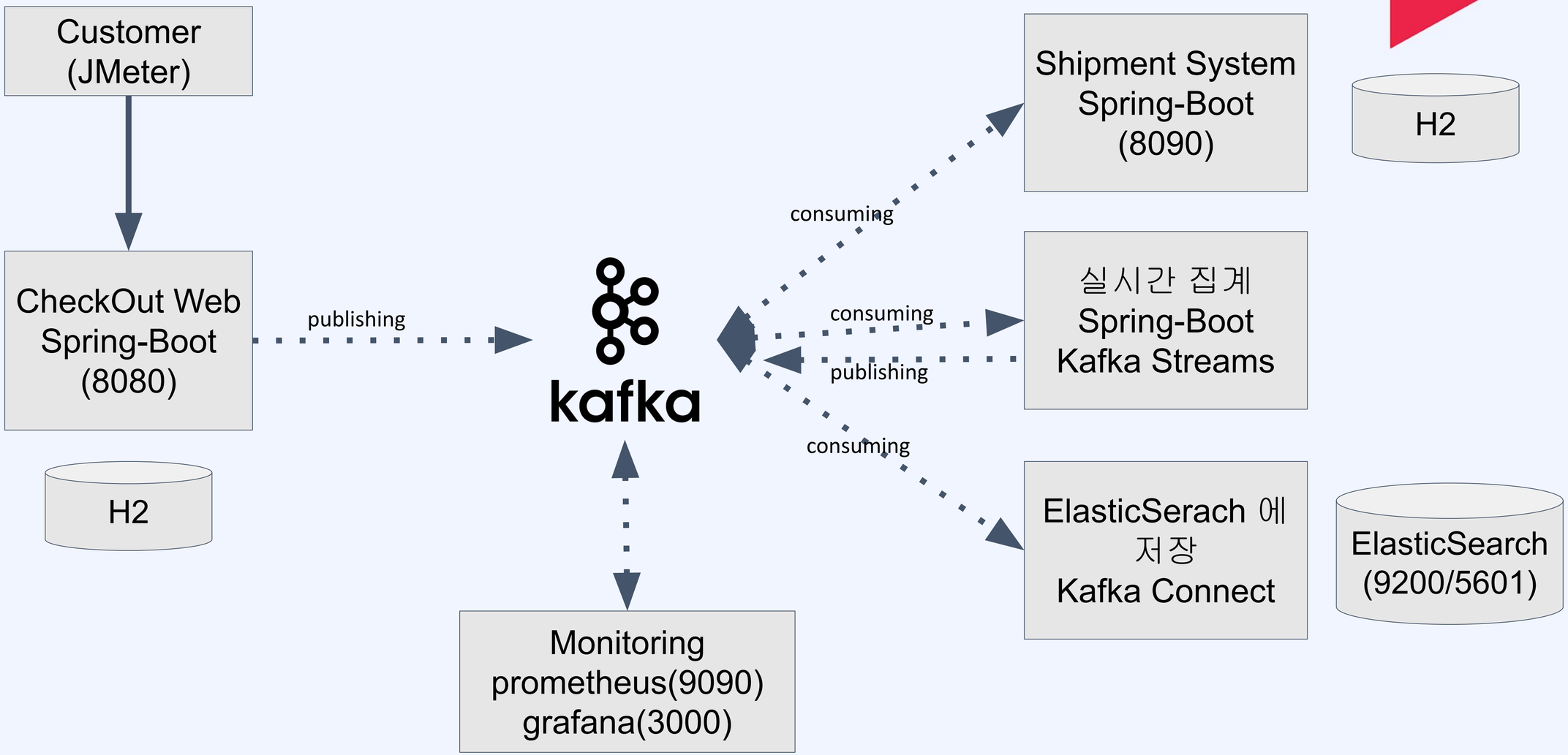
Kafka 프로젝트 실습

1 실습 프로젝트 아키텍처



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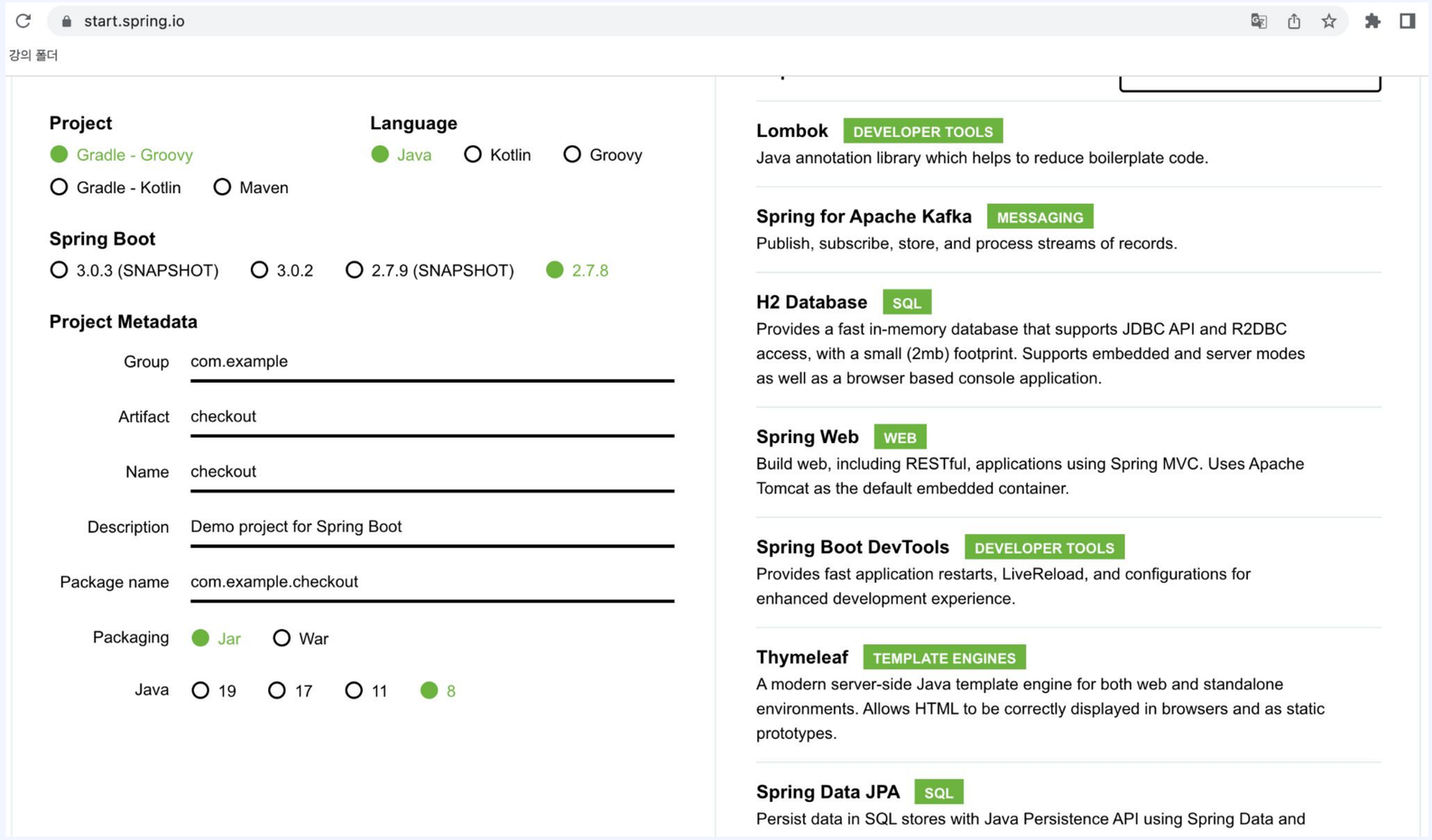
2 Producer Web 프로젝트



https://start.spring.io/#!type=gradle-project&language=java&platformVersion=2.7.8&packaging=jar&jvmVersion=1.8&groupId=com.example&artifactId=checkout&name=checkout&description=Demo%20project%20for%20Spring%20Boot&packageName=com.example.checkout&dependencies=lombok,kafka,h2,web,devtools,thymeleaf,data-jpa

application.properties

```
spring.h2.console.enabled=true
spring.h2.console.path=/h2-console
spring.datasource.generate-unique-name=false

spring.jpa.show-sql=true
spring.jpa.properties.hibernate.format_sql=true
```

kafka topic 생성

```
bin/kafka-topics.sh --create --topic checkout.complete.v1 --partitions 5  --bootstrap-server localhost:9092

bin/kafka-topics.sh --create --topic checkout.aggregated.v1 --partitions 5  --bootstrap-server localhost:9092
```

