Kafka Assignments

1. Perform the following operations using the Kafka command-line tools.
    a. Create a topic called *users* with 1 partition and replication factor of 1
    b. Produce simple messages to the *users* topic using Kafka Console Producer
    c. Consume the messages from the users topic using Kafka console consumer

2. Setup a Kafka cluster with three brokers on your local machine (using single node multi-broker architecture). Have the different brokers run in different ports by making appropriate changes in the configuration files

3. Using single-node multi-broker setup as described in assignment 2, do the following:
    a. Create a topic called “logs” with 3 partitions and a replication factor of 3.
    b. Describe the topic to understand in broker are the leader and in-sync replicas of your topic.
    c. Produce some log messages to the “logs” topic as key-value pairs where log-level is the key and log message is the value. Ex: A message can look like “WARN: Message not properly formatted”. Use Kafka console producer for doing this.
    d. Launch three instances of Kafka Console Consumers as a consumer group and demonstrate how messages are distributed across three partitions and how each consumer in the group is consuming from each of the three partitions.

4. Write a simple Java/Scala client application using Kafka Producer API to producer messages to the “logs” topic. Using Fire-and-Forget approach for fastest message delivery.

5. Write a simple Java/Scala client application using Kafka Consumer API to consume the data from the “logs” topic. Print the log messages on the Console. Turn-off auto-commit and explicit commit the messages from the application