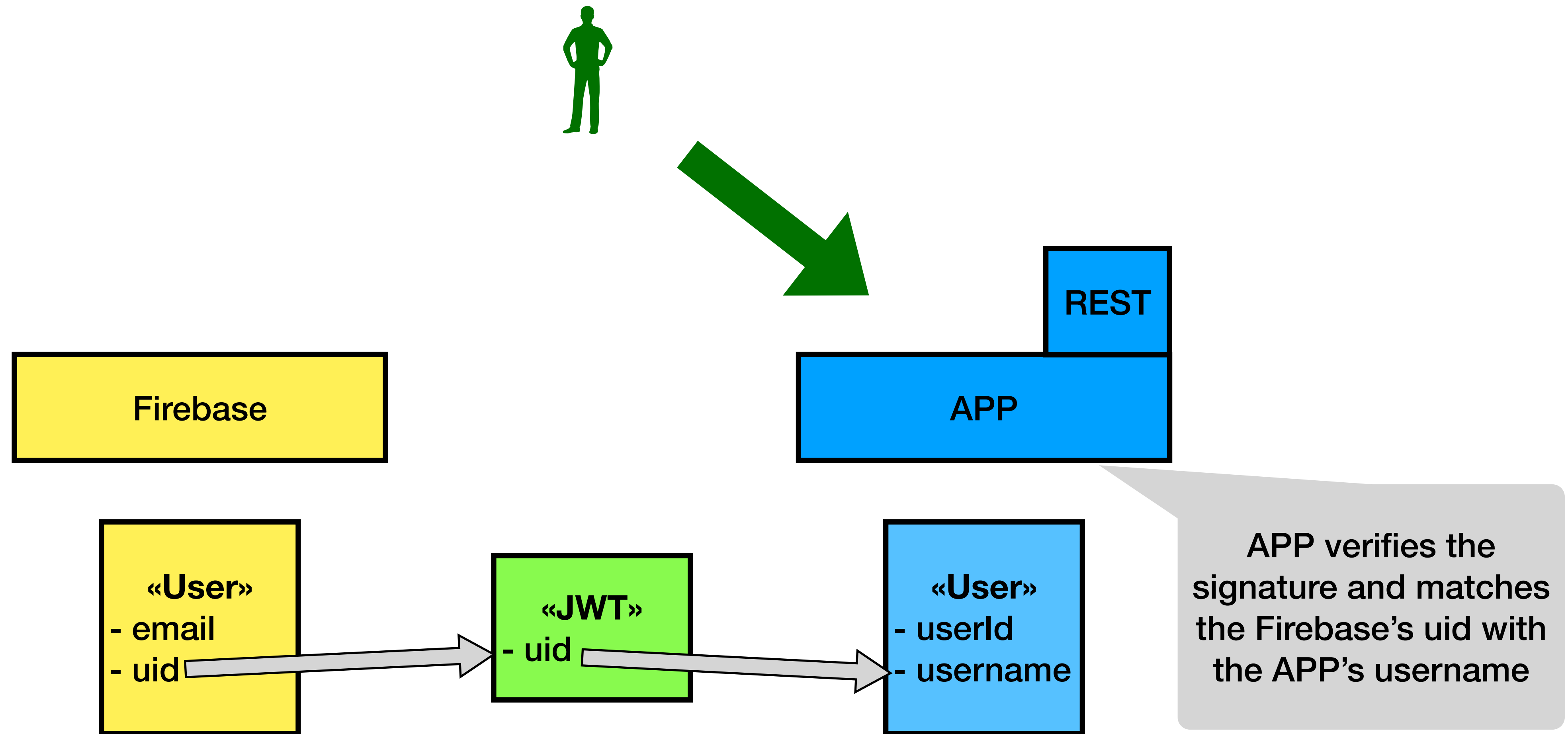
Authentication



Authentication



Authentication



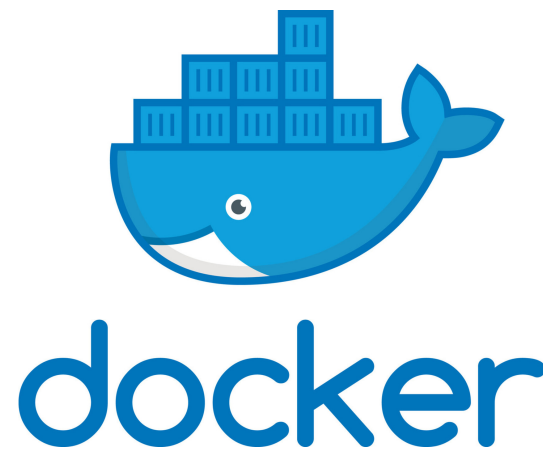
Build process

```
1  '''Setup the project'''
2
3  from setuptools import setup, find_packages
4
5  setup(
6      name='my_monit',
7      version='0.1.0',
8      setup_requires=['pytest-runner', 'pytest-pylint'],
9      tests_require=['pytest', 'pylint'],
10     packages=find_packages(include=['my_monit']),
11     test_suite = 'test',
12     install_requires=[
13         "flask >= 2.0.0",
14         "pika >= 1.2.0",
15         "mysql-connector-python == 8.0.28",
16         "python-logstash >= 0.4.6",
17         "dependency_injector >= 4.39.1",
18         "pyjwt >= 2.3.0",
19         "colorama >= 0.4.0",
20         'firebase-admin>=5.2.0'
21     ],
22     python_requires='>=3.9'
23 )
24
```

