Start zookeeper and kafka server by using below commands

```
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/zookeeper-server-start.sh ./config/zookeeper.properties
[2018-08-12 13:02:30,888] INFO Reading configuration from: ./config/zookeeper.properties (org.apache.zookeeper.server.quorum.
QuorumPeerConfig)
[2018-08-12 13:02:30,939] INFO autopurge.snapRetainCount set to 3 (org.apache.zookeeper.server.DatadirCleanupManager)
[2018-08-12 13:02:30,940] INFO autopurge.purgeInterval set to 0 (org.apache.zookeeper.server.DatadirCleanupManager)
[2018-08-12 13:02:30,940] INFO Purge task is not scheduled. (org.apache.zookeeper.server.DatadirCleanupManager)
[2018-08-12 13:02:30,940] WARN Either no config or no quorum defined in config, running  in standalone mode (org.apache.zooke
eper.server.quorum.QuorumPeerMain)
[2018-08-12 13:02:31,075] INFO Reading configuration from: ./config/zookeeper.properties (org.apache.zookeeper.server.quorum.
QuorumPeerConfig)
[2018-08-12 13:02:31,082] INFO Starting server (org.apache.zookeeper.server.ZooKeeperServerMain)
[2018-08-12 13:02:31,146] INFO Server environment:zookeeper.version=3.4.8--1, built on 02/06/2016 03:18 GMT (org.apache.zooke
eper.server.ZooKeeperServer)
[2018-08-12 13:02:31,146] INFO Server environment:host.name=localhost (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-12 13:02:31,146] INFO Server environment:java.version=1.8.0_151 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-12 13:02:31,146] INFO Server environment:java.vendor=Oracle Corporation (org.apache.zookeeper.server.ZooKeeperServer
