Testing Data Pipelines

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Who we are

What is Big Data

Who are DEs?

What is pipeline?

Who needs pipelines

QA of pipeline

QA ?= QC

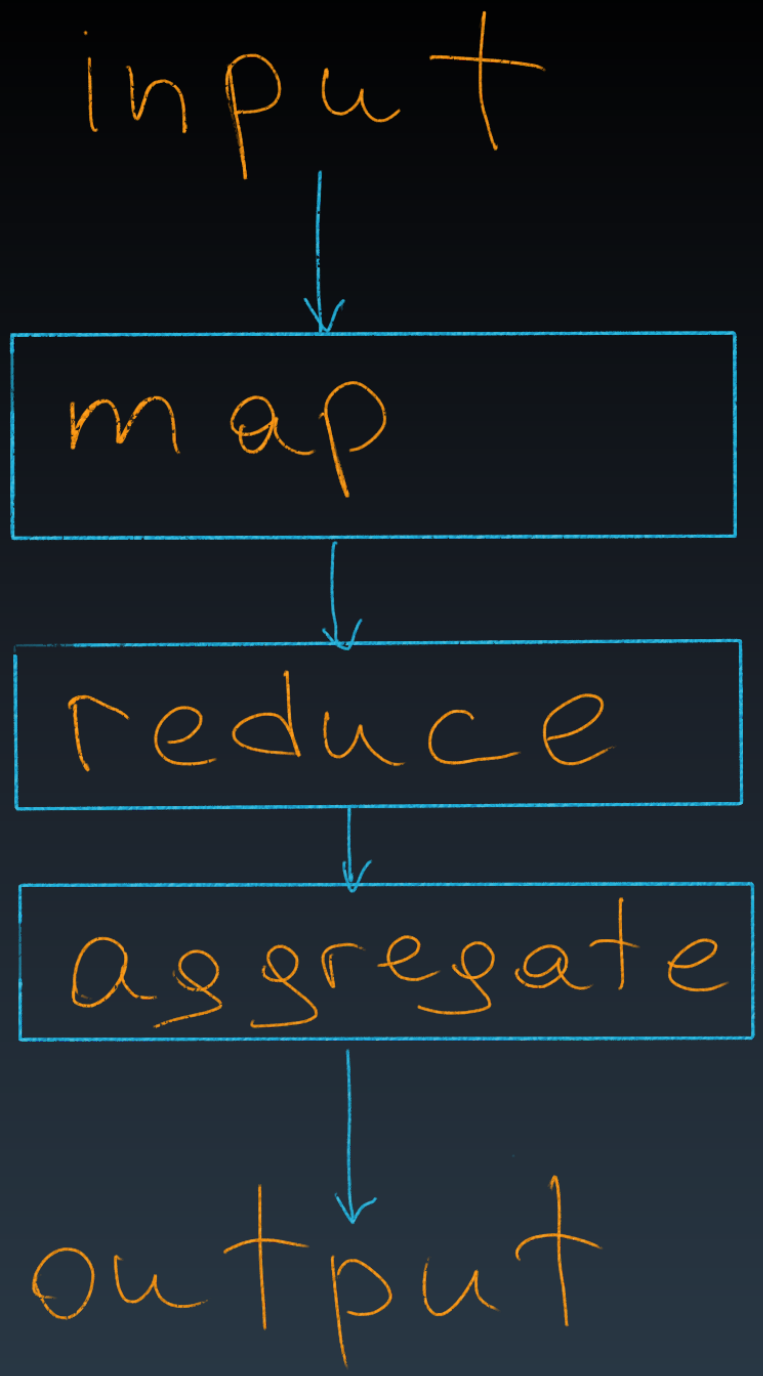
QA of pipeline

QA ≠ QC

QA is about processes, and not only about software quality.

Pyramid of testing. Unit

Typical pipeline



Unit testing of pipeline

What may we test here?

A pipeline should transform data correctly!

Correctness is a business term

Let's paste fakes!

