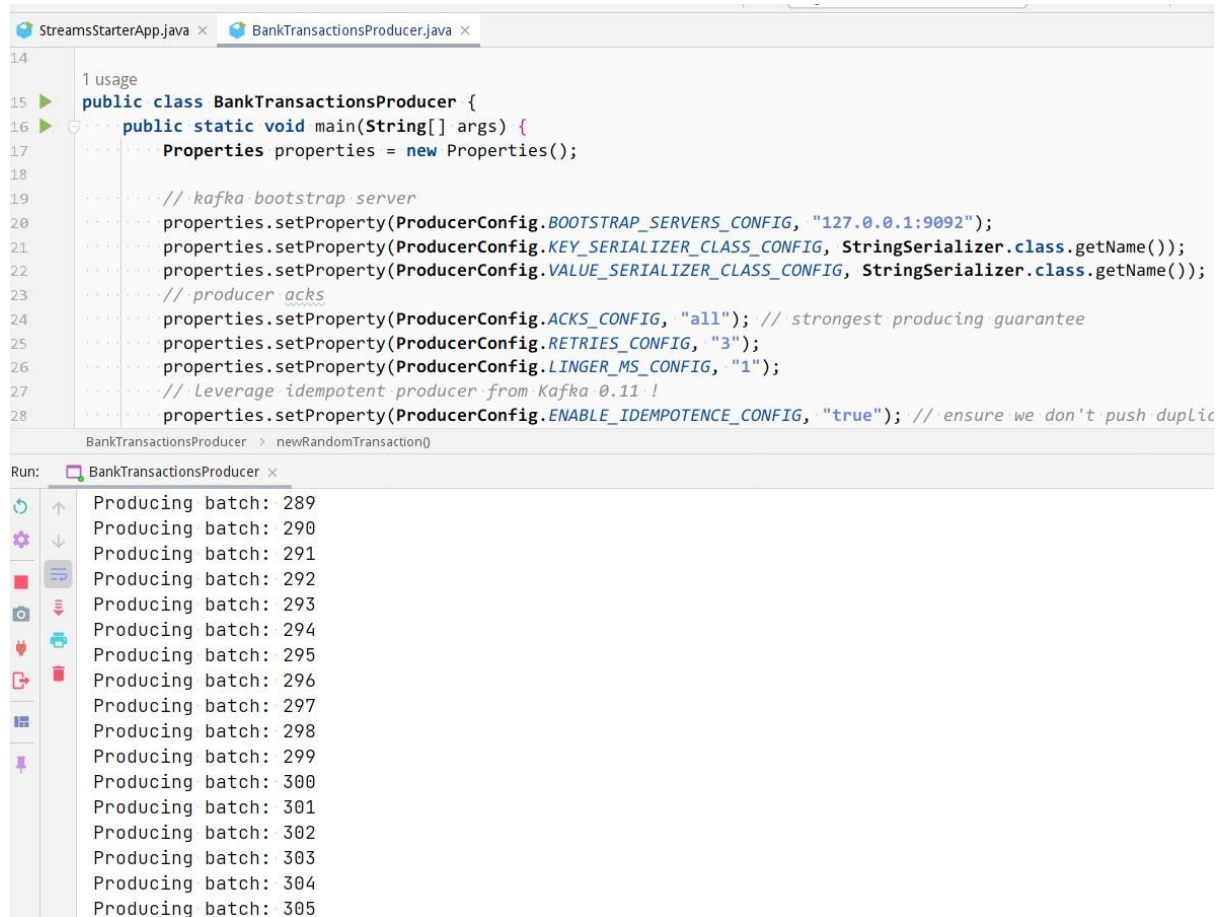


## Consumer Log



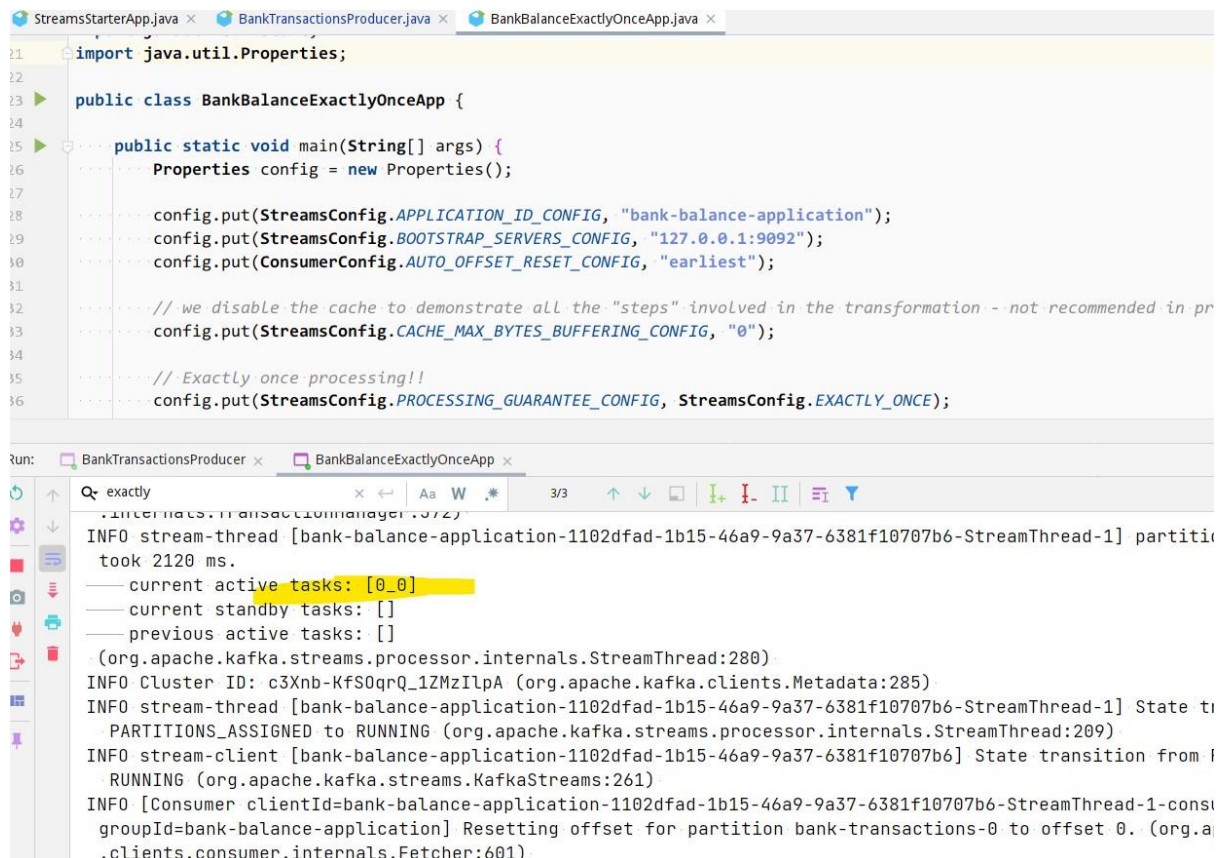
The screenshot shows an IDE with two tabs: `StreamsStarterApp.java` and `BankTransactionsProducer.java`. The `BankTransactionsProducer.java` file is open, showing a `main` method that configures a Kafka producer. The console output shows the producer producing batches from 289 to 305.

```
14 1 usage
15 public class BankTransactionsProducer {
16     public static void main(String[] args) {
17         Properties properties = new Properties();
18
19         // kafka bootstrap server
20         properties.setProperty(ProducerConfig.BOOTSTRAP_SERVERS_CONFIG, "127.0.0.1:9092");
21         properties.setProperty(ProducerConfig.KEY_SERIALIZER_CLASS_CONFIG, StringSerializer.class.getName());
22         properties.setProperty(ProducerConfig.VALUE_SERIALIZER_CLASS_CONFIG, StringSerializer.class.getName());
23         // producer acks
24         properties.setProperty(ProducerConfig.ACKS_CONFIG, "all"); // strongest producing guarantee
25         properties.setProperty(ProducerConfig.RETRIES_CONFIG, "3");
26         properties.setProperty(ProducerConfig.LINGER_MS_CONFIG, "1");
27         // Leverage idempotent producer from Kafka 0.11 !
