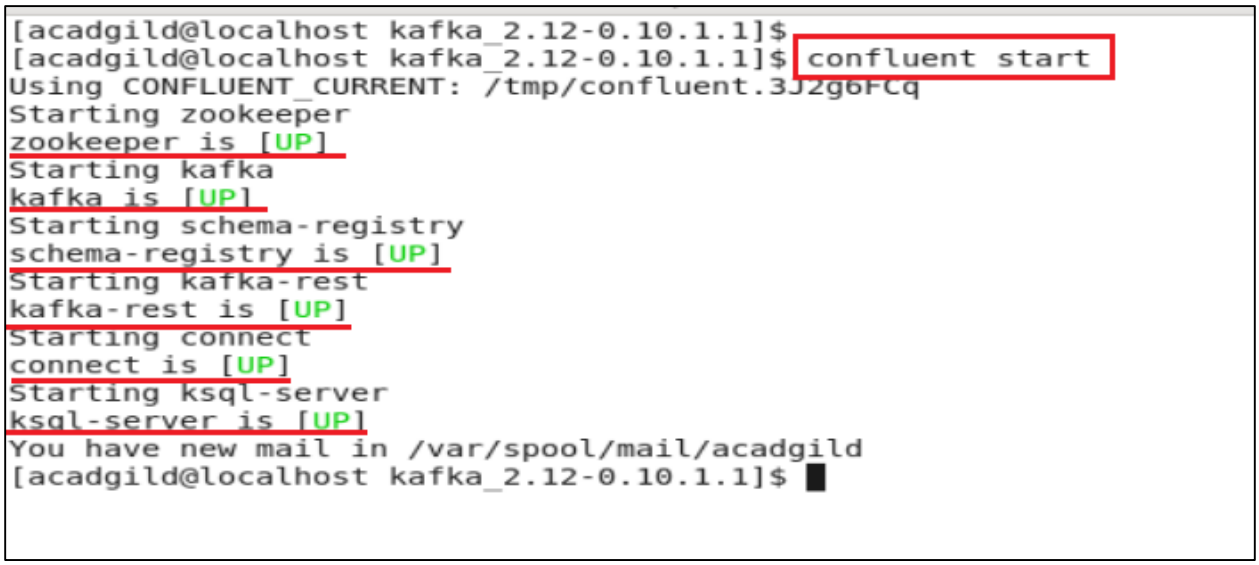
Session 23 – Apache Kafka - I

Assignment 1

Before creating a topic in Kafka, the Kafka broker and zookeeper need to be started. The following servies can be started by starting Confluent, as shown in the screenshot below.

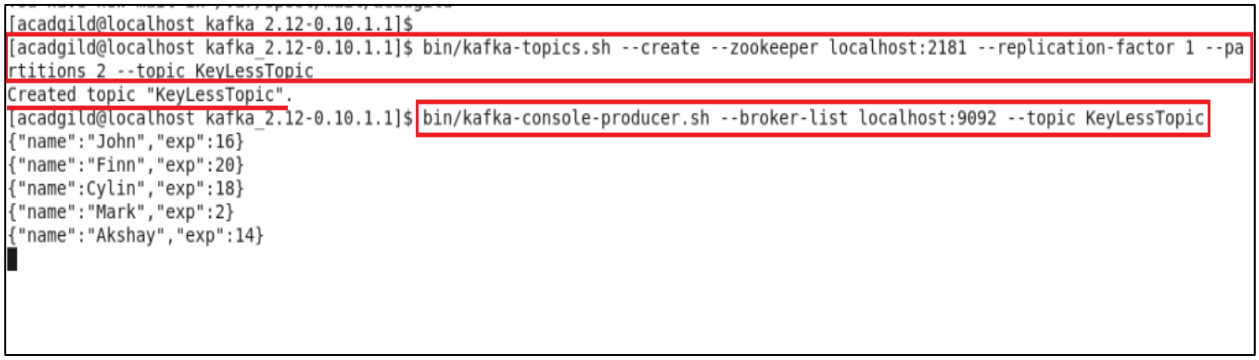
confluent start

Zookeeper is up and running and the kafka broker is also created.



