# JAVAEE REPORT3

SCHOOL OF SOFTWARE

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状态

解释

Restful	完成	基于作业 2
Kafka	完成	version 2.2.1

# 基本业务逻辑:

当有大量的用户同时提交申请参加健身课程的表时,直接进行数据库的操作会浪费很多时间,系统的消息队列也会很拥堵。所以我们将"返回页面"和"存入数据库"的两个操作进行了分离,让存储到数据库这个操作与返回界面异步提高系统的响应效率。

# 实现逻辑:

使用 kafka 作为消息的中间件,将提交上来的用户的信息作为消息的内容发布到 information 这个 topic 中去,返回界面,显示用户信息正在保存。

处理端监听"information"这个topic,听到信息后,将信息解码之后存储到数据库中去。

# 实现代码:

```
(1) 引入 spring-kafka 依赖(pom.xml)
        <dependency>
            <groupId>org.apache.kafka/groupId>
            <artifactId>kafka-streams</artifactId>
        </dependency>
        <dependency>
            <groupId>org.springframework.kafka/groupId>
            <artifactId>spring-kafka</artifactId>
        </dependency>
(2) 配置 spring-kafka (application.properties)
        #Kafka Topic
        message.topic.name=information
        spring.kafka.bootstrap-servers=localhost:9092
        #Unique String which identifies which consumer group this consumer belongs to
        spring.kafka.consumer.group-id=jcg-group
(3) 配置 Producer
```

public ProducerFactory(String, Information) producerFactory() {
 Map(String, Object) configProps = new HashNap(> () :
 configProps. put (ProducerConfig. BOOTSTRAP\_SERVERS\_CONFIG, bootstrapAddress) :
 configProps. put (ProducerConfig. IEF\_SERIALIZER\_CLASS\_CONFIG, StringSerializer.class) ;
 configProps. put (ProducerConfig. IEF\_SERIALIZER\_CLASS\_CONFIG. StringSerializer.class) ;
}

configProps.put (ProducerConfig. VALUE\_SERIALIZER\_CLASS\_CONFIG, Serialization class);
return new DefaultKafkaProducerFactory()(configProps);
自定义对象序

(4) 配置 Consumer

```
### Public ConsumerFactory(String, Information) consumerFactory() {
| Map(String, Object) props = new HashMap()();
| props.put(| ConsumerConfig. BOOTSTRAP_SERVERS_COMFIG, bootstrapAddress);
| props.put(| ConsumerConfig. GROUP_ID_CONFIG, groupId);
| props.put(| ConsumerConfig. IBY_DESERIALIZER_CLASS_CONFIG, StringDeserializer.class);
| props.put(| ConsumerConfig. VALUE_DESERIALIZER_CLASS_CONFIG Deserialization class);
| return new DefaultMafkaConsumerFactory()(props);
| }
| ERECTORSECTION | Props | Props
```

(5) Post 申请表

```
@RequestNapping(value = "/information", method = RequestNethod. POST)
public HttpEntity(Status) post(Information info) {
    Status status;
    try {
        kafkaTemplate.send(topicName, info);
        status = new Status( msg: "Success");
    }
    catch (Exception ex) {
        status = new Status( msg: "Failed");
    }
    return new ResponseEntity(>(status, HttpStatus. OI);
}
```

(6) 发送给 kafka 集群

```
@KafkaListener(topics = "information", groupId = "jcg-group")
public HttpEntity(Information> listen(Information message) throws InterruptedException {
    LOG. info("Received message in JCG group: {}", message.toString());
    Thread. sleep( millis: 6000);
    service.save(message):
    return new ResponseEntity(Information>(message, HttpStatus.OE);
}
```

# 运行情况

(1) 运行 zookeeper

```
id:0x5 zxid:0xb6 txntype:-1 reqpath:n/a Error Path:/admin/delete_topics Error:KeeperErrorCode = NodeExists for /admin/delete_topics (org. apache. zookeeper.server.PrepRequestProcessor)
[2019-06-13 08:44:11, 300] INFO Got user-level KeeperException when processing sessionid:0x10004e6lea30000 type:create cx id:0x6 zxid:0xb7 txntype:-1 reqpath:n/a Error Path:/brokers/seqid Error:KeeperErrorCode = NodeExists for /brokers/seqid (org. apache. zookeeper.server.PrepRequestProcessor)
[2019-06-13 08:44:11, 309] INFO Got user-level KeeperException when processing sessionid:0x10004e6lea30000 type:create cx id:0x7 zxid:0xb8 txntype:-1 reqpath:n/a Error Path:/isr_change_notification Error:KeeperErrorCode = NodeExists for /isr_change_notification (org. apache. zookeeper.server.PrepRequestProcessor)
[2019-06-13 08:44:11, 315] INFO Got user-level KeeperException when processing sessionid:0x10004e6lea30000 type:create cx id:0x6 zxid:0xb8 txntype:-1 reqpath:n/a Error Path:/latest_producer_id_block Error:KeeperErrorCode = NodeExists for /lat est_producer_id_block (org. apache. zookeeper.server.PrepRequestProcessor)
[2019-06-13 08:44:11, 325] INFO Got user-level KeeperException when processing sessionid:0x10004e6lea30000 type:create cx id:0x9 zxid:0xb8 txntype:-1 reqpath:n/a Error Path:/log_dir_event_notification Error:KeeperErrorCode = NodeExists for /log_dir_event_notification (org. apache. zookeeper. server.PrepRequestProcessor)
[2019-06-13 08:44:11, 325] INFO Got user-level KeeperException when processing sessionid:0x10004e6lea30000 type:create cx id:0xa zxid:0xbb txntype:-1 reqpath:n/a Error Path:/config/topics Error:KeeperErrorCode = NodeExists for /config/topics (org. apache. zookeeper. server.PrepRequestProcessor)
[2019-06-13 08:44:11, 339] INFO Got user-level KeeperException when processing sessionid:0x10004e6lea30000 type:create cx id:0xb zxid:0xbb txntype:-1 reqpath:n/a Error Path:/config/topics Error:KeeperErrorCode = NodeExists for /config/topics (org. apache. zookeeper. server.PrepRequestProcessor)
[2019-06-13 08:44:1
```