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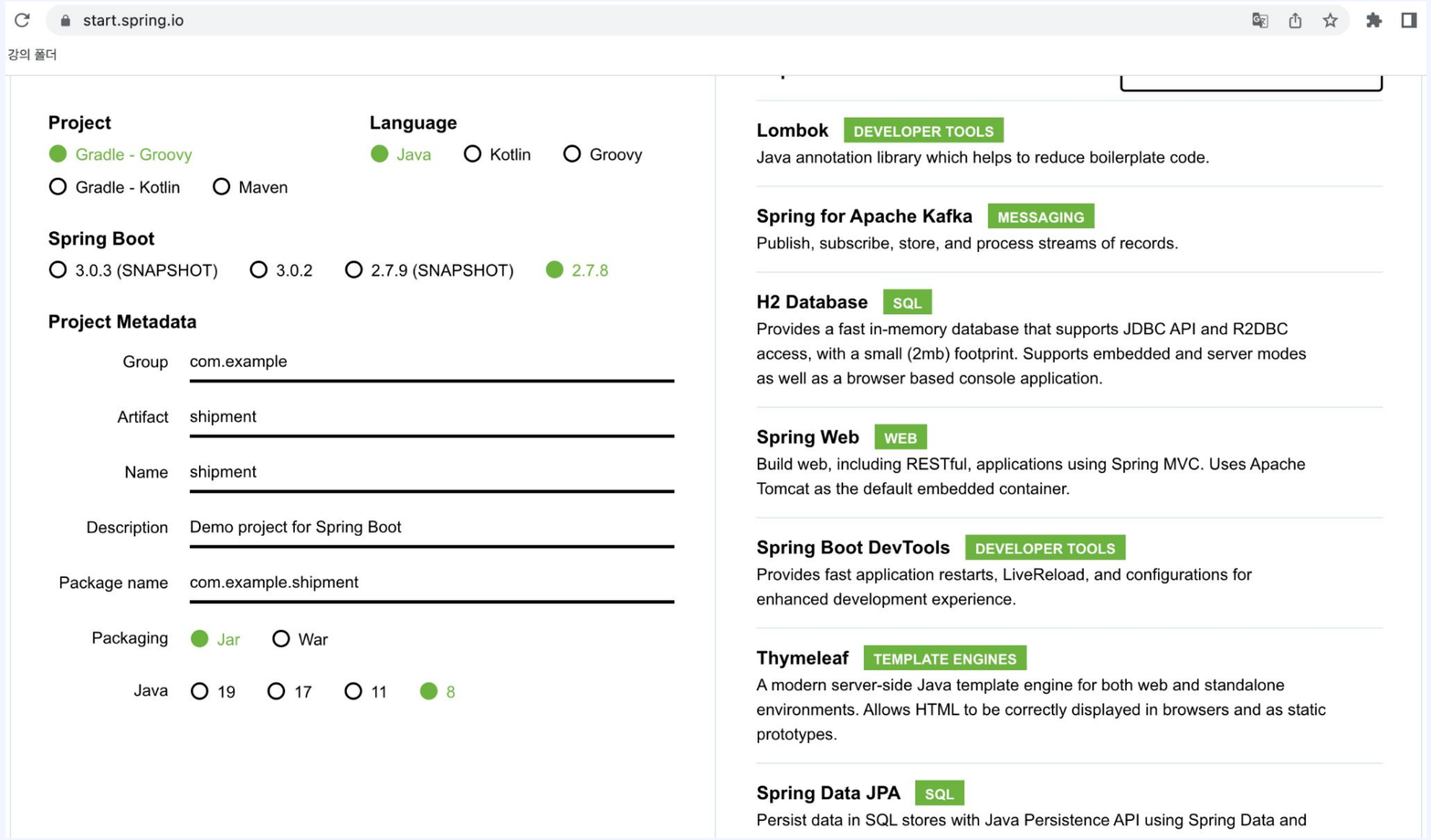
3 Consumer Web 프로젝트



