**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Kafka\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Kafka-Installation\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

1)Create kafka-logs and zookeeper folder in kafka installation directory and specify that path in the zookeeper.properties and server.properties file. As follows.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* zookeeper.properties \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# the directory where the snapshot is stored.

#dataDir=/tmp/zookeeper

dataDir=C:/kafka/zookeeper

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* server.properties \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

# A comma separated list of directories under which to store log files-

#log.dirs=/tmp/kafka-logs

log.dirs=C:/kafka/kafka-logs

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*x\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

You can create server1.proerties or server2 properties depending on no of brokers you want to create on different port number. Broker should have unique id with unique port number

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Start Zookeeper server\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka> .\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Start Kafka server\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka> .\bin\windows\kafka-server-start.bat .\config\server.properties

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Create Topics\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka> .\bin\windows\kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 2 --partitions 3 -topic MovieTopic

WARNING: Due to limitations in metric names, topics with a period ('.') or underscore ('\_') could collide. To avoid issues it is best to use either, but not both.

Created topic MovieTopic.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Check Topic is created or not\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka> .\bin\windows\kafka-topics.bat --list --zookeeper localhost:2181

CgMovieTopics

MovieTopic

MovieTopic1

Movie\_Topic

\_\_consumer\_offsets

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Consume from Kafka using groups\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

## Consume from the Kafka Topic via Console

C:\kafka> .\bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic MovieTopic --from-beginning --group vaishaligroup1

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*Produce the messages using producer console\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka> .\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 –topic MovieTopic

>Hello all

>how r u

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Produce the message in the topics which is not existing\*\***

C:\kafka> .\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 -topic MovieTopic1

>hi

[2021-07-29 17:15:17,988] WARN [Producer clientId=console-producer] Error while fetching metadata with correlation id 3 : {MovieTopic1=LEADER\_NOT\_AVAILABLE} (org.apache.kafka.clients.NetworkClient)

>

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Describe topics\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka> .\bin\windows\kafka-topics.bat --describe --zookeeper localhost:2181 --topic MovieTopic

Topic: MovieTopic TopicId: 8vrLwhUSTC6PSlN3i4sU5Q PartitionCount: 3 ReplicationFactor: 1 Configs:

Topic: MovieTopic Partition: 0 Leader: 0 Replicas: 0 Isr: 0

Topic: MovieTopic Partition: 1 Leader: 0 Replicas: 0 Isr: 0

Topic: MovieTopic Partition: 2 Leader: 0 Replicas: 0 Isr: 0

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Delete Topic\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

C:\kafka>.\bin\windows\kafka-topics.bat --delete --zookeeper localhost:2181 -topic Movie\_Topic

Topic Movie\_Topic is marked for deletion.

Note: This will have no impact if delete.topic.enable is not set to true.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Installation Kafka End\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*X\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**List consumer groups command**

**And**

* **C:\kafka> .\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 –list**
* **C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 -describe -group vaishaligroup1**
* If u stop consumer and producer produce message and consumer lags with message as follows.

**C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 -describe -group vaishaligroup1**

Consumer group 'vaishaligroup1' has no active members.

GROUP TOPIC PARTITION CURRENT-OFFSET LOG-END-OFFSET LAG CONSUMER-ID HOST CLIENT-ID

vaishaligroup MovieTopic 1 9 11 2 - - -

vaishaligroup MovieTopic 2 2 3 1 - - -

vaishaligroup MovieTopic 0 9 9 0 - - -

-------------------------------------------------X--------------------------------------------------------------

Stop the vaishaligroup1 consumer and run following command

**C:\kafka> .\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group vaishaligroup1 --reset-offsets --to-earliest --execute --topic MovieTopic**

GROUP TOPIC PARTITION NEW-OFFSET

vaishaligroup MovieTopic 0 0

vaishaligroup MovieTopic 1 0

vaishaligroup MovieTopic 2 0

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Not let producer produce message as follows.

