**Lab Setup for Kafka with .Net**

1. Download “Visual Studio Express” and install the .Net Core Framework for Console Applications Module  
   * <https://visualstudio.microsoft.com/vs/express/>
2. Install Kafka 2.11 or any other version that you like:
   * <https://kafka.apache.org/downloads>

**Getting Started with Kafka**

* Open a new windows terminal and start the zookeeper service:

C:\kafka\_2.11-2.1.0> **.\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties**

* Open a new windows terminal and start the Kafka broker service.

C:\kafka\_2.11-2.1.0> .\**bin\windows\kafka-server-start.bat config\server.properties**

* Open a new windows terminal and create a topic.

C:\kafka\_2.11-2.1.0> .\**bin\windows\kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1 --topic topic-1**

* Open a new windows terminal and start a console producer.

C:\kafka\_2.11-2.1.0> .\**bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic topic-1**

* Open a new windows terminal and start a console consumer.

C:\kafka\_2.11-2.1.0> .\**bin\windows\kafka-console-consumer.bat –bootstrap-server localhost:9092 --topic topic-1**

Read all messages from beginning--

.\**bin\windows\kafka-console-consumer.bat –bootstrap-server localhost:9092 --topic topic-1 –-from-begining**

* Produce some message at the producer side and see if they are consumed by the consumer.

**Creating a simple .Net Console Application (using command line)**

**C:>mkdir <dir-name>**

**C:>cd <dir-name>**

**C:>dotnet new console**

**C:>dotnet add package Confluent.Kafka**

**Building & Running the Console App**

**C:>dotnet build -c Release**

**C:>dotnet bin/Release/netcoreapp2.1/<app>.dll**

**Docker and Confluent Kafka installation:**

**Download Docker toolbox using the following link and install:**

<https://github.com/docker/toolbox/releases/tag/v18.09.3>

**Download Confluent Kafka docker image using the following link:**

<https://github.com/confluentinc/cp-docker-images>

**New Broker1**

**server2.properties**

**broker.Id = 1**

**listeners=PLAINTEXT://:9093**

**log.dirs=/tmp/kafka-logs-1**

C:\kafka\_2.11-2.1.0> .\**bin\windows\kafka-server-start.bat config\server2.properties**

**Get list of Brokers -**

**C:\kafka\_2.11-2.1.1>bin\windows\zookeeper-shell.bat localhost:2181 ls /brokers/ids**

**Connecting to localhost:2181**

**WATCHER::**

**[0, 1, 2, 3]**

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**Create topic -**

.\**bin\windows\kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 4 --partitions 12 --topic topic-4**

**Describe -**

.\**bin\windows\kafka-topics.bat --describe --zookeeper localhost:2181 --topic topic-4**

**C:\kafka\_2.11-2.1.1>.\bin\windows\kafka-topics.bat --describe --zookeeper localhost:2181 --topic topic-4**

**Topic:topic-4 PartitionCount:12 ReplicationFactor:4 Configs:**

**Topic: topic-4 Partition: 0 Leader: 3 Replicas: 3,0,1,2 Isr: 3,0,1,2**

**Topic: topic-4 Partition: 1 Leader: 0 Replicas: 0,1,2,3 Isr: 0,1,2,3**

**Topic: topic-4 Partition: 2 Leader: 1 Replicas: 1,2,3,0 Isr: 1,2,3,0**

**Topic: topic-4 Partition: 3 Leader: 2 Replicas: 2,3,0,1 Isr: 2,3,0,1**

**Topic: topic-4 Partition: 4 Leader: 3 Replicas: 3,1,2,0 Isr: 3,1,2,0**

**Topic: topic-4 Partition: 5 Leader: 0 Replicas: 0,2,3,1 Isr: 0,2,3,1**

**Topic: topic-4 Partition: 6 Leader: 1 Replicas: 1,3,0,2 Isr: 1,3,0,2**

**Topic: topic-4 Partition: 7 Leader: 2 Replicas: 2,0,1,3 Isr: 2,0,1,3**

**Topic: topic-4 Partition: 8 Leader: 3 Replicas: 3,2,0,1 Isr: 3,2,0,1**

**Topic: topic-4 Partition: 9 Leader: 0 Replicas: 0,3,1,2 Isr: 0,3,1,2**

**Topic: topic-4 Partition: 10 Leader: 1 Replicas: 1,0,2,3 Isr: 1,0,2,3**

**Topic: topic-4 Partition: 11 Leader: 2 Replicas: 2,1,3,0 Isr: 2,1,3,0**

.\**bin\windows\kafka-console-producer.bat --broker-list** 10.116.10.69**:9092 --topic topic-1**

.\**bin\windows\kafka-console-consumer.bat –bootstrap-server** 10.116.10.69**:9092 --topic topic-1**

**Create multiple instances and produce message and consumed by**

C:\kafka\_2.11-2.1.0> .\**bin\windows\kafka-console-consumer.bat –bootstrap-server localhost:9093 --topic topic-4 –consumer.config ./config/consumer.properties**

**C:\kafka\_2.11-2.1.1\bin\windows\kafka-run-class.bat – update line#104**

IF ["%KAFKA\_JMX\_OPTS%"] EQU [""] (

            set KAFKA\_JMX\_OPTS=-Dcom.sun.management.jmxremote -Djava.rmi.server.hostname=[127.0.0.1] -Dcom.sun.management.jmxremote.authenticate=false -Dcom.sun.management.jmxremote.ssl=false

)

**C:\Program Files\Java\jdk1.8.0\_211\bin jvisualvm**