Fake/mock input data

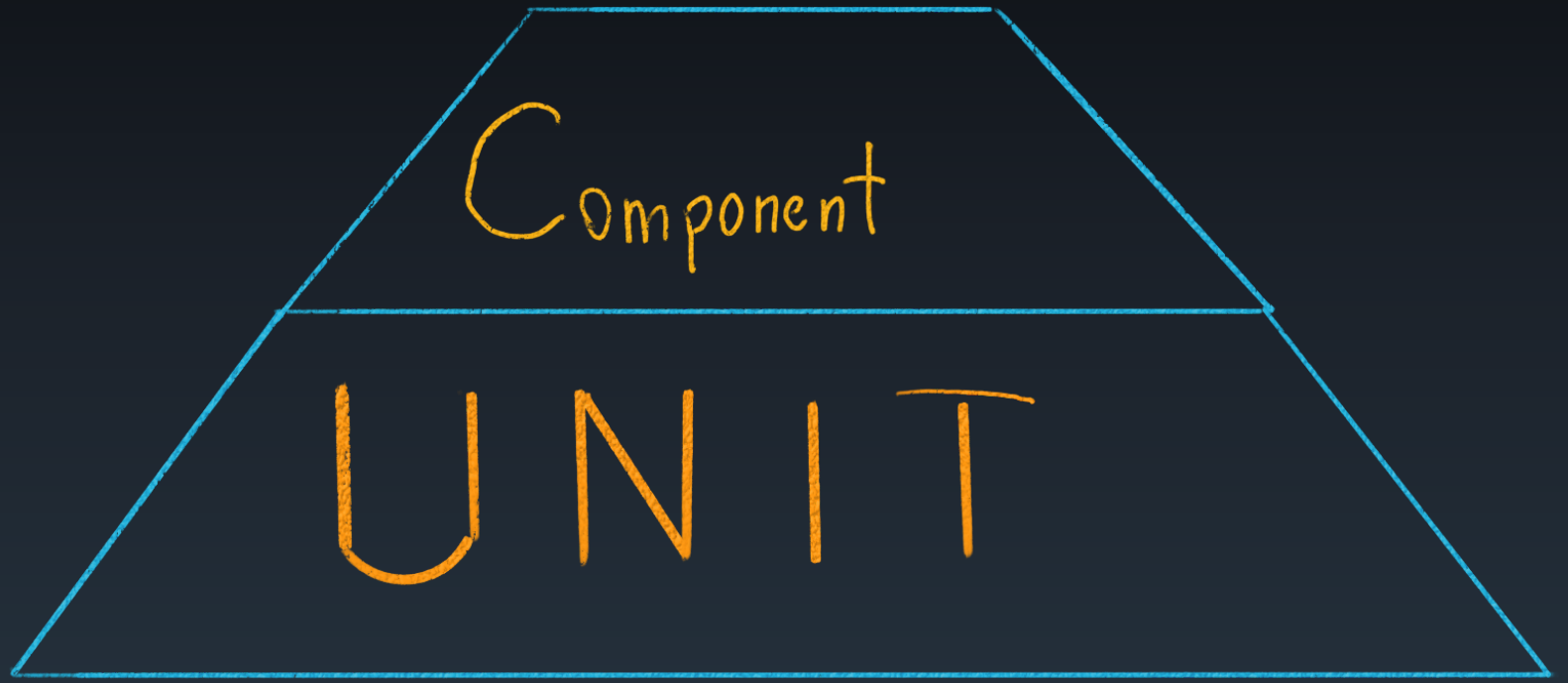
Reference data at the end of pipeline

Separate Function

Tools

holdenk/spark-testing-base ← Tools to run tests
MrPowers/spark-daria ← tools to easily create test data

Component testing



TESTCONTAINERS

Test Containers

```
import sqlalchemy
from testcontainers.mysql import MySqlContainer

with MySqlContainer('mysql:5.7.17') as mysql:
    engine = sqlalchemy.create_engine(mysql.get_connection_url())
    version, = engine.execute("select version()").fetchone()
    print(version)  # 5.7.17
```

TestContainers

Supported languages:

- Java (and compatibles: Scala, Kotlin, etc.)
- Python
- Go
- Node.js
- Rust
- .NET

TestContainers

Separate Function