C:\kafka>.\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 -topic MovieTopic

>hi

>hello

>g1

>g2

>g3

>g4

>g5

>g6

>hi

>hi

>group-1 activw

>deactivated

>group-1 deactivated

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**C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group vaishaligroup1 --describe**

Consumer group 'vaishaligroup1' has no active members.

GROUP TOPIC PARTITION CURRENT-OFFSET LOG-END-OFFSET LAG CONSUMER-ID HOST CLIENT-ID

vaishaligroup1 MovieTopic 1 0 4 4 - - -

vaishaligroup1 MovieTopic 2 0 5 5 - - -

vaishaligroup1 MovieTopic 0 0 4 4 - -

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**Start consumer now**

**C:\kafka>.\bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic MovieTopic --from-beginning --group vaishaligroup1**

g3

g5

hi

hi

hi

g1

g4

group-1 activw

group-1 deactivated

hello

g2

g6

deactivated

----------------------------------------X------------------------

**C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group vaishaligroup1 --describe**

GROUP TOPIC PARTITION CURRENT-OFFSET LOG-END-OFFSET LAG CONSUMER-ID HOST CLIENT-ID

vaishaligroup1 MovieTopic 0 4 4 0 consumer-vaishaligroup1-1-d2ad96a2-6792-4a8c-8643-cbf42a787f52 /192.168.1.6 consumer-vaishaligroup1-1

vaishaligroup1 MovieTopic 1 4 4 0 consumer-vaishaligroup1-1-d2ad96a2-6792-4a8c-8643-cbf42a787f52 /192.168.1.6 consumer-vaishaligroup1-1

vaishaligroup1 MovieTopic 2 5 5 0 consumer-vaishaligroup1-1-d2ad96a2-6792-4a8c-8643-cbf42a787f52 /192.168.1.6 consumer-vaishaligroup1-1

**-------------------------X-----------------------------**

**Now again stop consumer**

C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group vaishaligroup1 --reset-offsets --shift-by 2 --execute --topic MovieTopic

[2021-07-30 21:15:36,922] WARN New offset (6) is higher than latest offset for topic partition MovieTopic-0. Value will be set to 4 (kafka.admin.ConsumerGroupCommand$)

[2021-07-30 21:15:36,923] WARN New offset (6) is higher than latest offset for topic partition MovieTopic-1. Value will be set to 4 (kafka.admin.ConsumerGroupCommand$)

[2021-07-30 21:15:36,924] WARN New offset (7) is higher than latest offset for topic partition MovieTopic-2. Value will be set to 5 (kafka.admin.ConsumerGroupCommand$)

GROUP TOPIC PARTITION NEW-OFFSET

vaishaligroup1 MovieTopic 0 4

vaishaligroup1 MovieTopic 1 4

vaishaligroup1 MovieTopic 2 5

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**Now start consumer**

And run following command

**C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group vaishaligroup1 --reset-offsets --shift-by -2 --execute --topic MovieTopic**

GROUP TOPIC PARTITION NEW-OFFSET

vaishaligroup1 MovieTopic 0 3

vaishaligroup1 MovieTopic 1 3

vaishaligroup1 MovieTopic 2 3

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**C:\kafka>.\bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic MovieTopic --from-beginning --group vaishaligroup1**

hi

started 1

group-1 activw

group-1 deactivated

deactivated

strted 2

**--------------------------X-------------------------------------------------------------**

**Start Producer Console using Key Value**

**C:\kafka>.\bin\windows\kafka-console-producer --broker-list 127.0.0.1:9092 --topic MovieTopic --property parse.key=true --property key.separator=,**

>1,hi

>2,hello

>3,vaishali

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**----Start zookekeeper server------------------**

**C:\kafka> .\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties**

**---------Start kafka server------------**

**.\bin\windows\kafka-server-start.bat .\config\server.properties**

**--------------create topic---------------**

**.\bin\windows\kafka-topics.bat --create --bootstrap-server localhost:9092 --replication-factor 1 --partitions 3 -topic MovieTopic**

