

## APACHE KAFKA – II ASSIGNMENT

Data Set Used: **dataset\_producer.txt**

[https://drive.google.com/file/d/0B\\_Qjau8wv1KoSnR5eHpKOF9rTFU/view?usp=sharing](https://drive.google.com/file/d/0B_Qjau8wv1KoSnR5eHpKOF9rTFU/view?usp=sharing)

## Task 1:

Create a java program `MyKafkaProducer.java` that takes a file name and delimiter as input arguments.

It should read the content of file line by line.

Fields in the file are in following order

1. Kafka Topic Name
2. Key
3. value

For every line, insert the key and value to the repsective Kafka broker in a fire and forget mode.

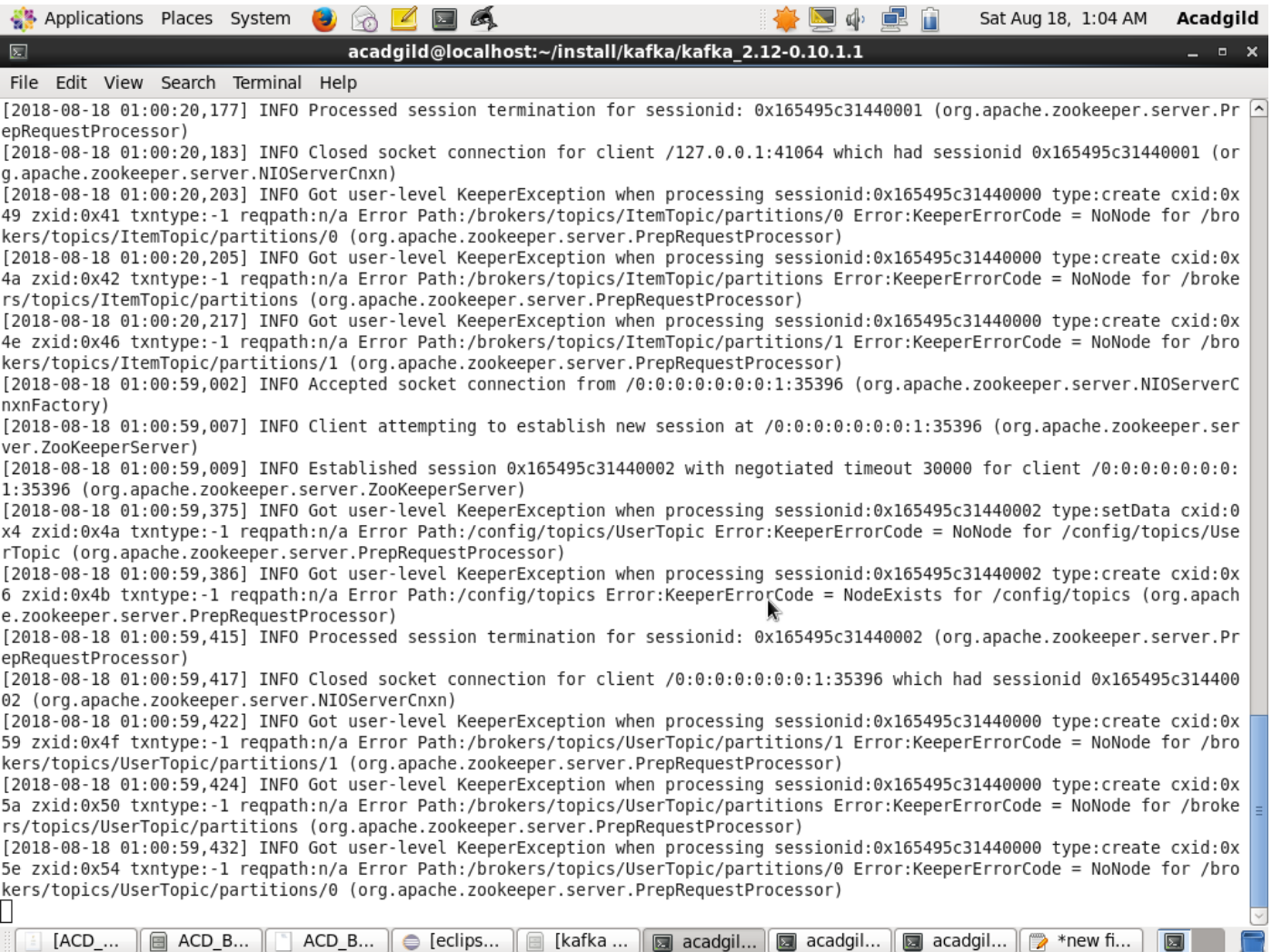
**Below code is used to Execute Task 1:**



**Exported KAFKA\_HOME & Started Zookeeper as below:**

```
Applications Places System Sat Aug 18, 1:02 AM acadgild@localhost: ~/install/kafka/kafka_2.12-0.10.1.1
File Edit View Search Terminal Help
[acadgild@localhost kafka 2.12-0.10.1.1]$ export KAFKA_HOME=/home/acadgild/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]$ cd $KAFKA_HOME
[acadgild@localhost kafka 2.12-0.10.1.1]$ ./bin/zookeeper-server-start.sh ./config/zookeeper.properties
[2018-08-18 00:58:23,171] INFO Reading configuration from: ./config/zookeeper.properties (org.apache.zookeeper.server.quorum.QuorumPeerConfig)
[2018-08-18 00:58:23,186] INFO autopurge.snapRetainCount set to 3 (org.apache.zookeeper.server.DataDirCleanupManager)
[2018-08-18 00:58:23,186] INFO autopurge.purgeInterval set to 0 (org.apache.zookeeper.server.DataDirCleanupManager)
[2018-08-18 00:58:23,186] INFO Purge task is not scheduled. (org.apache.zookeeper.server.DataDirCleanupManager)
[2018-08-18 00:58:23,186] WARN Either no config or no quorum defined in config, running in standalone mode (org.apache.zookeeper.server.quorum.QuorumPeerMain)
[2018-08-18 00:58:23,216] INFO Reading configuration from: ./config/zookeeper.properties (org.apache.zookeeper.server.quorum.QuorumPeerConfig)
[2018-08-18 00:58:23,216] INFO Starting server (org.apache.zookeeper.server.ZooKeeperServerMain)
[2018-08-18 00:58:23,246] INFO Server environment:zookeeper.version=3.4.8--1, built on 02/06/2016 03:18 GMT (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 00:58:23,246] INFO Server environment:host.name=localhost (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 00:58:23,246] INFO Server environment:java.version=1.8.0_151 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 00:58:23,246] INFO Server environment:java.vendor=Oracle Corporation (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 00:58:23,246] INFO Server environment:java.home=/usr/java/jdk1.8.0_151/jre (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 00:58:23,246] INFO Server environment:java.class.path=:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/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:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/connect-api-0.10.1.1.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/connect-file-0.10.1.1.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/connect-json-0.10.1.1.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/connect-runtime-0.10.1.1.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/guava-18.0.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/hk2-api-2.4.0-b34.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/hk2-locator-2.4.0-b34.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/hk2-utils-2.4.0-b34.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jackson-annotations-2.6.0.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jackson-core-2.6.3.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jackson-databind-2.6.3.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jackson-jaxrs-base-2.6.3.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jackson-jaxrs-json-provider-2.6.3.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jackson-module-jaxb-annotations-2.6.3.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/javassist-3.18.2-GA.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/javax.annotation-api-1.2.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/javax.inject-1.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/javax.inject-2.4.0-b34.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/javax.servlet-api-3.1.0.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/javax.ws.rs-api-2.0.1.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/../libs/jersey-client-2.22.2.jar:/home/acadgild/install/kafka/kafka_2.12-0.10.1.1/bin/
```