Task 1:

Create a kafka topic named KeyLessTopic.
Inside KeyLessTopic insert following data:
{"name":"John", "exp":16}
{"name":"Finn", "exp":20}
{"name":"Cylin", "exp":18}
{"name":"Mark", "exp":2}
{"name":"Akshay", "exp":14}



Navigate to the KAFKA_HOME directory and execute the following command to create a topic in Kafka.

bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 2 --topic KeyLessTopic

The address and port of zookeeper is specified as one of the parameters. The replication factor of the topic is specified as a parameter and is set to 1. The number of partitions to be created from this topic in the broker are also specified as a parameter. The last parameter is the name of the topic to be created.

Once the command is run, a success message 'Created topic "KeyLessTopic"' is displayed.

To insert data into the topic, a console producer has to be created. The below command is used to create that.

bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyLessTopic

A console producer is created, all the lines entered in the console now will be inserted into the topic specified.

Task 2:

Create a console consumer that reads KeyLessTopic from beginning

```
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic KeyLessTopi
c --from-beginning
{"name":"Finn","exp":20}
{"name":"Mark","exp":2}
{"name":"John","exp":16}
{"name":Cylin","exp":18}
{"name":"Akshay","exp":14}
```

To read data from a topic, a console consumer has to be created. The following command creates a console consumer.

bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic KeyLessTopic --from-beginning

The topic to consume on is specified as a parameter. The –bootstrap-server is a required parameter used to specify the server to connect to.

The –from--beginning parameter specifies that the topic has to be read form the beginning.

Task 3:

Create a kafka topic named KeyedTopic. Inside KeyedTopic insert following data:
The part before comma(,) should be treated as key and after comma(,) should be treated as value
{"name":"John"},{"exp":16}
{"name":"Finn"},{"exp":20}
{"name":"Cylin"},{"exp":18}
{"name":"Mark"},{"exp":2}
{"name":"Akshay"},{"exp":14}

```
[acadgild@localhost kafka_2.12-0.10.1.1]$
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --pa
rtitions 2 --topic KeyedTopic
Created topic "KeyedTopic".
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyedTopic --pro
perty parse.key=true --property key.separator=','
{"name":"John"},{"exp":16}
{"name":"Finn"},{"exp":20}
{"name":"Cylin"},{"exp":18}
{"name":"Mark"},{"exp":2}
{"name":"Akshay"},{"exp":14}
^CYou have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$
```

Create a new topic named 'KeyedTopic'.

> *bin/kafka-topics.sh --create --zookeeper localhost:2181 --replication-factor 1 --partitions 2 --topic KeyedTopic*

While inserting data into the topic through console producer, two other parameters are passed as properties. These properties specify that keys are to be parsed and the delimiter between key and value is a comma.

> *bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyedTopic --property parse.key=true --property key.separator=','*

All the data entered after this command is hit is treated as keys and values based on the comma as aseparator.

Task 4:

Create a console consumer that reads KeyedTopic from beginning
The key and value should be separated by '-'

```
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost kafka_2.12-0.10.1.1]$ bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic KeyedTopic
--property print.key=true --property key.separator='-' --from-beginning
{"name":"Finn"}-{"exp":20}
{"name":"Cylin"}-{"exp":18}
{"name":"Akshay"}-{"exp":14}
{"name":"John"}-{"exp":16}
{"name":"Mark"}-{"exp":2}
```

While creating a console consumer to read from the topic, we specify the property print.key to be true so that the keys are printed on the console.

Also the separator between the key and value is specified the be '-'. And the last parameter is to specify that the topic has to be consumed from the beginning.

> *bin/kafka-console-consumer.sh --bootstrap-server localhost:9092 --topic KeyedTopic --property print.key=true --property key.separator='-' --from-beginning*

The keys and values are displayed on the console with '-' as the separator.