28         properties.setProperty(ProducerConfig.ENABLE_IDEMPOTENCE_CONFIG, "true"); // ensure we don't push duplic

BankTransactionsProducer > newRandomTransaction()

Run: BankTransactionsProducer x
Producing batch: 289
Producing batch: 290
Producing batch: 291
Producing batch: 292
Producing batch: 293
Producing batch: 294
Producing batch: 295
Producing batch: 296
Producing batch: 297
Producing batch: 298
Producing batch: 299
Producing batch: 300
Producing batch: 301
Producing batch: 302
Producing batch: 303
Producing batch: 304
Producing batch: 305
```

## BankBalance Exactly Once App



The screenshot shows an IDE with three tabs: `StreamsStarterApp.java`, `BankTransactionsProducer.java`, and `BankBalanceExactlyOnceApp.java`. The `BankBalanceExactlyOnceApp.java` file is open, showing a `main` method that configures a Kafka consumer. The console output shows the consumer's state and the current active tasks.

```
21 import java.util.Properties;
22
23 public class BankBalanceExactlyOnceApp {
24
25     public static void main(String[] args) {
26         Properties config = new Properties();
27
28         config.put(StreamsConfig.APPLICATION_ID_CONFIG, "bank-balance-application");
29         config.put(StreamsConfig.BOOTSTRAP_SERVERS_CONFIG, "127.0.0.1:9092");
30         config.put(ConsumerConfig.AUTO_OFFSET_RESET_CONFIG, "earliest");
31
32         // we disable the cache to demonstrate all the "steps" involved in the transformation - not recommended in pr
33         config.put(StreamsConfig.CACHE_MAX_BYTES_BUFFERING_CONFIG, "0");
34
35         // Exactly once processing!!
36         config.put(StreamsConfig.PROCESSING_GUARANTEE_CONFIG, StreamsConfig.EXACTLY_ONCE);
37     }
38 }

Run: BankTransactionsProducer x BankBalanceExactlyOnceApp x
Q: exactly
Internals.TransactionManager:372)
INFO stream-thread [bank-balance-application-1102dfad-1b15-46a9-9a37-6381f10707b6-StreamThread-1] partiti
took 2120 ms.
— current active tasks: [0_0]
— current standby tasks: []
— previous active tasks: []
(org.apache.kafka.streams.processor.internals.StreamThread:280)
INFO Cluster ID: c3Xnb-KfS0qrQ_1ZMzIlpA (org.apache.kafka.clients.Metadata:285)
INFO stream-thread [bank-balance-application-1102dfad-1b15-46a9-9a37-6381f10707b6-StreamThread-1] State tr
PARTITIONS_ASSIGNED to RUNNING (org.apache.kafka.streams.processor.internals.StreamThread:209)
INFO stream-client [bank-balance-application-1102dfad-1b15-46a9-9a37-6381f10707b6] State transition from I
RUNNING (org.apache.kafka.streams.KafkaStreams:261)
INFO [Consumer clientId=bank-balance-application-1102dfad-1b15-46a9-9a37-6381f10707b6-StreamThread-1-cons
groupId=bank-balance-application] Resetting offset for partition bank-transactions-0 to offset 0. (org.a
.clients.consumer.internals.Fetcher:601)
```

## Kafka Consumer Log

Administrator: Windows PowerShell

```
stephane {"name":"stephane","amount":51,"time":"2022-08-25T15:06:53.766223400Z"}
alice {"name":"alice","amount":61,"time":"2022-08-25T15:06:53.877186100Z"}
