**Library Management (Spring Boot + Kafka) use case**

Use case is designed to implement Kafka messaging service to interact between a producer and consumer:

1. Producer: Producer is a Spring Boot RESTful Application, exposing REST endpoint to add and edit a book for issue. The information received in Producer is pushed to Kafka service queue, where it is available for Consumers to use it.
2. Consumer: Consumer is a Spring Boot JPA application, which will fetch message from Kafka and update the database.

**Producer Template Structure**

|  |  |  |
| --- | --- | --- |
| **Package** | **Class** | **Description** |
| config | AutoCreateConfig.java | Kafka Topic Configuration |
| controller | LibraryEventsController | REST Controller |
| controller | LibraryEventsControllerAdvice | Advice class for exception |
| domain | Book.java | Domain Class of Book |
| domain | LibraryEvent.java | Domain Class of Library Activity |
| domain | LibraryEventType.java | Enum for Library Event |
| producer | LibraryEventProducer.java | Producer class to push message to Kafka |

**Consumer Template Structure**

|  |  |  |
| --- | --- | --- |
| **Package** | **Class** | **Description** |
| config | LibraryEventsConsumerConfig.java | Kafka Topic Configuration |
| consumer | LibraryEventsConsumer.java | Consumer class to consume message from Kafka |
| consumer | LibraryEventsConsumerManualOffset.java | Acknowledgement |
| consumer | LibraryEventsRetryConsumer.java | Retrying to consume message |
| entity | Book.java | Domain Class of Book |
| entity | FailureRecord.java | Doman class for Failure |
| entity | LibraryEvent.java | Domain Class of Library Activity |
| entity | LibraryEventType.java | Enum for Library Event |
| jpa | LibraryEventsReporsitory.java | JPA for Successful event |
| jpa | FailureRecordRepository.java | JPA for Failure |
| schedular | RetrySchedular.java | Schedular to retry in case for failure |
| service | LibraryEventsService.java | Service class to hold logic for Consumer |
| service | FailureService.java | Service class to hold logic for Failure |