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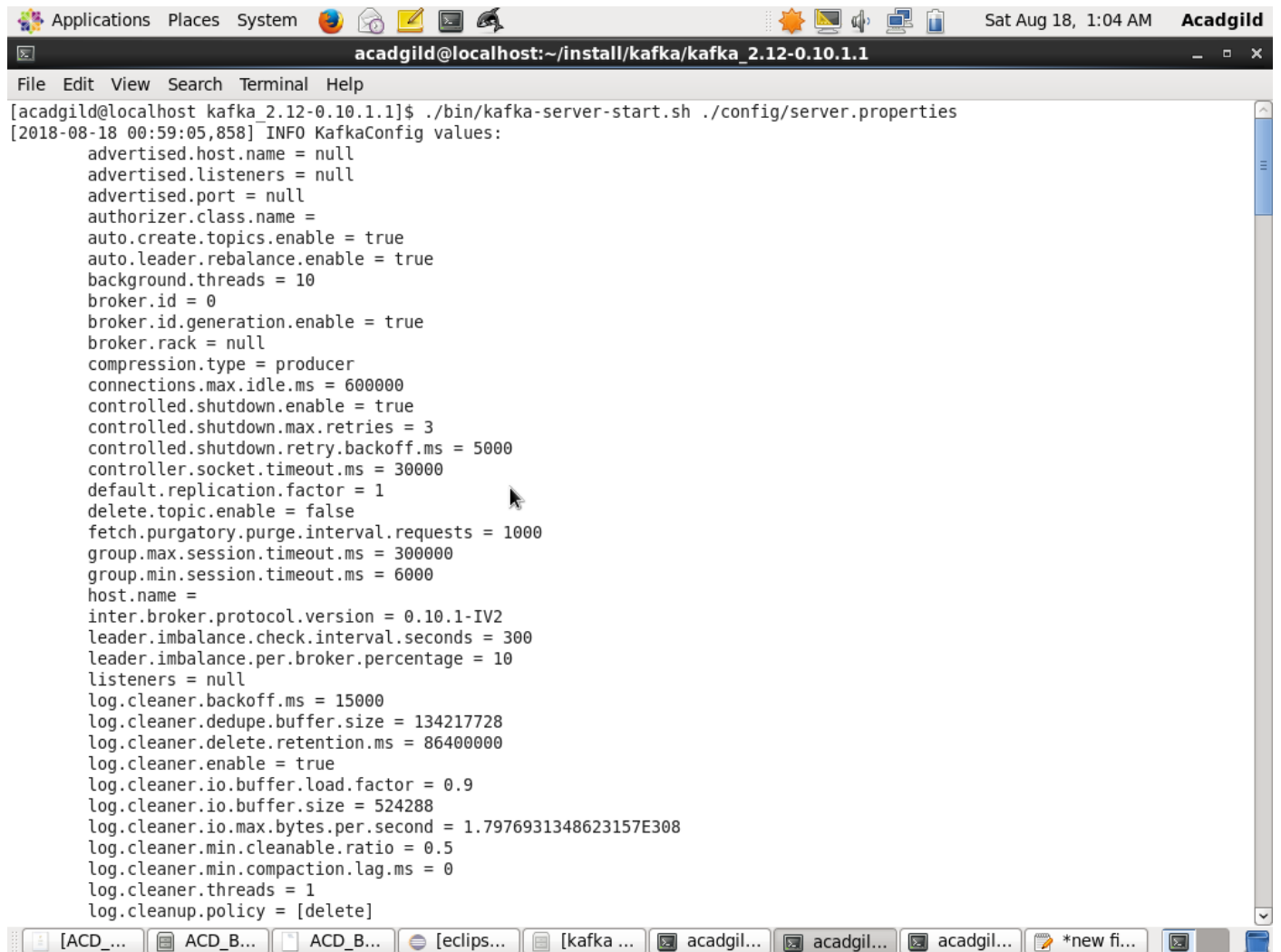


```
[2018-08-18 01:00:20,177] INFO Processed session termination for sessionId: 0x165495c31440001 (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:20,183] INFO Closed socket connection for client /127.0.0.1:41064 which had sessionId 0x165495c31440001 (org.apache.zookeeper.server.NIOServerCnxn)
[2018-08-18 01:00:20,203] INFO Got user-level KeeperException when processing sessionId:0x165495c31440000 type:create cxid:0x49 zxid:0x41 txntype:-1 reqpath:n/a Error Path:/brokers/topics/ItemTopic/partitions/0 Error:KeeperErrorCode = NoNode for /brokers/topics/ItemTopic/partitions/0 (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:20,205] INFO Got user-level KeeperException when processing sessionId:0x165495c31440000 type:create cxid:0x4a zxid:0x42 txntype:-1 reqpath:n/a Error Path:/brokers/topics/ItemTopic/partitions Error:KeeperErrorCode = NoNode for /brokers/topics/ItemTopic/partitions (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:20,217] INFO Got user-level KeeperException when processing sessionId:0x165495c31440000 type:create cxid:0x4e zxid:0x46 txntype:-1 reqpath:n/a Error Path:/brokers/topics/ItemTopic/partitions/1 Error:KeeperErrorCode = NoNode for /brokers/topics/ItemTopic/partitions/1 (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:59,002] INFO Accepted socket connection from /0:0:0:0:0:0:1:35396 (org.apache.zookeeper.server.NIOServerCnxnFactory)
[2018-08-18 01:00:59,007] INFO Client attempting to establish new session at /0:0:0:0:0:0:1:35396 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 01:00:59,009] INFO Established session 0x165495c31440002 with negotiated timeout 30000 for client /0:0:0:0:0:0:1:35396 (org.apache.zookeeper.server.ZooKeeperServer)
[2018-08-18 01:00:59,375] INFO Got user-level KeeperException when processing sessionId:0x165495c31440002 type:setData cxid:0x4 xzid:0x4a txntype:-1 reqpath:n/a Error Path:/config/topics/UserTopic Error:KeeperErrorCode = NoNode for /config/topics/UserTopic (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:59,386] INFO Got user-level KeeperException when processing sessionId:0x165495c31440002 type:create cxid:0x6 zxid:0x4b txntype:-1 reqpath:n/a Error Path:/config/topics Error:KeeperErrorCode = NodeExists for /config/topics (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:59,415] INFO Processed session termination for sessionId: 0x165495c31440002 (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:59,417] INFO Closed socket connection for client /0:0:0:0:0:0:1:35396 which had sessionId 0x165495c31440002 (org.apache.zookeeper.server.NIOServerCnxn)
[2018-08-18 01:00:59,422] INFO Got user-level KeeperException when processing sessionId:0x165495c31440000 type:create cxid:0x59 zxid:0x4f txntype:-1 reqpath:n/a Error Path:/brokers/topics/UserTopic/partitions/1 Error:KeeperErrorCode = NoNode for /brokers/topics/UserTopic/partitions/1 (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:59,424] INFO Got user-level KeeperException when processing sessionId:0x165495c31440000 type:create cxid:0x5a zxid:0x50 txntype:-1 reqpath:n/a Error Path:/brokers/topics/UserTopic/partitions Error:KeeperErrorCode = NoNode for /brokers/topics/UserTopic/partitions (org.apache.zookeeper.server.PreRequestProcessor)
[2018-08-18 01:00:59,432] INFO Got user-level KeeperException when processing sessionId:0x165495c31440000 type:create cxid:0x5e zxid:0x54 txntype:-1 reqpath:n/a Error Path:/brokers/topics/UserTopic/partitions/0 Error:KeeperErrorCode = NoNode for /brokers/topics/UserTopic/partitions/0 (org.apache.zookeeper.server.PreRequestProcessor)
```

Taskbar icons: [ACD\_...], [ACD\_B...], [ACD\_B...], [eclips...], [kafka ...], acadgil..., acadgil..., acadgil..., \*new fi...