john {"name":"john","amount":39,"time":"2022-08-25T15:06:53.987203900Z"}
stephane {"name":"stephane","amount":54,"time":"2022-08-25T15:06:54.093889400Z"}
alice {"name":"alice","amount":40,"time":"2022-08-25T15:06:54.202233100Z"}
john {"name":"john","amount":69,"time":"2022-08-25T15:06:54.313585900Z"}
stephane {"name":"stephane","amount":18,"time":"2022-08-25T15:06:54.424230100Z"}
alice {"name":"alice","amount":75,"time":"2022-08-25T15:06:54.532716200Z"}
john {"name":"john","amount":66,"time":"2022-08-25T15:06:54.642450300Z"}
stephane {"name":"stephane","amount":2,"time":"2022-08-25T15:06:54.750342500Z"}
alice {"name":"alice","amount":32,"time":"2022-08-25T15:06:54.861327Z"}
john {"name":"john","amount":65,"time":"2022-08-25T15:06:54.970353600Z"}
stephane {"name":"stephane","amount":71,"time":"2022-08-25T15:06:55.080332600Z"}
alice {"name":"alice","amount":30,"time":"2022-08-25T15:06:55.189334200Z"}
john {"name":"john","amount":38,"time":"2022-08-25T15:06:55.300333600Z"}
stephane {"name":"stephane","amount":67,"time":"2022-08-25T15:06:55.411340700Z"}
alice {"name":"alice","amount":43,"time":"2022-08-25T15:06:55.522555100Z"}
john {"name":"john","amount":46,"time":"2022-08-25T15:06:55.630336400Z"}
stephane {"name":"stephane","amount":4,"time":"2022-08-25T15:06:55.741340200Z"}
alice {"name":"alice","amount":86,"time":"2022-08-25T15:06:55.851331800Z"}
john {"name":"john","amount":27,"time":"2022-08-25T15:06:55.962333900Z"}
stephane {"name":"stephane","amount":12,"time":"2022-08-25T15:06:56.074333900Z"}
alice {"name":"alice","amount":63,"time":"2022-08-25T15:06:56.185335500Z"}
john {"name":"john","amount":21,"time":"2022-08-25T15:06:56.296334500Z"}
stephane {"name":"stephane","amount":90,"time":"2022-08-25T15:06:56.407333400Z"}
alice {"name":"alice","amount":8,"time":"2022-08-25T15:06:56.518354800Z"}
john {"name":"john","amount":35,"time":"2022-08-25T15:06:56.630331900Z"}
stephane {"name":"stephane","amount":14,"time":"2022-08-25T15:06:56.740332700Z"}
alice {"name":"alice","amount":21,"time":"2022-08-25T15:06:56.851348400Z"}
john {"name":"john","amount":45,"time":"2022-08-25T15:06:56.959336800Z"}
stephane {"name":"stephane","amount":25,"time":"2022-08-25T15:06:57.069370Z"}
alice {"name":"alice","amount":37,"time":"2022-08-25T15:06:57.178413600Z"}
john {"name":"john","amount":18,"time":"2022-08-25T15:06:57.288204Z"}
stephane {"name":"stephane","amount":51,"time":"2022-08-25T15:06:57.396890800Z"}
alice {"name":"alice","amount":96,"time":"2022-08-25T15:06:57.506327900Z"}
john {"name":"john","amount":94,"time":"2022-08-25T15:06:57.616420800Z"}
stephane {"name":"stephane","amount":74,"time":"2022-08-25T15:06:57.727418200Z"}
alice {"name":"alice","amount":27,"time":"2022-08-25T15:06:57.835443400Z"}
john {"name":"john","amount":78,"time":"2022-08-25T15:06:57.947423100Z"}
stephane {"name":"stephane","amount":1,"time":"2022-08-25T15:06:58.056421600Z"}
alice {"name":"alice","amount":35,"time":"2022-08-25T15:06:58.167418200Z"}
john {"name":"john","amount":93,"time":"2022-08-25T15:06:58.278418600Z"}
```