Flowchart

```
                          ┌─────────┐
                          │  Start  │
                          └─────────┘
                               │
                               ▼
                   ┌───────────────────────┐
                   │   review-dashboard    │
                   └───────────────────────┘
                               │
                          Configure
                               │
                               ▼
                        ╭─────────────╮
                        │  MinIO/StorJ │
                        ╰─────────────╯
                          │         ▲
                       Upload    Schedule
                          ▼         │
                   ┌───────────────────────┐
                   │    review-producer    │
                   └───────────────────────┘
                 /            │             \
           Save State        Good           Bad
              ▼               ▼               ▼
      ╭───────────╮   ╭──────────────╮  ╭──────────────╮
      │ PostgreSQL │   │good_review_  │  │bad_review_   │
      ╰───────────╯   │   records    │  │   records    │
                       ╰──────────────╯  ╰──────────────╯
                               \           /
                                ▼         ▼
                        ┌───────────────────────┐
                        │   review-consumer     │
                        └───────────────────────┘
                          /                \
                       Good                 Bad
                        ▼                     ▼
                ╭──────────────╮      ╭──────────────╮
                │  Normalized  │      │ bad_review_  │
                │    Tables    │      │   records    │
                ╰──────────────╯      ╰──────────────╯
```
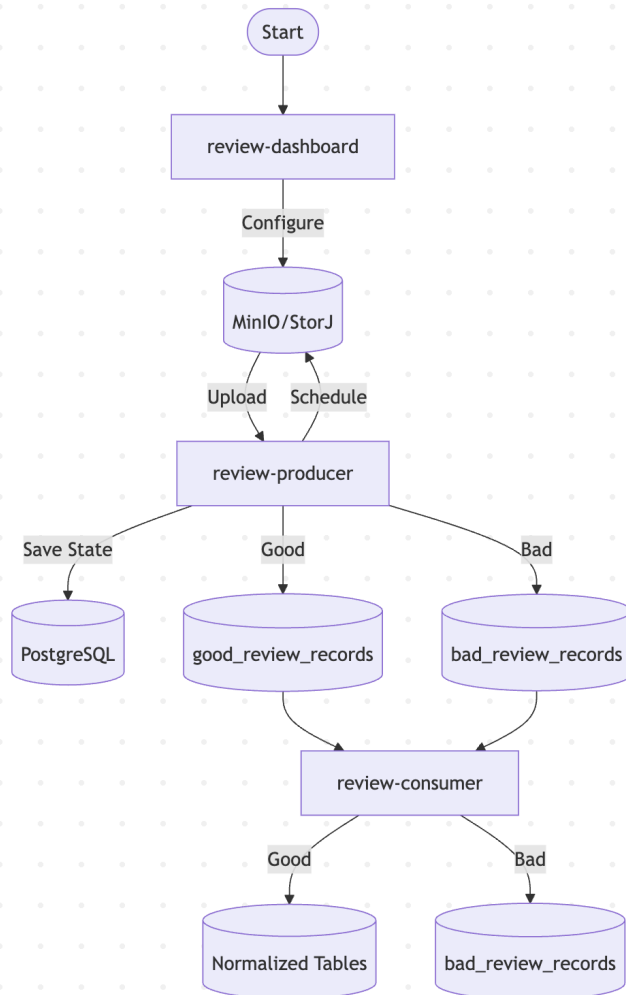
Components
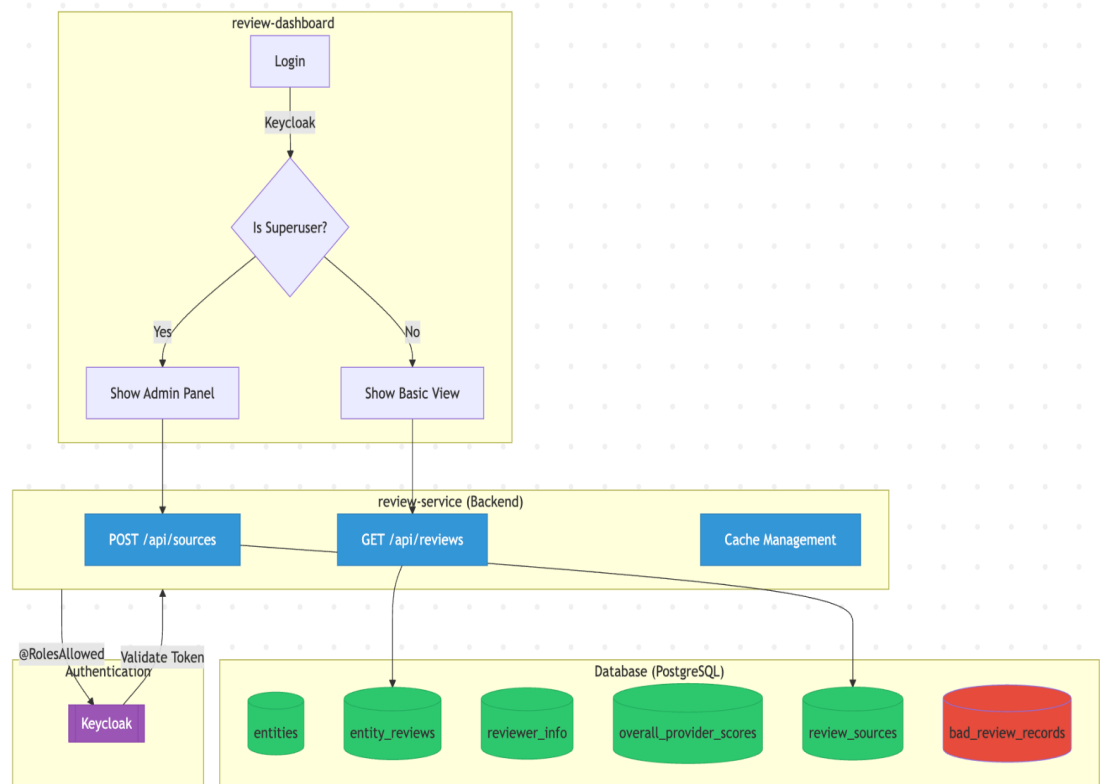
Component - review-python