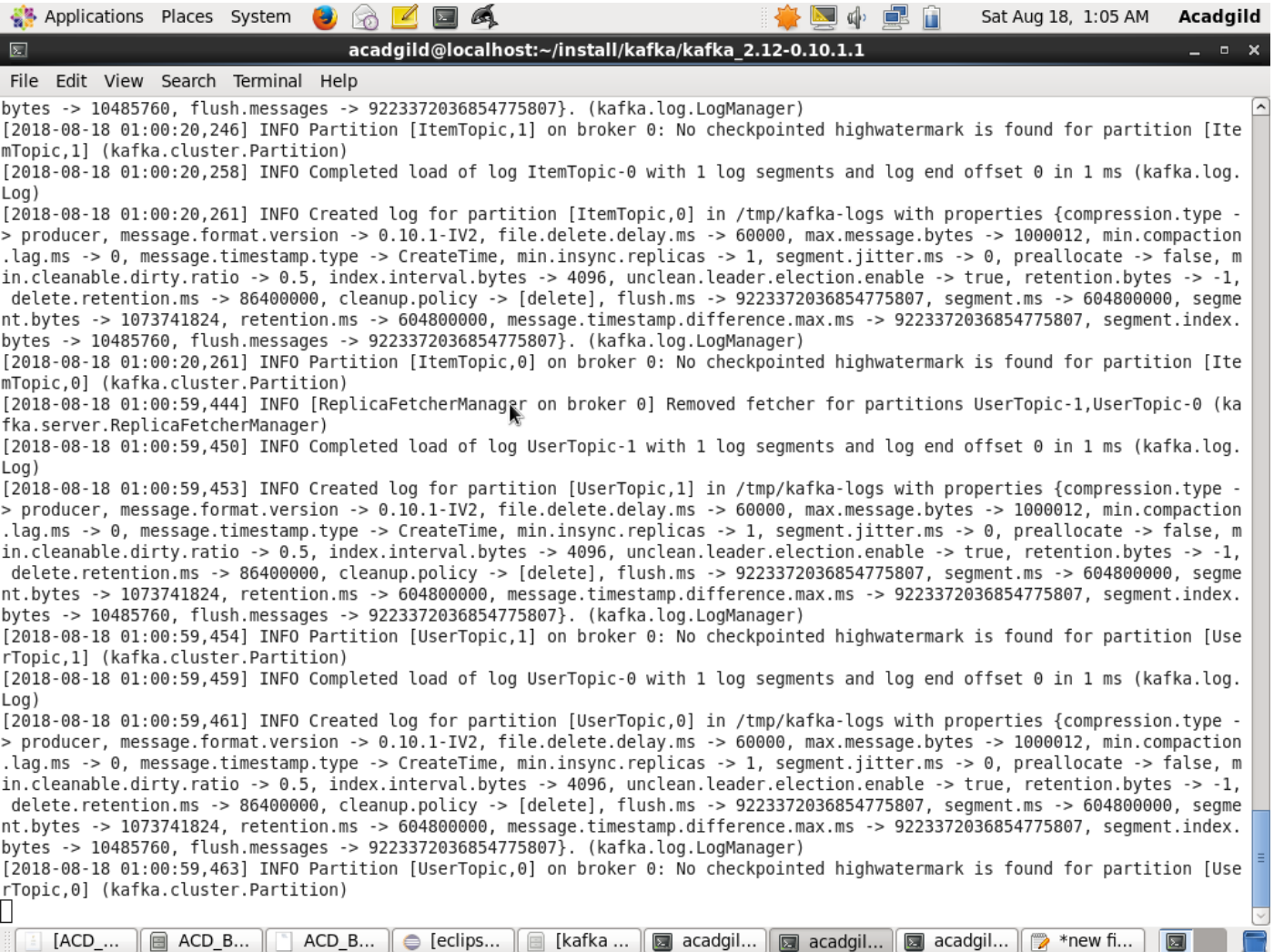
## APACHE KAFKA – II ASSIGNMENT

Started KAFKA Server As below using Server.properties file:



```
acadgild@localhost: ~/install/kafka/kafka_2.12-0.10.1.1
File Edit View Search Terminal Help
[acadgild@localhost kafka 2.12-0.10.1.1]$ ./bin/kafka-server-start.sh ./config/server.properties
[2018-08-18 00:59:05,858] 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
    controlled.shutdown.enable = true
    controlled.shutdown.max.retries = 3
    controlled.shutdown.retry.backoff.ms = 5000
    controller.socket.timeout.ms = 30000
    default.replication.factor = 1
    delete.topic.enable = false
    fetch.purgatory.purge.interval.requests = 1000
    group.max.session.timeout.ms = 300000
    group.min.session.timeout.ms = 6000
    host.name =
    inter.broker.protocol.version = 0.10.1-IV2
    leader.imbalance.check.interval.seconds = 300
    leader.imbalance.per.broker.percentage = 10
    listeners = null
    log.cleaner.backoff.ms = 15000
    log.cleaner.dedupe.buffer.size = 134217728
    log.cleaner.delete.retention.ms = 86400000
    log.cleaner.enable = true
    log.cleaner.io.buffer.load.factor = 0.9
    log.cleaner.io.buffer.size = 524288
    log.cleaner.io.max.bytes.per.second = 1.7976931348623157E308
    log.cleaner.min.cleanable.ratio = 0.5
    log.cleaner.min.compaction.lag.ms = 0
    log.cleaner.threads = 1
    log.cleanup.policy = [delete]
```