)
[2018-08-12 13:02:31,146] INFO Server environment:java.home=/usr/java/jdk1.8.0_151/jre (org.apache.zookeeper.server.ZooKeeper
Server)
[2018-08-12 13:02:31,146] INFO Server environment:java.class.path=:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../li
bs/aopalliance-repackaged-2.4.0-b34.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/argparse4j-0.5.0.jar:/ho
me/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/connect-api-0.10.1.1.jar:/home/acadgild/install/kafka/kafka_2.12-0.
```

```
                                    acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1

File  Edit  View  Search  Terminal  Help
[acadgild@localhost ~]$ cd install/kafka/kafka_2.12-0.10.1.1/bin
[acadgild@localhost bin]$ cd ../
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-server-start.sh ./config/s
erver.properties
[2018-08-12 13:30:58,004] INFO KafkaConfig values:
        advertised.host.name = null
        advertised.listeners = null
        advertised.port = null
        authorizer.class.name =
        auto.create.topics.enable = true
        auto.leader.rebalance.enable = true
        background.threads = 10
        broker.id = 0
        broker.id.generation.enable = true
        broker.rack = null
        compression.type = producer
        connections.max.idle.ms = 600000
```
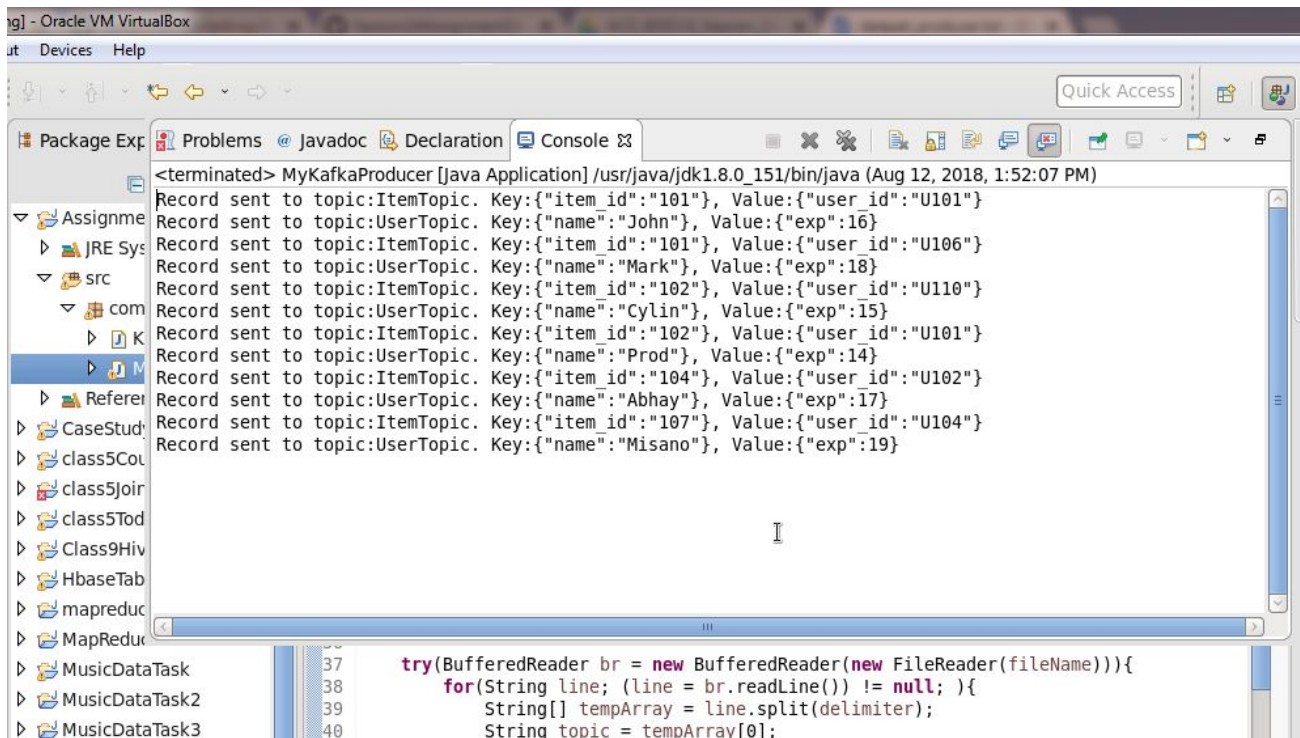
Task 1
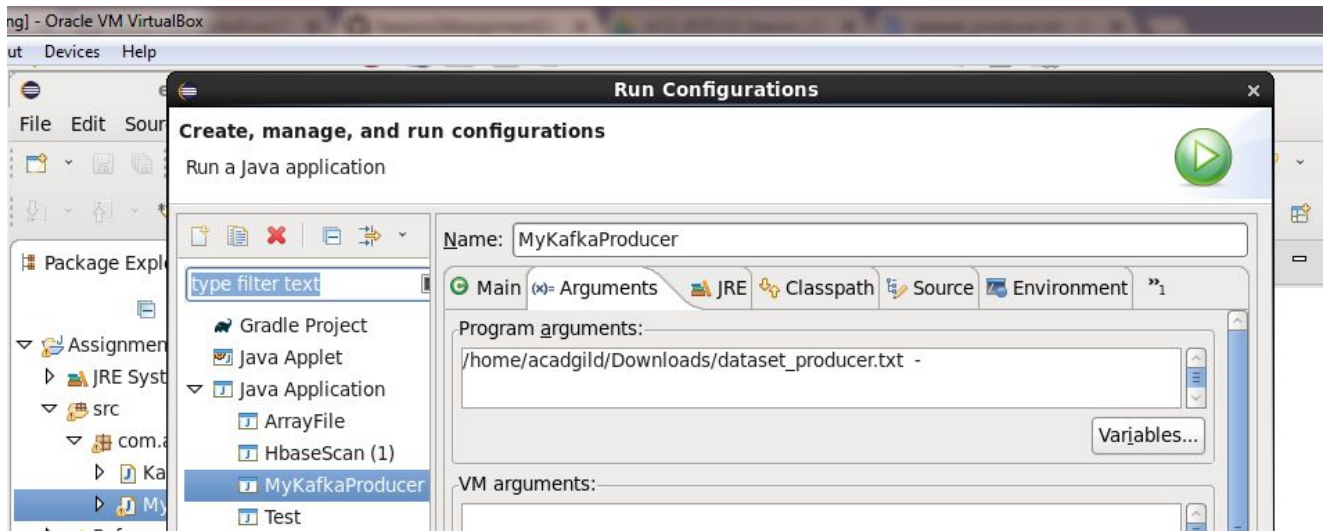
Console Output:

