

To solve all the tasks we need to start the zookeeper and the Kafka broker as show below in the screen shots.

First, we will go to KAFKA directory by changing the directory path and run the command to start zookeeper server by using following commands

```
cd $KAFKA_HOME
```

```
./bin/zookeeper-server-start.sh ./config/zookeeper.properties
```

[illegible]

To start kafka server we use the below command in KAFKA home directory

**./bin/kafka-server-start.sh ./config/server.properties**

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1
[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-server-start.sh ./config/server.properties
[2018-05-23 00:44:01,368] 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
```

### **Task 1:** Create a kafka topic named KeyLessTopic.

We use the below command to create topic as shown in the screen shot.

**cd \$KAFKA\_HOME**

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

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

Now Inside KeyLessTopic let insert following data:

```
{"name":"John", "exp":16}
{"name":"Finn", "exp":20}
{"name":"Cylin", "exp":18}
{"name":"Mark", "exp":2}
{"name":"Akshay", "exp":14}
```

To insert the above data we will create kafka producer by using below command

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

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyLessTopic
{"name":"John", "exp":16}
{"name":"Finn", "exp":20}
{"name":"Cylin", "exp":18}
{"name":"Mark", "exp":2}
{"name":"Akshay", "exp":14}
```

### **Task 2:** Create a console consumer that reads KeyLessTopic from beginning

**./bin/kafka-console-consumer.sh --topic KeyLessTopic --from-beginning --zookeeper localhost:2181**

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic KeyLessTopic --from-beginning --zookeeper localhost:2181
Using the ConsoleConsumer with old consumer is deprecated and will be removed in a future major release. Consider using the new consumer by passing
nstead of [zookeeper].
{"name":"John", "exp":16}
{"name":"Finn", "exp":20}
{"name":"Cylin", "exp":18}
{"name":"Mark", "exp":2}
{"name":"Akshay", "exp":14}
```

### **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}
```

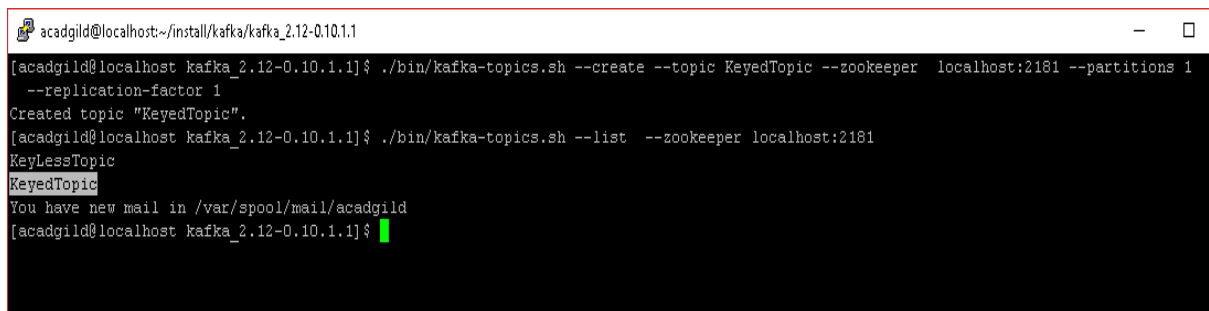
```
{"name":"Cylin"},{"exp":18}
```

```
{"name":"Mark"},{"exp":2}
```

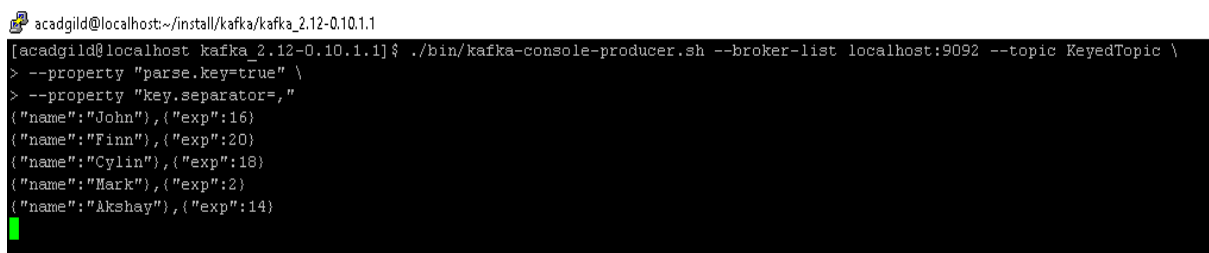
```
{"name":"Akshay"},{"exp":14}
```

To insert the above data in KeyedTopic Topic we use the below command

```
./bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyedTopic \  
--property "parse.key=true" \  
--property "key.separator=,"
```