https://start.spring.io/#!type=gradle-project&language=java&platformVersion=2.7.8&packaging=jar&jvmVersion=1.8&groupId=com.example&artifactId=shipment&name=shipment&description=Demo%20project%20for%20Spring%20Boot&packageName=com.example.shipment&dependencies=lombok,kafka,h2,web,devtools,thymeleaf,data-jpa

application.properties

```
spring.h2.console.enabled=true
spring.h2.console.path=/h2-console
spring.datasource.generate-unique-name=false

spring.jpa.show-sql=true
spring.jpa.properties.hibernate.format_sql=true


server.port=8090
```

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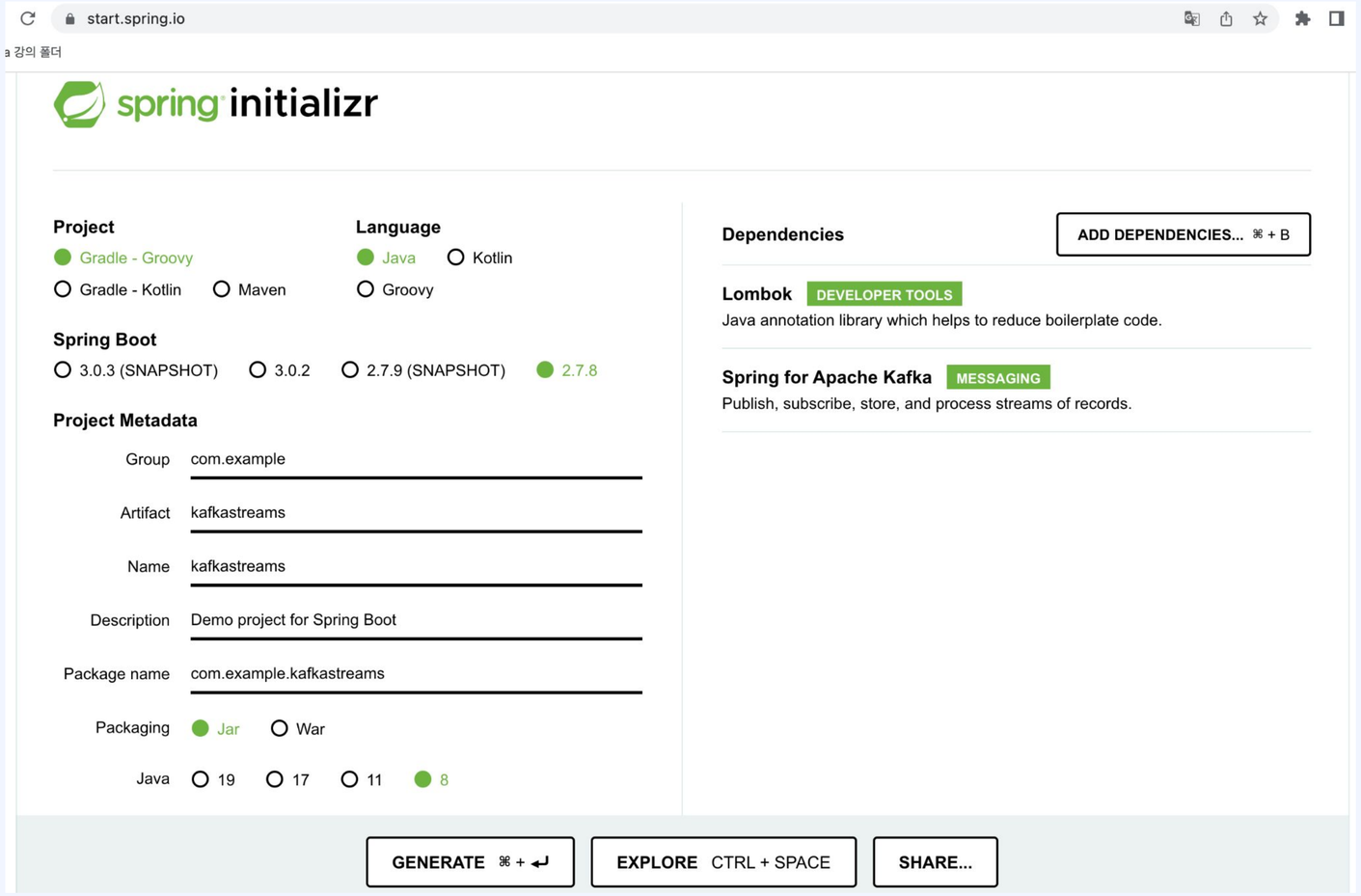
4 Kafka Streams 프로젝트