# APACHE KAFKA – II ASSIGNMENT



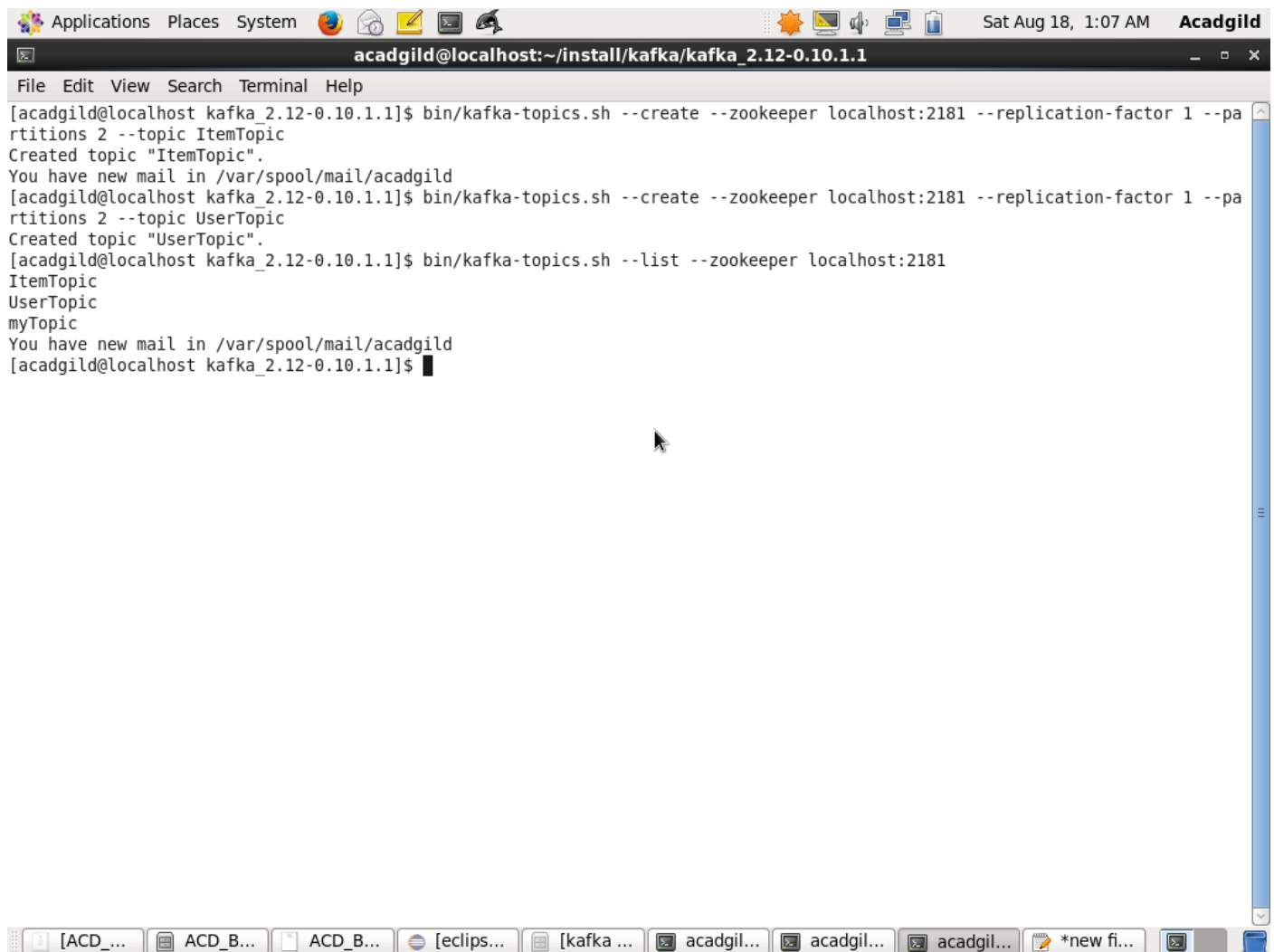
The screenshot shows a terminal window titled 'acadgild@localhost:~/install/kafka/kafka\_2.12-0.10.1.1'. The terminal displays Kafka logs for a broker. The logs include messages about partition creation, log completion, and replication. The taskbar at the bottom shows several open applications: ACD\_..., ACD\_B..., ACD\_B..., [eclips..., [kafka ..., acadgil..., acadgil..., acadgil..., and \*new fi....

```
File Edit View Search Terminal Help
bytes -> 10485760, flush.messages -> 9223372036854775807}. (kafka.log.LogManager)
[2018-08-18 01:00:20,246] INFO Partition [ItemTopic,1] on broker 0: No checkpointed highwatermark is found for partition [ItemTopic,1] (kafka.cluster.Partition)
[2018-08-18 01:00:20,258] INFO Completed load of log ItemTopic-0 with 1 log segments and log end offset 0 in 1 ms (kafka.log.Log)
[2018-08-18 01:00:20,261] INFO Created log for partition [ItemTopic,0] in /tmp/kafka-logs with properties {compression.type -> producer, message.format.version -> 0.10.1-IV2, file.delete.delay.ms -> 60000, max.message.bytes -> 1000012, min.compaction.lag.ms -> 0, message.timestamp.type -> CreateTime, min.insync.replicas -> 1, segment.jitter.ms -> 0, preallocate -> false, min.cleanable.dirty.ratio -> 0.5, index.interval.bytes -> 4096, unclean.leader.election.enable -> true, retention.bytes -> -1, delete.retention.ms -> 86400000, cleanup.policy -> [delete], flush.ms -> 9223372036854775807, segment.ms -> 604800000, segment.bytes -> 1073741824, retention.ms -> 604800000, message.timestamp.difference.max.ms -> 9223372036854775807, segment.index.bytes -> 10485760, flush.messages -> 9223372036854775807}. (kafka.log.LogManager)
[2018-08-18 01:00:20,261] INFO Partition [ItemTopic,0] on broker 0: No checkpointed highwatermark is found for partition [ItemTopic,0] (kafka.cluster.Partition)
[2018-08-18 01:00:59,444] INFO [ReplicaFetcherManager on broker 0] Removed fetcher for partitions UserTopic-1,UserTopic-0 (kafka.server.ReplicaFetcherManager)
[2018-08-18 01:00:59,450] INFO Completed load of log UserTopic-1 with 1 log segments and log end offset 0 in 1 ms (kafka.log.Log)
[2018-08-18 01:00:59,453] INFO Created log for partition [UserTopic,1] in /tmp/kafka-logs with properties {compression.type -> producer, message.format.version -> 0.10.1-IV2, file.delete.delay.ms -> 60000, max.message.bytes -> 1000012, min.compaction.lag.ms -> 0, message.timestamp.type -> CreateTime, min.insync.replicas -> 1, segment.jitter.ms -> 0, preallocate -> false, min.cleanable.dirty.ratio -> 0.5, index.interval.bytes -> 4096, unclean.leader.election.enable -> true, retention.bytes -> -1, delete.retention.ms -> 86400000, cleanup.policy -> [delete], flush.ms -> 9223372036854775807, segment.ms -> 604800000, segment.bytes -> 1073741824, retention.ms -> 604800000, message.timestamp.difference.max.ms -> 9223372036854775807, segment.index.bytes -> 10485760, flush.messages -> 9223372036854775807}. (kafka.log.LogManager)
[2018-08-18 01:00:59,454] INFO Partition [UserTopic,1] on broker 0: No checkpointed highwatermark is found for partition [UserTopic,1] (kafka.cluster.Partition)
[2018-08-18 01:00:59,459] INFO Completed load of log UserTopic-0 with 1 log segments and log end offset 0 in 1 ms (kafka.log.Log)
[2018-08-18 01:00:59,461] INFO Created log for partition [UserTopic,0] in /tmp/kafka-logs with properties {compression.type -> producer, message.format.version -> 0.10.1-IV2, file.delete.delay.ms -> 60000, max.message.bytes -> 1000012, min.compaction.lag.ms -> 0, message.timestamp.type -> CreateTime, min.insync.replicas -> 1, segment.jitter.ms -> 0, preallocate -> false, min.cleanable.dirty.ratio -> 0.5, index.interval.bytes -> 4096, unclean.leader.election.enable -> true, retention.bytes -> -1, delete.retention.ms -> 86400000, cleanup.policy -> [delete], flush.ms -> 9223372036854775807, segment.ms -> 604800000, segment.bytes -> 1073741824, retention.ms -> 604800000, message.timestamp.difference.max.ms -> 9223372036854775807, segment.index.bytes -> 10485760, flush.messages -> 9223372036854775807}. (kafka.log.LogManager)
[2018-08-18 01:00:59,463] INFO Partition [UserTopic,0] on broker 0: No checkpointed highwatermark is found for partition [UserTopic,0] (kafka.cluster.Partition)
```

## APACHE KAFKA – II ASSIGNMENT

Created ItemTopic & UserTopic as mentioned in same format as the data in dataset\_producer.txt file

Listed Topics as below, with –list command



The screenshot shows a terminal window titled 'acadgild@localhost:~/install/kafka/kafka\_2.12-0.10.1.1'. The terminal output shows the following commands and results:

```
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 2 --topic ItemTopic
Created topic "ItemTopic".
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 2 --topic UserTopic
Created topic "UserTopic".
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --list --zookeeper localhost:2181
ItemTopic
UserTopic
myTopic
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$
```