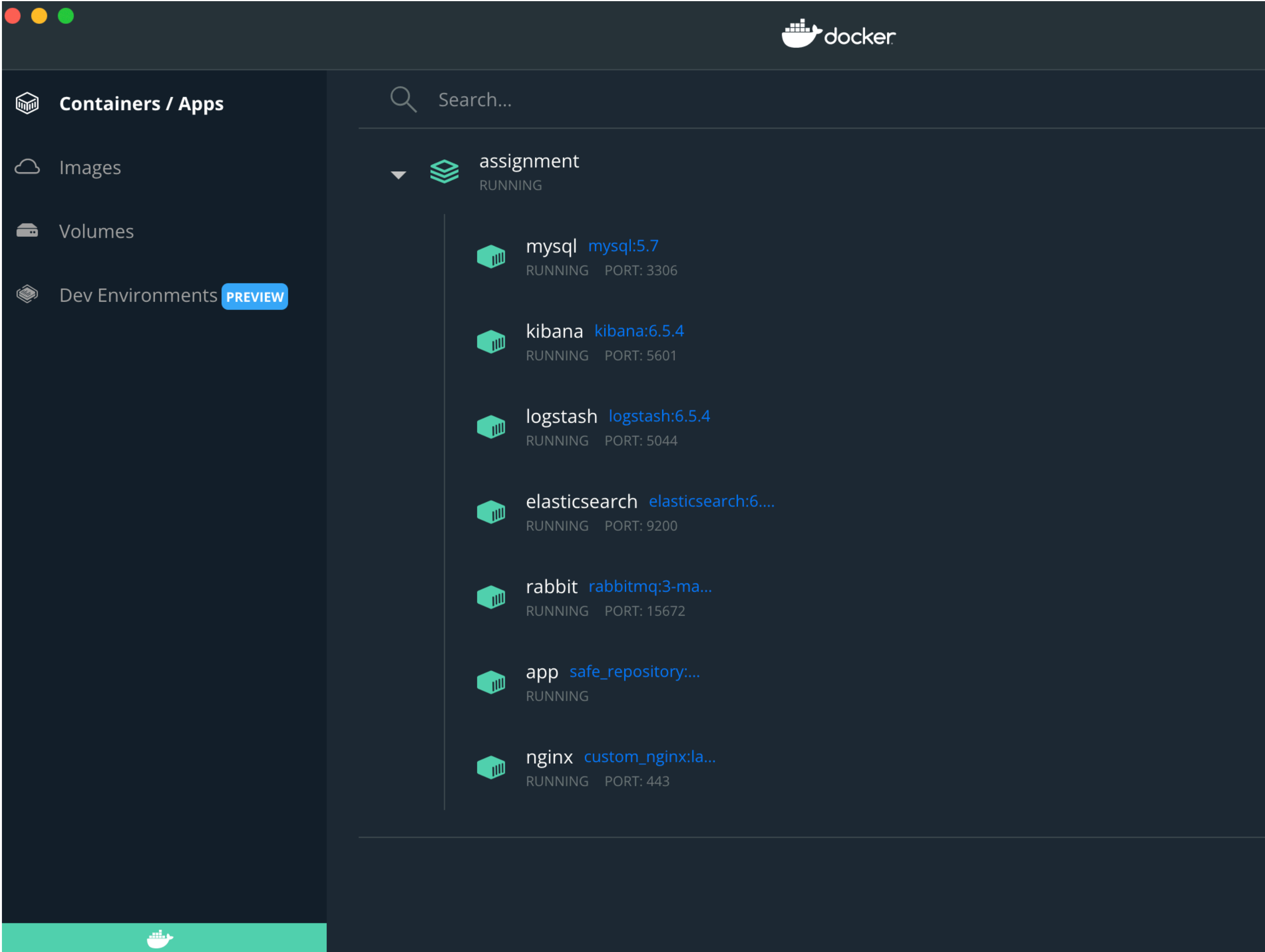
Build process

```
1 FROM nginx:latest
2
3 COPY nginx.conf /etc/nginx/conf.d/default.conf
4 COPY key.pem /root/ssl/key.pem
5 COPY cert.pem /root/ssl/cert.pem
6 RUN rm /var/log/nginx/access.log && rm /var/log/nginx/error.log
7
8 RUN curl -L -O https://artifacts.elastic.co/downloads/beats/filebeat/filebeat-8.1.0-amd64.deb
9 RUN dpkg -i filebeat-8.1.0-amd64.deb
10 COPY filebeat.yml /etc/filebeat/filebeat.yml
11 RUN filebeat modules enable nginx
12 COPY nginx.yml /etc/filebeat/modules.d/
13 COPY filebeat-restart.sh /
14 COPY docker-entrypoint.sh /
15 RUN chmod a+x /filebeat-restart.sh && chmod a+x /docker-entrypoint.sh
```

```
1 FROM python:3.9
2
3 COPY setup.* /home/
4 COPY main.py /home/
5 COPY .bandit /home/
6 COPY .static-tmp/* /home/static/
7 COPY my_monit/*.py /home/my_monit/
8 WORKDIR /home
9 RUN pip3 install -e .
10
11 ENTRYPOINT python3 main.py
12
```



```
10 container_name: rabbit
11 ports:
12   - "5672:5672"
13   - "15672:15672"
14
15 mysql:
16   # for M1
17   # platform: linux/x86_64
18   image: mysql:5.7
19   container_name: mysql
20   command: mysqld --sql_mode="" --character-set-server=utf8mb4 --collation-server=utf8mb4_unicode_ci
21   volumes:
22     - ./containers/mysql/dbschema:/docker-entrypoint-initdb.d
23   ports:
24     - "3306:3306"
25   environment:
26     - MYSQL_ROOT_PASSWORD=password
27
28 elasticsearch:
29   image: elasticsearch:6.5.4
30   container_name: elasticsearch
31   environment:
32     - node.name=ws-es-node
33     - discovery.type=single-node
34     - cluster.name=ws-es-data-cluster
35     - bootstrap.memory_lock=true
36     - "ES_JAVA_OPTS=-Xms512m -Xmx512m"
37   ulimits:
38     memlock:
39       soft: -1
```




