Overview

This guide explains how to set up and test the KYC Onboarding project with Kafka, Schema Registry, Streams, and DLQ from scratch on a local machine.

Prerequisites

- Java 17
- Docker & Docker Compose
- Git
- Node.js (for Angular UI)
- Minimum 8GB RAM

Step 1: Clone Project

git clone
cd kyc-onboarding-app

Step 2: Start Infrastructure

docker compose up
This starts:
- MySQL
- Redis
- Kafka
- Zookeeper

Step 3: Verify Kafka

Create topic:
docker exec -it kafka kafka-topics --create --topic kyc.case.events --bootstrap-server localhost:9092 --partitions 6 --replication-factor 1

Step 4: Publish Test Event

curl -X POST http://localhost:8080/api/streams/case-event -H 'Content-Type: application/json' -d @docs/kafka-samples/case-event.json

Step 5: Observe Consumer

Check application logs to verify event consumption.
DLQ events go to kyc.case.events.dlq

Step 6: Event Replay

```
kafka-consumer-groups --bootstrap-server localhost:9092 --group kyc-audit-consumer
--reset-offsets --to-earliest --execute --topic kyc.case.events
```

Production Notes

- Use Schema Registry
- Enable EOS
- Use MSK/Confluent Cloud
- Enable monitoring (Prometheus/Grafana)