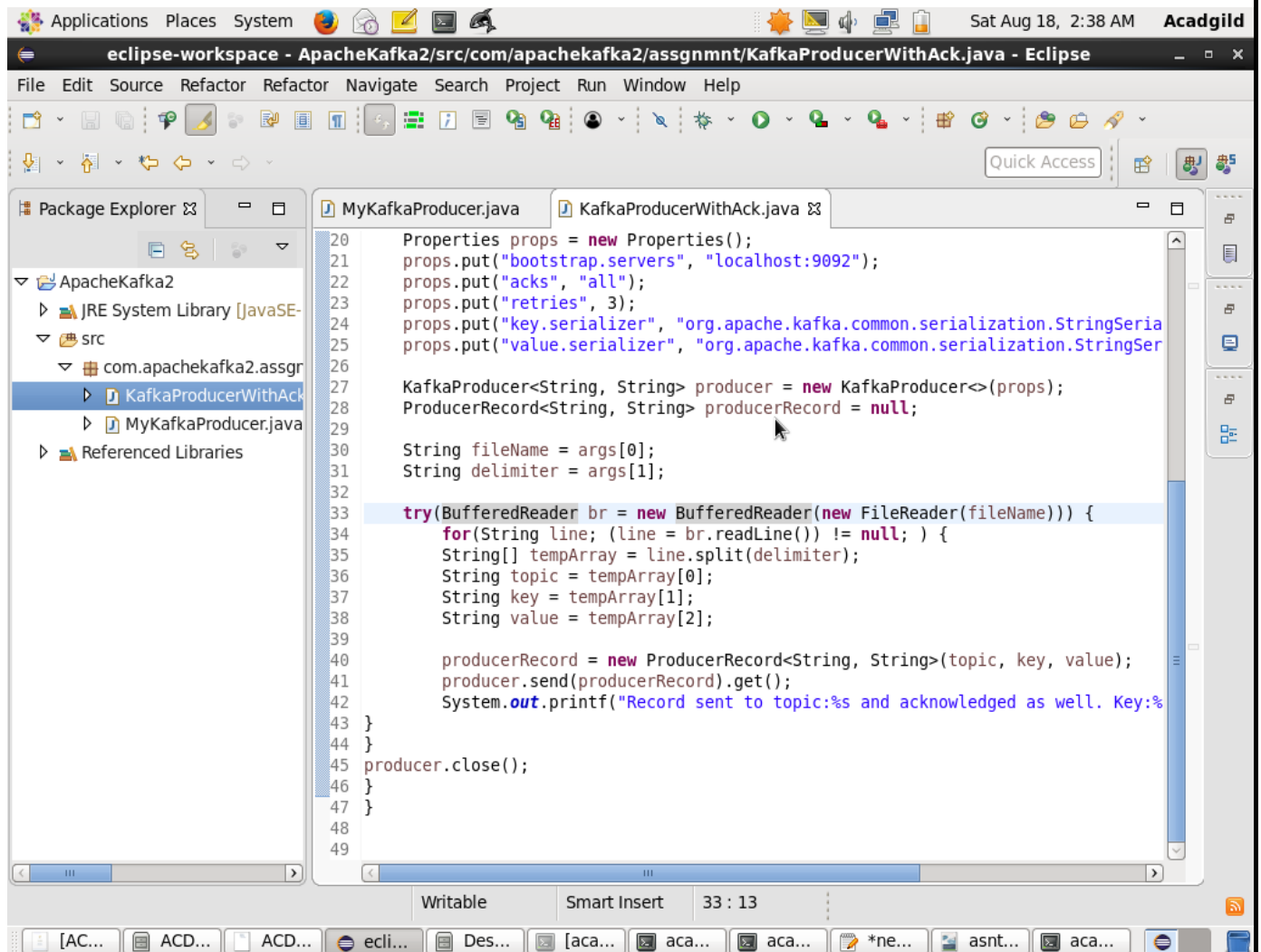
The terminal window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The top status bar shows 'Sat Aug 18, 1:07 AM' and 'Acadgild'. The bottom taskbar shows several open applications: '[ACD\_...', 'ACD\_B...', 'ACD\_B...', '[eclips...', '[kafka ...', 'acadgil...', 'acadgil...', 'acadgil...', '\*new fi...', and a terminal icon.



## APACHE KAFKA – II ASSIGNMENT

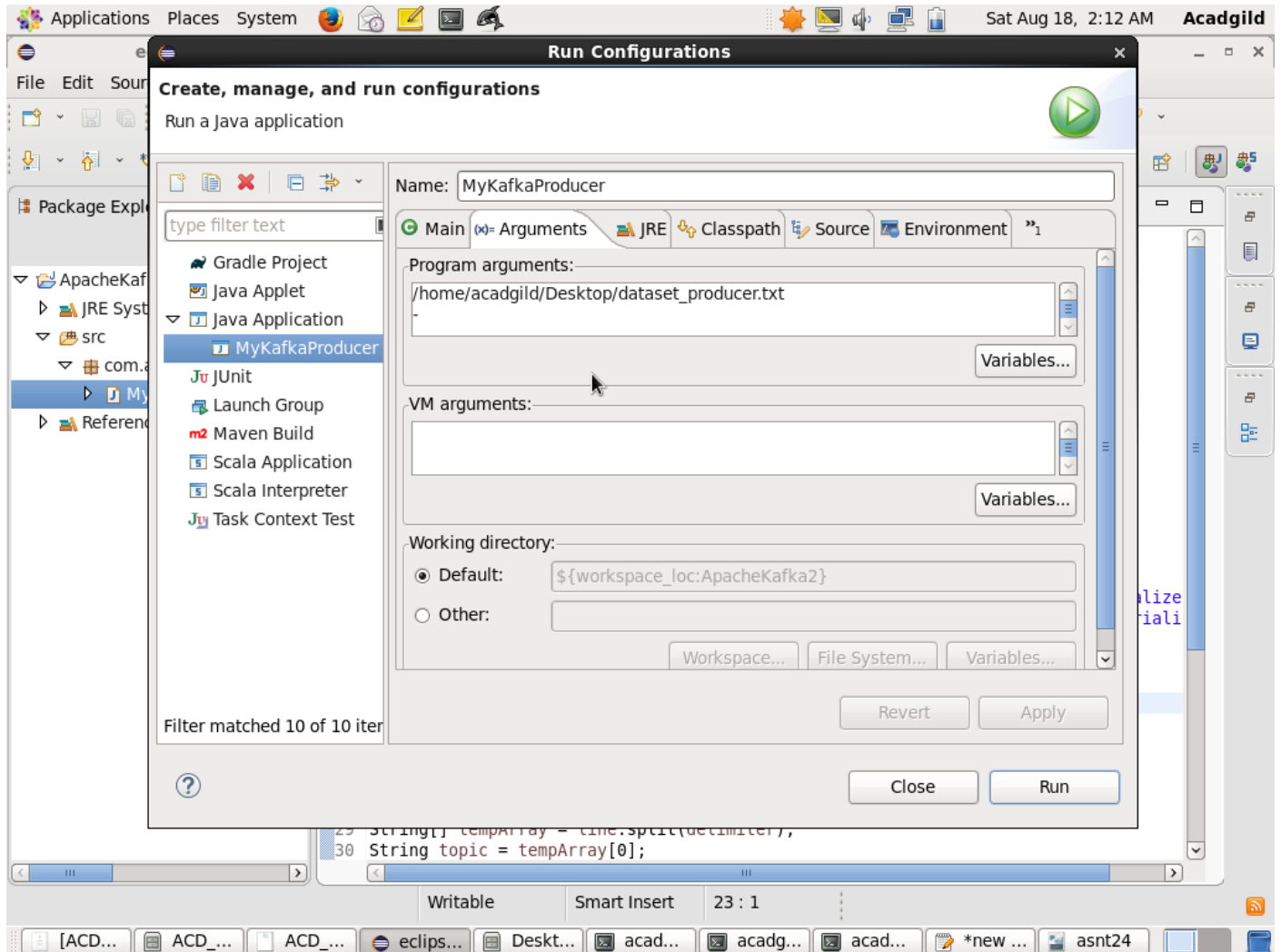
Arguments to Java Program is passed as below:

1. Dataset input path
2. Data delimiter



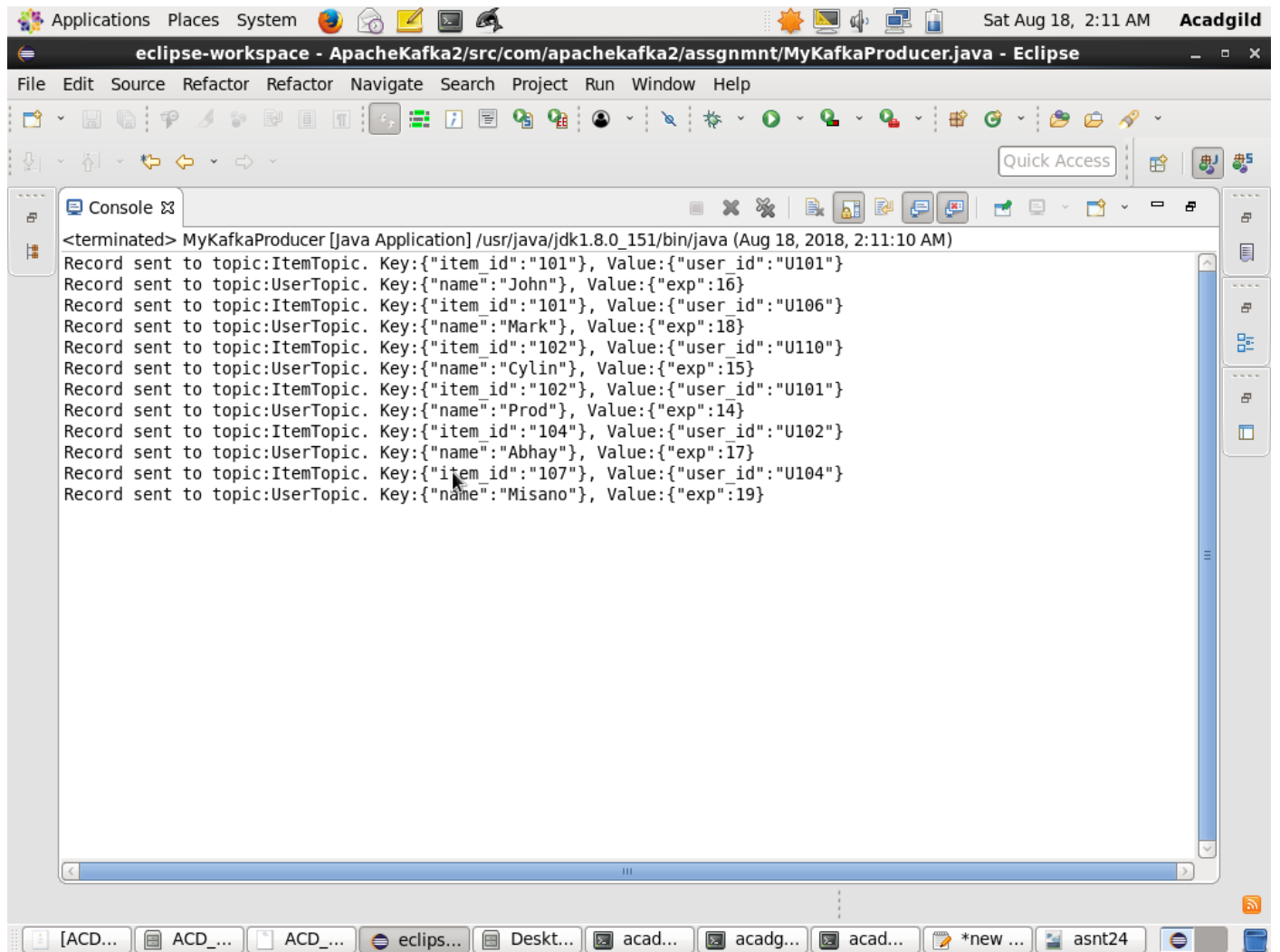
```
20 Properties props = new Properties();
21 props.put("bootstrap.servers", "localhost:9092");
22 props.put("acks", "all");
23 props.put("retries", 3);
24 props.put("key.serializer", "org.apache.kafka.common.serialization.StringSeria
25 props.put("value.serializer", "org.apache.kafka.common.serialization.StringSer
26
27 KafkaProducer<String, String> producer = new KafkaProducer<>(props);
28 ProducerRecord<String, String> producerRecord = null;
29
30 String fileName = args[0];
31 String delimiter = args[1];
32
33 try(BufferedReader br = new BufferedReader(new FileReader(fileName))) {
34     for(String line; (line = br.readLine()) != null; ) {
35         String[] tempArray = line.split(delimiter);
36         String topic = tempArray[0];
37         String key = tempArray[1];
38         String value = tempArray[2];
39
40         producerRecord = new ProducerRecord<String, String>(topic, key, value);
41         producer.send(producerRecord).get();
42         System.out.printf("Record sent to topic:%s and acknowledged as well. Key:%
43     }
44 }
45 producer.close();
46 }
47 }
48
49
```

# APACHE KAFKA – II ASSIGNMENT



## APACHE KAFKA – II ASSIGNMENT

Output:



The screenshot shows the Eclipse IDE interface. The top bar indicates the workspace is 'eclipse-workspace' and the current file is 'ApacheKafka2/src/com/apachekafka2/assgnmnt/MyKafkaProducer.java'. The console window, titled 'Console', displays the output of a Java application named 'MyKafkaProducer'. The output shows 12 records sent to two topics: 'ItemTopic' and 'UserTopic'. Each record contains a key and a value, both represented as JSON objects. The records are as follows:

```
<terminated> MyKafkaProducer [Java Application] /usr/java/jdk1.8.0_151/bin/java (Aug 18, 2018, 2:11:10 AM)
Record sent to topic:ItemTopic. Key:{"item_id":"101"}, Value:{"user_id":"U101"}
Record sent to topic:UserTopic. Key:{"name":"John"}, Value:{"exp":16}
Record sent to topic:ItemTopic. Key:{"item_id":"101"}, Value:{"user_id":"U106"}
Record sent to topic:UserTopic. Key:{"name":"Mark"}, Value:{"exp":18}
Record sent to topic:ItemTopic. Key:{"item_id":"102"}, Value:{"user_id":"U110"}
Record sent to topic:UserTopic. Key:{"name":"Cylin"}, Value:{"exp":15}
Record sent to topic:ItemTopic. Key:{"item_id":"102"}, Value:{"user_id":"U101"}
Record sent to topic:UserTopic. Key:{"name":"Prod"}, Value:{"exp":14}
Record sent to topic:ItemTopic. Key:{"item_id":"104"}, Value:{"user_id":"U102"}
Record sent to topic:UserTopic. Key:{"name":"Abhay"}, Value:{"exp":17}
Record sent to topic:ItemTopic. Key:{"item_id":"107"}, Value:{"user_id":"U104"}
Record sent to topic:UserTopic. Key:{"name":"Misano"}, Value:{"exp":19}
```

The bottom of the image shows the Eclipse taskbar with several open windows, including '[ACD...', 'ACD\_...', 'eclips...', 'Deskt...', 'acad...', 'acadg...', 'acad...', '\*new ...', and 'asnt24'.