Quality control - coverage

Coverage report: 81%

<i>Module</i>	<i>statements</i>	<i>missing</i>	<i>excluded</i>	<i>coverage</i>
my_monit/__init__.py	0	0	0	100%
my_monit/app.py	57	0	0	100%
my_monit/errors.py	9	3	0	67%
my_monit/experiment_service.py	45	6	0	87%
my_monit/logging.py	48	2	0	96%
my_monit/measure_service.py	12	0	0	100%
my_monit/model.py	115	7	0	94%
my_monit/rabbit_listener.py	71	12	0	83%
my_monit/rest_listener.py	157	49	0	69%
my_monit/storage.py	107	42	0	61%
my_monit/user_service.py	50	6	0	88%
Total	671	127	0	81%

Quality control - swagger

 **Swagger**
Supported by SMARTBEAR

Explore


MyMonit

1.0.0

OAS3

Servers

http://{url} ▾


Authorize 

users ▾

POST

/users/


create users



GET

/users/


retrieve users



PUT

/users/{user_id}

update user




experiments ▾

GET

/experiments/


retrieve experiment



POST

/experiments/


create experiment




PUT

/experiments/{experiment_id}

update experiment



measures ▾



Quality control - postman

Scratch Pad

NewImport

Collections

APIs

Environments

Mock Servers

Monitors

History

+

MyMonit

users

POST create users

PUT update user

GET retrieve users

experiments

GET retrieve experiment

POST create experiment

PUT update experiment

measures

GET retrieve measures

scientist/experiment

GET retrieve scientists/ experiment

POST associate scientists to experi...

PUT update userlocalhostGET retrieve userGET retrieve experPOST create user+...localhost

MyMonit / users / create users

Save

Send

POST

{{url}}/users/

Params

Authorization

Headers (10)

Body

Pre-request Script

Tests

Settings

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

Cookies

Beautify

1

2

3

4

5

{

.... "user_id": "S123",

.... "name": "Foo Bar",

.... "username": "firebaseUid",

.... "email": "foo@bar.com",

Response



Click Send to get a response

Quality control - bandit

```
Test results:
>> Issue: [B104:hardcoded_bind_all_interfaces] Possible binding to all interfaces.
    Severity: Medium    Confidence: Medium
    CWE: CWE-605 (https://cwe.mitre.org/data/definitions/605.html)
    Location: my_monit/app.py:138:63
    More Info: https://bandit.readthedocs.io/en/1.7.4/plugins/b104\_hardcoded\_bind\_all\_interfaces.html
137         # rest
138         container.config.rest_host.from_env('REST_HOST', default = '0.0.0.0', as_ = str)
139         # logstash

-----

Code scanned:
    Total lines of code: 1189
    Total lines skipped (#nosec): 0
    Total potential issues skipped due to specifically being disabled (e.g., #nosec BXXX): 0

Run metrics:
    Total issues (by severity):
        Undefined: 0
        Low: 0
        Medium: 1
        High: 0
    Total issues (by confidence):
        Undefined: 0
        Low: 0
        Medium: 1
        High: 0
Files skipped (0):
```


Quality control - pylint

```
***** Module my_monit.logging
my_monit/logging.py:78:15: W0703: Catching too general exception Exception (broad-except)

-----
Your code has been rated at 9.98/10 (previous run: 9.16/10, +0.83)
```