For each line, producer inserted Key and Value to respective topics.

Below are the topics created by kafka producer program

```
-rw-rw-r--.  1 acadgild acadgild    518 Aug 12 13:43 dataset_producer.txt
[acadgild@localhost Downloads]$ cd ../install/kafka/kafka_2.12-0.10.1.1/
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ ls
bin  config  libs  LICENSE  logs  NOTICE  site-docs
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-topics.sh --list --zookeeper localhost:2181
ItemTopic
UserTopic
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ 
```

Run kafka consumer for ItemTopic to view the contents received from producer
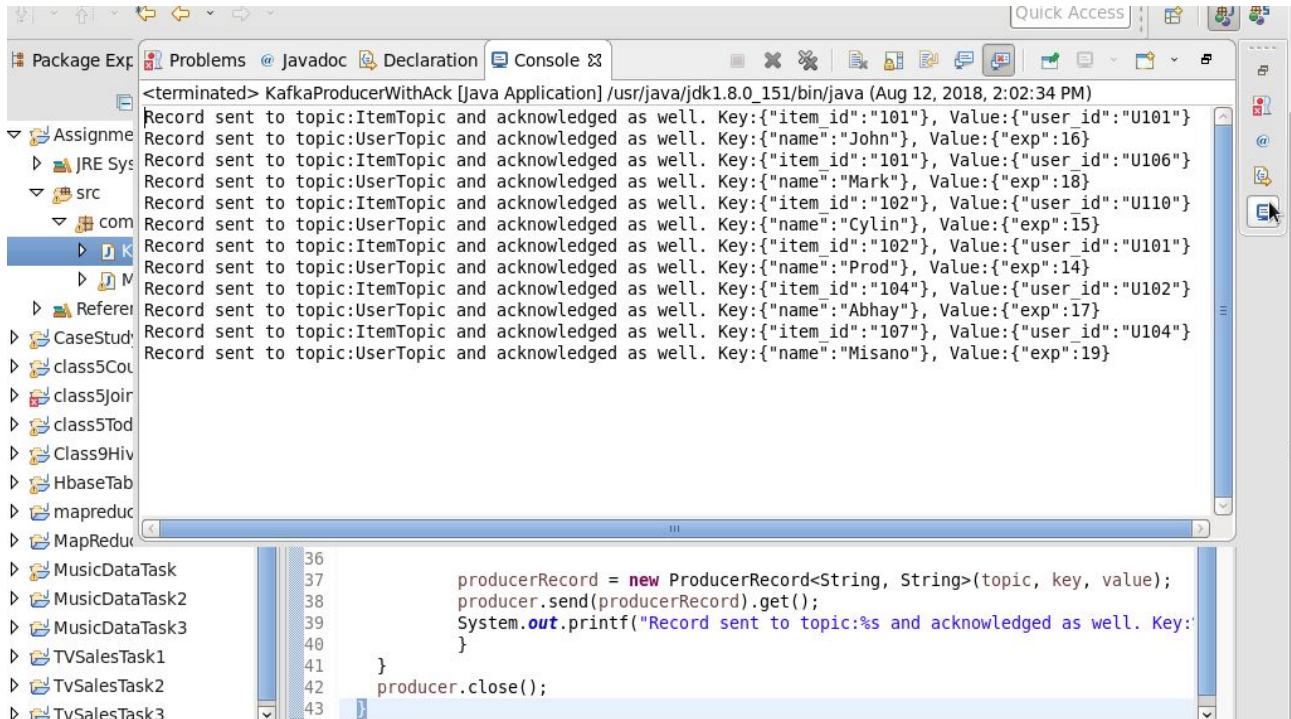
```
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic ItemTopic --from-beginning --zookeeper loca
lhost:2181 --property print.key=true
Using the ConsoleConsumer with old consumer is deprecated and will be removed in a future major release. Consider using the n
ew consumer by passing [bootstrap-server] instead of [zookeeper].
{"item_id":"101"}       {"user_id":"U101"}
{"item_id":"101"}       {"user_id":"U106"}
{"item_id":"102"}       {"user_id":"U110"}
{"item_id":"102"}       {"user_id":"U101"}
{"item_id":"104"}       {"user_id":"U102"}
{"item_id":"107"}       {"user_id":"U104"}
```