## APACHE KAFKA – II ASSIGNMENT

Verified the data in ItemTopics & UserTopics in Kafka server as below:

```
Applications Places System Sat Aug 18, 2:13 AM Acadgild
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1
File Edit View Search Terminal Help
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 2 --topic ItemTopic
Created topic "ItemTopic".
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 2 --topic UserTopic
Created topic "UserTopic".
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --list --zookeeper localhost:2181
ItemTopic
UserTopic
myTopic
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 localhost: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 new consumer by passing [bootstrap-server] instead of [zookeeper].
{"item_id":"102"} {"user_id":"U110"}
{"item_id":"102"} {"user_id":"U101"}
{"item_id":"104"} {"user_id":"U102"}
{"item_id":"101"} {"user_id":"U101"}
{"item_id":"101"} {"user_id":"U106"}
{"item_id":"107"} {"user_id":"U104"}
█
```

```
[ACD...] ACD... ACD... eclips... Deskt... [acad...] acadg... acad... *new ... asnt24
Applications Places System Sat Aug 18, 2:13 AM Acadgild
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1
File Edit View Search Terminal Help
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic UserTopic --from-beginning \
> --zookeeper localhost: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 new consumer by passing [bootstrap-server] instead of [zookeeper].
{"name":"Cylin"} {"exp":15}
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"} {"exp":17}
{"name":"Misano"} {"exp":19}
█
```

## APACHE KAFKA – II ASSIGNMENT

### Task 2:

Modify the previous program MyKafkaProducer.java and create a new Java program KafkaProducerWithAck.java

This should perform the same task as of KafkaProducer.java with some modification.

When passing any data to a topic, it should wait for acknowledgement.

After acknowledgement is received from the broker, it should print the key and value which has been written to a specified topic.

The application should attempt for 3 retries before giving any exception.

Code:

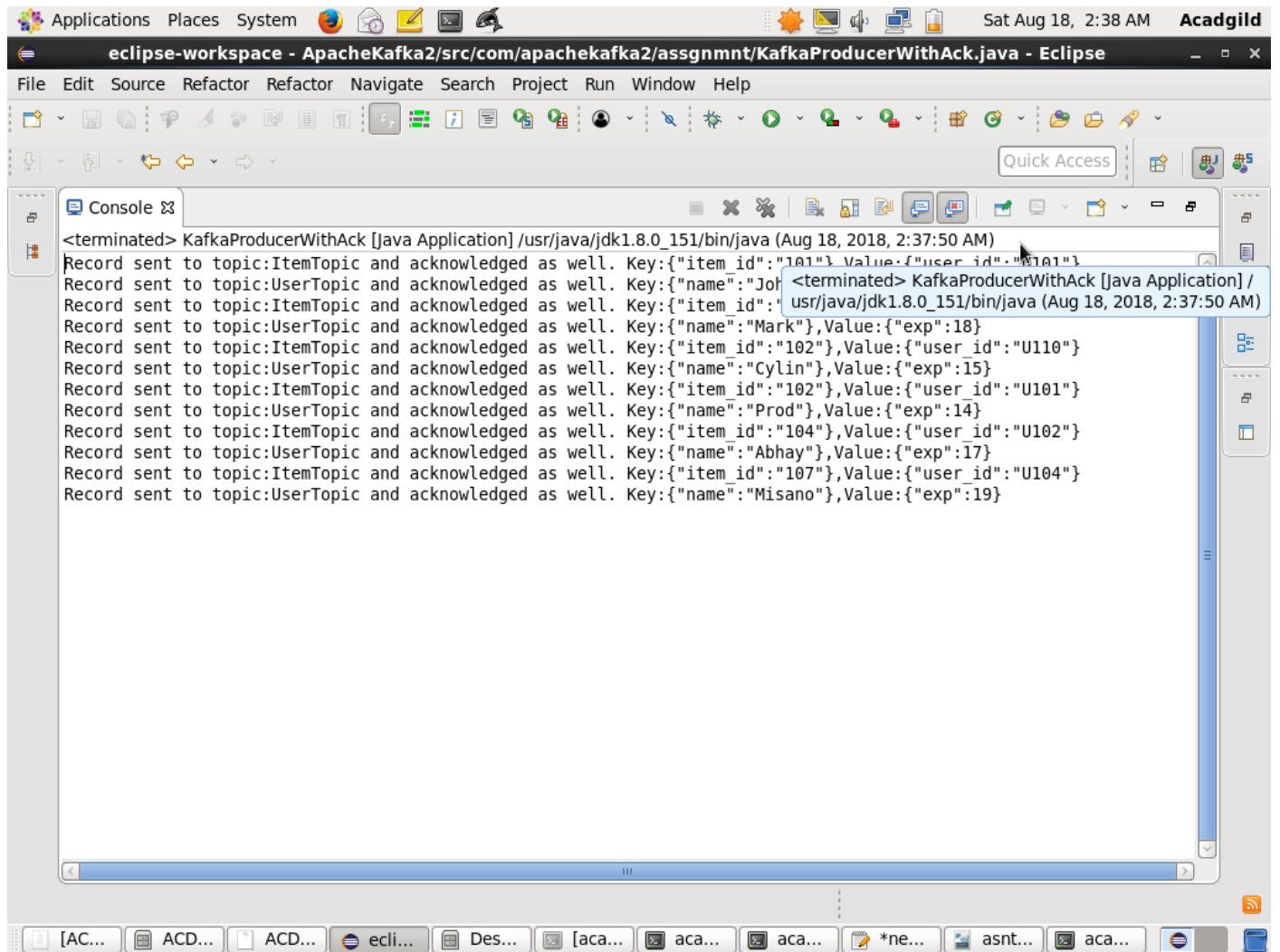


Java code is executed & produced output as below in console:

```
20 Properties props = new Properties();
21 props.put("bootstrap.servers", "localhost:9092");
22 props.put("acks", "all");
23 props.put("retries", 3);
24 props.put("key.serializer", "org.apache.kafka.common.serialization.StringSerializer");
25 props.put("value.serializer", "org.apache.kafka.common.serialization.StringSerializer");
26
27 KafkaProducer<String, String> producer = new KafkaProducer<>(props);
28 ProducerRecord<String, String> producerRecord = null;
29
30 String fileName = args[0];
31 String delimiter = args[1];
32
33 try(BufferedReader br = new BufferedReader(new FileReader(fileName))) {
34     for(String line; (line = br.readLine()) != null; ) {
35         String[] tempArray = line.split(delimiter);
36         String topic = tempArray[0];
37         String key = tempArray[1];
38         String value = tempArray[2];
39
40         producerRecord = new ProducerRecord<String, String>(topic, key, value);
41         producer.send(producerRecord).get();
42         System.out.printf("Record sent to topic:%s and acknowledged as well. Key:%s\n", topic, key);
43     }
44 }
45 producer.close();
46 }
47 }
48 }
49 }
```

## APACHE KAFKA – II ASSIGNMENT

Output:

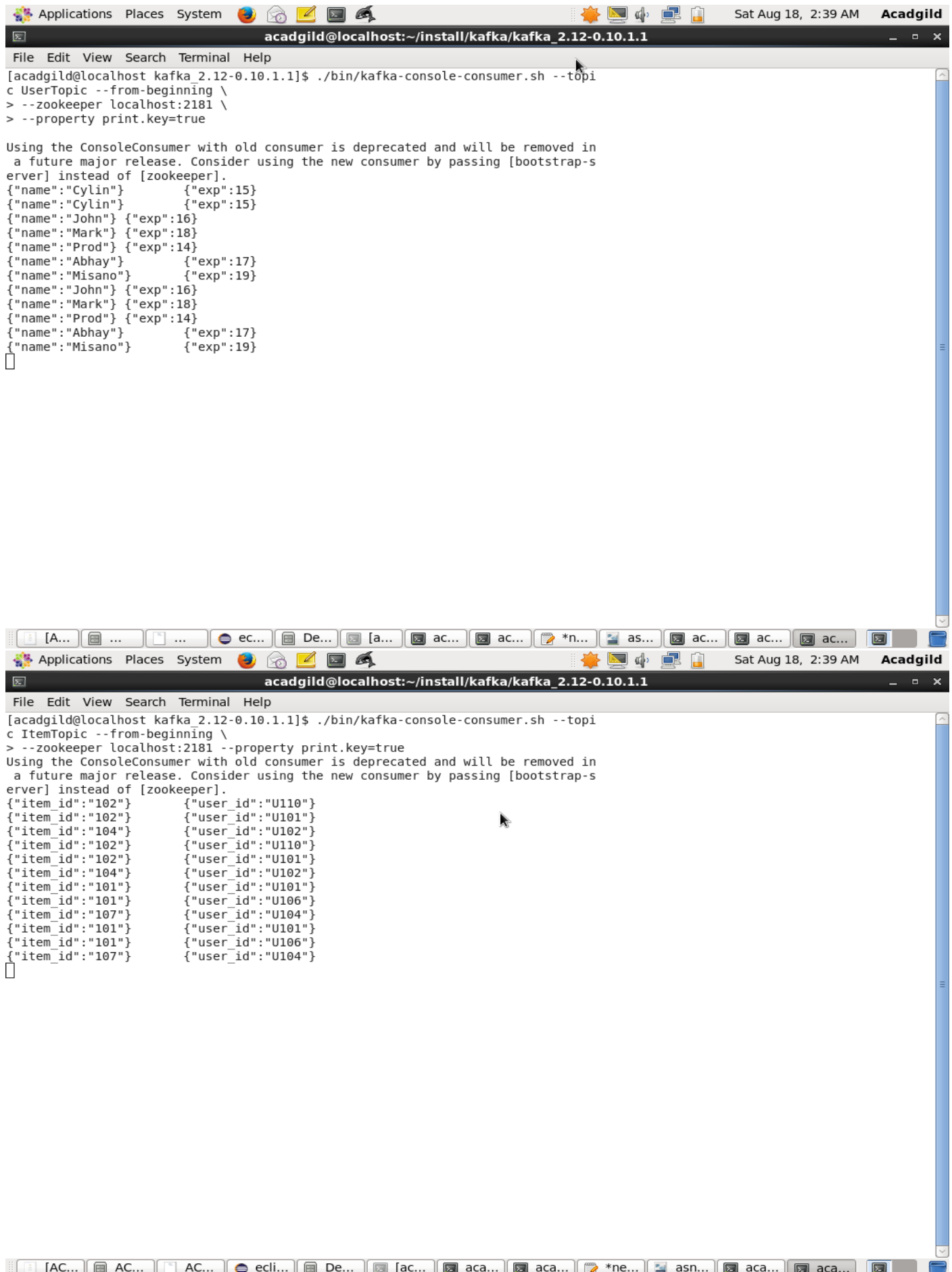


The screenshot shows the Eclipse IDE interface. The top bar indicates the date and time as 'Sat Aug 18, 2:38 AM' and the user as 'Acadgild'. The title bar reads 'eclipse-workspace - ApacheKafka2/src/com/apachekafka2/assnmnt/KafkaProducerWithAck.java - Eclipse'. The menu bar includes 'File', 'Edit', 'Source', 'Refactor', 'Navigate', 'Search', 'Project', 'Run', 'Window', and 'Help'. The toolbar contains various icons for file operations and development tools. The 'Console' tab is active, displaying the output of a Java application. The output shows a series of messages indicating that records were successfully sent to Kafka topics and acknowledged. The messages include keys and values for different topics like 'ItemTopic' and 'UserTopic'. A tooltip is visible over the console output, showing the same text as the line it points to. The taskbar at the bottom shows several open applications, including 'ACD...', 'ecli...', 'Des...', '[aca...', 'aca...', '\*ne...', 'asnt...', and 'aca...'.

```
<terminated> KafkaProducerWithAck [Java Application] /usr/java/jdk1.8.0_151/bin/java (Aug 18, 2018, 2:37:50 AM)
Record sent to topic:ItemTopic and acknowledged as well. Key:{"item_id":"101"},Value:{"user_id":"U101"}
Record sent to topic:UserTopic and acknowledged as well. Key:{"name":"John"},Value:{"exp":18}
Record sent to topic:ItemTopic and acknowledged as well. Key:{"item_id":"102"},Value:{"user_id":"U110"}
Record sent to topic:UserTopic and acknowledged as well. Key:{"name":"Mark"},Value:{"exp":18}
Record sent to topic:ItemTopic and acknowledged as well. Key:{"item_id":"102"},Value:{"user_id":"U110"}
Record sent to topic:UserTopic and acknowledged as well. Key:{"name":"Cylin"},Value:{"exp":15}
Record sent to topic:ItemTopic and acknowledged as well. Key:{"item_id":"102"},Value:{"user_id":"U101"}
Record sent to topic:UserTopic and acknowledged as well. Key:{"name":"Prod"},Value:{"exp":14}
Record sent to topic:ItemTopic and acknowledged as well. Key:{"item_id":"104"},Value:{"user_id":"U102"}
Record sent to topic:UserTopic and acknowledged as well. Key:{"name":"Abhay"},Value:{"exp":17}
Record sent to topic:ItemTopic and acknowledged as well. Key:{"item_id":"107"},Value:{"user_id":"U104"}
Record sent to topic:UserTopic and acknowledged as well. Key:{"name":"Misano"},Value:{"exp":19}
```

## APACHE KAFKA – II ASSIGNMENT

Verified the output in Kafka server as well:



The screenshot shows a Linux terminal window with the title bar 'Acadgild' and the date 'Sat Aug 18, 2:39 AM'. The terminal is running the Kafka console consumer command: `./bin/kafka-console-consumer.sh --topic UserTopic --from-beginning --zookeeper localhost:2181 --property print.key=true`. The output displays a list of users with their names and expiration dates. Below the first terminal window, a second terminal window is shown, running the same command but for the 'ItemTopic'. Its output displays a list of items with their item IDs and user IDs.

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1$ ./bin/kafka-console-consumer.sh --topic
c UserTopic --from-beginning \
> --zookeeper localhost: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 new consumer by passing [bootstrap-s
erver] instead of [zookeeper].
{"name":"Cylin"} {"exp":15}
{"name":"Cylin"} {"exp":15}
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"} {"exp":17}
{"name":"Misano"} {"exp":19}
{"name":"John"} {"exp":16}
{"name":"Mark"} {"exp":18}
{"name":"Prod"} {"exp":14}
{"name":"Abhay"} {"exp":17}
{"name":"Misano"} {"exp":19}

[...]
```

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1$ ./bin/kafka-console-consumer.sh --topic
c ItemTopic --from-beginning \
> --zookeeper localhost: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 new consumer by passing [bootstrap-s
erver] instead of [zookeeper].
{"item_id":"102"} {"user_id":"U110"}
{"item_id":"102"} {"user_id":"U101"}
{"item_id":"104"} {"user_id":"U102"}
{"item_id":"102"} {"user_id":"U110"}
{"item_id":"102"} {"user_id":"U101"}
{"item_id":"104"} {"user_id":"U102"}
{"item_id":"101"} {"user_id":"U101"}
{"item_id":"101"} {"user_id":"U106"}
{"item_id":"107"} {"user_id":"U104"}
{"item_id":"101"} {"user_id":"U101"}
{"item_id":"101"} {"user_id":"U106"}
{"item_id":"107"} {"user_id":"U104"}

[...]
```