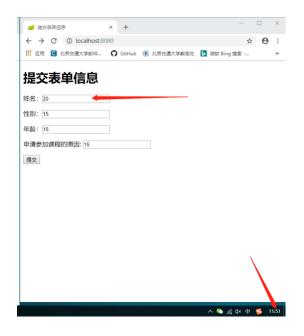
### (2) 运行 kafka

```
[2019-06-13 11:12:52, 935] INFO [GroupCoordinator 0]: Preparing to rebalance group jcg-group in state PreparingRebalance with old generation 22 (_consumer_offsets-40) (reason: Adding new member consumer-2-celd6a96-6f10-4064-8b33-62d81ffe877 () (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:12:52, 952] INFO [GroupCoordinator 0]: Stabilized group jcg-group generation 23 (_consumer_offsets-40) (k afka. coordinator, group. GroupCoordinator)
[2019-06-13 11:12:52, 964] INFO [GroupCoordinator 0]: Assignment received from leader for group jcg-group for generation 23 (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:13:43, 102] INFO [GroupCoordinator 0]: Member consumer-2-celd6a96-6f10-4064-8b33-62d81ffe8770 in group jcg-group has failed, removing it from the group (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:13:43, 114] INFO [GroupCoordinator 0]: Preparing to rebalance group jcg-group in state PreparingRebalance with old generation 23 (_consumer_offsets-40) (reason: removing member consumer-2-celd6a96-6f10-4064-8b33-62d81ffe8770 on heartbeat expiration) (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:13:43, 116] INFO [GroupCoordinator 0]: Group jcg-group with generation 24 is now empty (_consumer_offsets-40) (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:13:55, 093] INFO [GroupCoordinator 0]: Group jcg-group with generation 24 is now empty (_consumer_offsets-40) (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:13:55, 095] INFO [GroupCoordinator 0]: Stabilized group jcg-group generation 25 (_consumer_offsets-40) (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:13:55, 095] INFO [GroupCoordinator 0]: Stabilized group jcg-group generation 25 (_consumer_offsets-40) (kafka. coordinator, group. GroupCoordinator)
[2019-06-13 11:14:20, 744] INFO [GroupCoordinator 0]: Assignment received from leader for group jcg-group for generation 25 (kafka. coordinator, group. GroupMetadataManager)
[2019-06-13 11:14:20, 744] INFO [GroupMetadataManager
```

## (3) 运行 spring-boot 程序

```
2019-06-13 11:46:15 744 THEO 9572 --- [
                                                                                                         Kafka commitId : fa14705e51bd2ce5
                                                    main] o. a. kafka. common. utils. AppInfoParser
2019-06-13 11:46:15.744 INFO 9572 - [
2019-06-13 11:46:15.748 INFO 9572 --- [
                                                     main] o. s. s. c. ThreadPoolTaskScheduler
                                                                                                         Initializing ExecutorService
                                                                                                          Cluster ID: Q7FO46gFTIeDzSlxEER9eA
2019-06-13 11:46:15.782 IMFO 9572 — [ntaine:m0-0-C-1] org apache kafka clients Metadata
2019-06-13 11:46:15.792 IMFO 9572 — [ntaine:m0-0-C-1] o.a.k.c.c. internals AbstractCoordin
                                                                                                          [Consumer clientId=consumer-2, groupId=jcg-group] Discovered group coordinator DESETOP-7783358:9092
2019-06-13 11:46:15.801 IHFO 9572 - [ntainer#0-0-C-1] o. a.k.c.c. internals ConsumerCoordinator
                                                                                                         [Consumer clientId=consumer-2, groupId=jcg-group] Revoking previously assigned partitions []
                                                                                                          partitions revoked: []
[Consumer clientId=consumer-2, groupId=jcg-group] (Re-) joining group
2019-06-13 11:46:15.801 INFO 9572 --- [ntainer#0-0-C-1] o.s.k. l. KafkaMessageListenerContainer
2019-06-13 11:46:15.802 IMFO 9572 - [ntainer#O-O-C-1] o.a.k.c.c.internals.AbstractCoordinator
                                            main] o.s.b.w.embedded.tomcat.TomcatWebServer
2019-06-13 11:46:15.861 INFO 9572 -- [
                                                                                                          Tomcat started on port(s): 8080 (http) with context path "
2019-06-13 11:46:15.871 INFO 9572 - [
                                                     main] c. f. demo. FitnessClubApplication
                                                                                                          Started FitnessClubApplication in 10.905 seconds (JVM running for 13.404)
[Consumer clientId*consumer=2, groupId*jcg*group] Successfully joined group with generation 27
[Consumer clientId*consumer=2, groupId*jcg*group] Setting newly assigned partitions [information=0]
2019-06-13 11:46:15.900 INFO 9572 --- [ntainer#0-0-C-1] o.s.k.l. KafkaNessageListenerContainer
                                                                                                         partitions assigned: [information=0]
```

# (4) 提交信息



# (5) 查看结果