Run Consumer for topic UserTopic to view contents sent from producer

```
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic UserTopic --from-beginning --zookeeper loca
lhost:2181 --property print.key=true
Using the ConsoleConsumer with old consumer is deprecated and will be removed in a future major release. Consider using the n
ew consumer by passing [bootstrap-server] instead of [zookeeper].
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Cylin"}        {"exp":15}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"}        {"exp":17}
{"name":"Misano"}       {"exp":19}
```
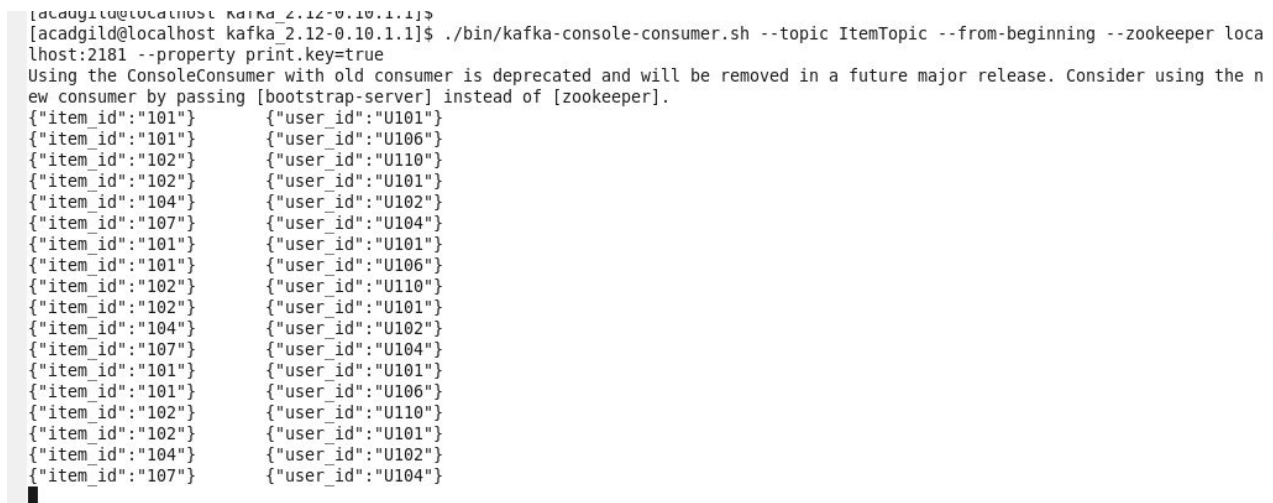
Task 2

Producer got acknowledgement from broker for each key and value published

Run consumer for ItemTopic to view contents

Run Consumer for UserTopic to view contents

```
^CYou have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic UserTopic --from-beginning --zookeeper loca
lhost:2181 --property print.key=true
Using the ConsoleConsumer with old consumer is deprecated and will be removed in a future major release. Consider using the n
ew consumer by passing [bootstrap-server] instead of [zookeeper].
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Cylin"}        {"exp":15}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"}        {"exp":17}
{"name":"Misano"}       {"exp":19}
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Cylin"}        {"exp":15}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"}        {"exp":17}
{"name":"Misano"}       {"exp":19}
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Cylin"}        {"exp":15}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"}        {"exp":17}
{"name":"Misano"}       {"exp":19}
```