https://start.spring.io/#!type=gradle-project&language=java&platformVersion=2.7.8&packaging=jar&jvmVersion=1.8&groupId=com.example&artifactId=kafkastreams&name=kafkastreams&description=Demo%20project%20for%20Spring%20Boot&packageName=com.example.kafkastreams&dependencies=lombok,kafka

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5 ElasticSearch Connector 프로젝트

ElasticSearch 7.17 + Kibana 설치

https://www.elastic.co/kr/downloads/past-releases/elasticsearch-7-17-8

https://www.elastic.co/kr/downloads/past-releases/kibana-7-17-8

ElasticSearch 접속 - http://localhost:9200/

Kibana 접속 - http://localhost:5601/

kafka-to-elasticsearch connector 설치

https://www.confluent.io/hub/confluentinc/kafka-connect-elasticsearch

kafka-to-elasticsearch 의 설정 옵션
https://docs.confluent.io/kafka-connectors/elasticsearch/current/configuration_options.html#connector

config/checkout-complete.properties

```
name=checkout.complete.sink
connector.class=io.confluent.connect.elasticsearch.ElasticsearchSinkConnector
tasks.max=1
topics=checkout.complete.v1
key.ignore=true
connection.url=http://localhost:9200
type.name=kafka-logs
schema.ignore=true
schemas.enable=false
transforms=TimestampRouter
transforms.TimestampRouter.type=org.apache.kafka.connect.transforms.TimestampRouter
transforms.TimestampRouter.topic.format=log-checkout.complete-${timestamp}
transforms.TimestampRouter.timestamp.format=YYYYMM
flush.synchronously=true
```

config/connect-standalone.properties 에서 plugin.path 에 다운로드 받은 connector 의 lib 폴더를 plugin.path 로 설정

```
plugin.path=/Users/ocg/Downloads/kafka-elasticsearch/lib
```

```
# CLASSPATH 에 connector lib 폴더 추가
export CLASSPATH=/Users/ocg/Downloads/kafka-elasticsearch/lib/*
# standalone connect 실행
bin/connect-standalone.sh config/connect-standalone.properties config/quickstart-elasticsearch.propertie
```

config/checkout-aggregate.properties

```
name=checkout.aggregated.sink
connector.class=io.confluent.connect.elasticsearch.ElasticsearchSinkConnector
tasks.max=1
topics=checkout.productId.aggregated.v1
key.ignore=true
connection.url=http://localhost:9200
type.name=kafka-logs
schema.ignore=true
schemas.enable=false
transforms=TimestampRouter
transforms.TimestampRouter.type=org.apache.kafka.connect.transforms.TimestampRouter
transforms.TimestampRouter.topic.format=log-checkout.productId.aggregated-${timestamp}
transforms.TimestampRouter.timestamp.format=YYYYMM
flush.synchronously=true
```

```
# standalone connect 실행, 두개의 설정을 한꺼번에 실행시키는 경우
bin/connect-standalone.sh config/connect-standalone.properties config/checkout-complete.properties
config/checkout-aggregate.properties
# connector 상태 조회할 수 있는 RestAPI
http://localhost:8083/connectors?expand=status&expand=info
```

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6 Jmeter Demo

JMeter 설치

https://jmeter.apache.org/download_jmeter.cgi

UI version 실행
```
bin/jmeter
```