**-------------------produce mesages in the topic**

**> .\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 –topic MovieTopic**

**------------consume messages in the**

**## Consume from the Kafka Topic via Console**

**.\bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic MovieTopic --from-beginning --group vaishaligroup1**

**------------------------describe kafaka topics**

**> .\bin\windows\kafka-topics.bat --describe --zookeeper localhost:2181 --topic MovieTopic**

**---------------list groups------------------------**

**\C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --list**

**--------------describe groups----------------**

**C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --describe --group TraingGroup**

**-----------------------Rest Offset for the group----------**

**C:\kafka>.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group trainingGroup --reset-offsets --to-earliest --execute --topic MovieTopic**

**------------------shift Offset-----------------**

**.\bin\windows\kafka-consumer-groups.bat --bootstrap-server localhost:9092 --group trainingGroup --reset-offsets --shift-by 2 --execute --topic MovieTopic**

**-------------------stream input topic-----------------------------**

**C:\kafka>.\bin\windows\kafka-topics.bat --create --bootstrap-server localhost:9092 --replication-factor 1 --partitions 3 -topic word-count-input**

**-------------------------output topics**

**C:\kafka>.\bin\windows\kafka-topics.bat --create --bootstrap-server localhost:9092 --replication-factor 1 --partitions 3 -topic word-count-output**

**--------start consumer-----------**

**.\bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic word-count-output --from-beginning --formatter kafka.tools.DefaultMessageFormatter --property print.key=true --property print.value=true --property key.deserializer=org.apache.kafka.common.serialization.StringDeserializer --property value.deserializer=org.apache.kafka.common.serialization.LongDeserializer**

**----------------employee satary topics**

**.\bin\windows\kafka-topics.bat --create --bootstrap-server localhost:9092 --replication-factor 1 --partitions 3 -topic employee-salary-compact**

**-------------start consumer with key and value as comma separator**

**.\bin\windows\kafka-console-consumer --bootstrap-server localhost:9092 --topic employee-salary-compact --from-beginning --property print.key =true --property key.separator=,**

**--------------create topics with compaction policcy--------\\**

**.\bin\windows\kafka-topics --create --bootstrap-server localhost:9092 --topic employee-salary-compact-1 --partitions 1 --replication-factor 1 --config cleanup.policy=compact --config min.cleanable.dirty.ratio=0.005 --config segment.ms=10000**

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**.\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic employee-salary-compact-2 --property "parse.key=true" --property "key.separartor=,"**

**.\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic employee-salary-compact-2 --property "parse.key=true" --property "key.separator=:"**

**.\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties**

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**.\bin\windows\kafka-topics --create --bootstrap-server localhost:9092 --topic employee-salary-compact-3 --partitions 1 --replication-factor 1 --config cleanup.policy=compact**

**---------------------Demo3----------------**

**• open a shell - zookeeper is at localhost:2181 and run following command to start zookeeper**

**bin\windows\zookeeper-server-start.bat config\zookeeper.properties**

**---------------------------2--------------------------------------**

**• rem open another shell - kafka is at localhost:9092 and type following command.**

**bin\windows\kafka-server-start.bat config\server.properties**

**---------------------------------3------------------------------------------**

**rem create input topic with one partition to get full ordering**

**bin\windows\kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1 --topic favourite-colour-input**

**---------------------------------4-----------------------------------------------**

**rem create intermediary log compacted topic**

**bin\windows\kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1 --topic user-keys-and-colours --config cleanup.policy=compact**

**--------------------------------5------------------------------------**

**rem create output log compacted topic**

**bin\windows\kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1 --topic favourite-colour-output --config cleanup.policy=compact**

**--------------------------------6-----------------------------------------**

**rem launch a Kafka consumer**

**bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 ^**

**--topic favourite-colour-output ^**

**--from-beginning ^**

**--formatter kafka.tools.DefaultMessageFormatter ^**

**--property print.key=true ^**

**--property print.value=true ^**

**--property key.deserializer=org.apache.kafka.common.serialization.StringDeserializer ^**

**--property value.deserializer=org.apache.kafka.common.serialization.LongDeserializer**

**------------------------------7-----------------------------------**

**.\bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic employee-salary-compact-2  --property "parse.key=true" --property "key.separator=:"**