A terminal window with a black background and white text. The prompt is 'acadgild@localhost:~/install/kafka/kafka\_2.12-0.10.1.1'. The user enters './bin/kafka-topics.sh --create --topic KeyedTopic --zookeeper localhost:2181 --partitions 1 --replication-factor 1'. The output is 'Created topic "KeyedTopic".'. Then the user enters './bin/kafka-topics.sh --list --zookeeper localhost:2181'. The output is 'KeyLessTopic' and 'KeyedTopic'. A notification 'You have new mail in /var/spool/mail/acadgild' appears. The prompt returns to 'acacgild@localhost kafka\_2.12-0.10.1.1\$' with a green cursor.

```
acacgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1  
[acacgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-topics.sh --create --topic KeyedTopic --zookeeper localhost:2181 --partitions 1  
--replication-factor 1  
Created topic "KeyedTopic".  
[acacgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-topics.sh --list --zookeeper localhost:2181  
KeyLessTopic  
KeyedTopic  
You have new mail in /var/spool/mail/acacgild  
[acacgild@localhost kafka_2.12-0.10.1.1]$
```

A terminal window with a black background and white text. The prompt is 'acacgild@localhost:~/install/kafka/kafka\_2.12-0.10.1.1'. The user enters './bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyedTopic \> --property "parse.key=true" \> --property "key.separator=,"'. The output is five lines of JSON data: '{"name":"John"}, {"exp":16}', '{"name":"Finn"}, {"exp":20}', '{"name":"Cylin"}, {"exp":18}', '{"name":"Mark"}, {"exp":2}', and '{"name":"Akshay"}, {"exp":14}'. A green cursor is at the end of the last line.

```
acacgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1  
[acacgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-producer.sh --broker-list localhost:9092 --topic KeyedTopic \  
> --property "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 }
```

To read the data on consumer side with key value separator we use the below command

```
./bin/kafka-console-consumer.sh --topic KeyedTopic --from-beginning \  
--zookeeper localhost:2181 \  
--property print.key=true
```

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1  
[acadgild@localhost ~]$ cd $KAFKA_HOME  
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic KeyedTopic --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  
instead of [zookeeper].  
{ "name": "John" } { "exp": 16}  
{ "name": "Finn" } { "exp": 20}  
{ "name": "Cylin" } { "exp": 18}  
{ "name": "Mark" } { "exp": 2}  
{ "name": "Akshay" } { "exp": 14}  
{ "name": "John" } { "exp": 16}  
{ "name": "Finn" } { "exp": 20}  
{ "name": "Cylin" } { "exp": 18}  
{ "name": "Mark" } { "exp": 2}  
{ "name": "Akshay" } { "exp": 14}
```

**Task 4:** Create a console consumer that reads KeyedTopic from beginning

The key and value should be separated by '-'

To read the data on consumer side with key value separator "-" we use the below command

```
./bin/kafka-console-consumer.sh --topic KeyedTopic --from-beginning \  
--zookeeper localhost:2181 \  
--property print.key=true \  
--property key.separator="-" \  
--from-beginning
```

```
acadgild@localhost:~/install/kafka/kafka_2.12-0.10.1.1  
[acadgild@localhost kafka_2.12-0.10.1.1]$ ./bin/kafka-console-consumer.sh --topic KeyedTopic --from-beginning \  
> --zookeeper localhost:2181 \  
> --property print.key=true \  
> --property key.separator="-" \  
> --from-beginning  
Using the ConsoleConsumer with old consumer is deprecated and will be removed in a future major release. Consider  
[bootstrap-server] instead of [zookeeper].  
{ "name": "John" }-{ "exp": 16}  
{ "name": "Finn" }-{ "exp": 20}  
{ "name": "Cylin" }-{ "exp": 18}  
{ "name": "Mark" }-{ "exp": 2}  
{ "name": "Akshay" }-{ "exp": 14}
```