This module is used for
1. generating mock data
2. uploading in storage (minIO and storj)
3. Produce kafka messages (good record and bad record)
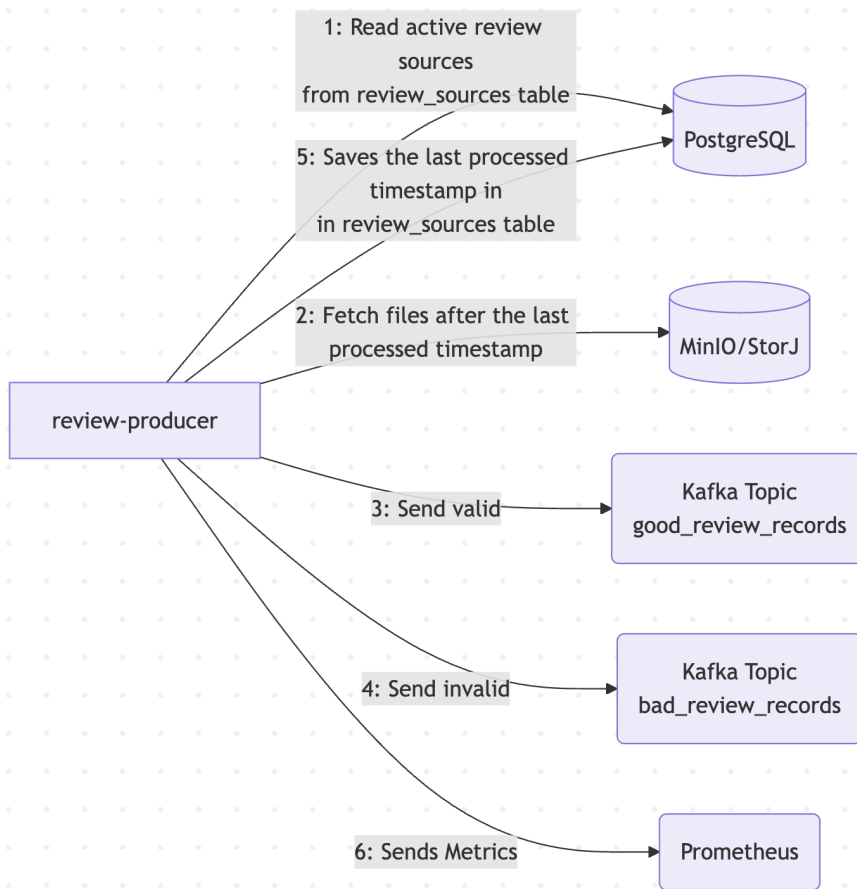4. Fetches kafka messages

```python
# review-python/
|
├── generate_platform_reviews.py    # Reads sample.jl → generates → output/
|   ├── read_template()
|   ├── generate_reviews()          # Creates both valid/invalid records
|   └── write_jl()
|
├── distribute_reviews.py           # Uploads to storage
|   ├── select_storage()            # Random MinIO/StorJ selection
|   ├── upload_to_minio()
|   └── upload_to_storj()
|
├── test_kafka_producer.py          # Test harness
|   ├── produce_good_record() → good_review_records
|   └── produce_bad_record() → bad_review_records
|
└── check_kafka_messages.py         # Verification
    ├── consume_messages()
    └── validate_schema()

# External:
sample.jl → MinIO/StorJ → Kafka
```

Component - review-dashboard

Component review-producer

1: Read active review sources from review_sources table

5: Saves the last processed timestamp in in review_sources table

PostgreSQL

2: Fetch files after the last processed timestamp

MinIO/StorJ

review-producer

3: Send valid

Kafka Topic good_review_records

4: Send invalid

Kafka Topic bad_review_records

6: Sends Metrics

Prometheus

Component review-consumer

review-consumer

a: Consume

Kafka\ngood_review_records

b: Consume

Kafka\nbad_review_records

Stream Processor

c: Save good

PostgreSQL\nreviews

d: Save bad

e: Metrics

Prometheus