Assignment 2 _Group 6

Baochen Hu & Ning Zhang

Kafka word count:

Python:

1. Start Zookeeper

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

2. configuration

/config/server.properties

```
host.name = localhost
advertised.host.name = localhost
```

3. Start Kafka Broker

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

4. create topic

```
bin/kafka-topics.sh —create —zookeeper localhost:2181 —replication-factor 1 — partitions 1 —topic test
bin/kafka-topics.sh —list —zookeeper localhost:2181
```

5. Start a Producer

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

6. Start a consumer

```
bin/kafka-console-consumer.sh --zookeeper localhost:2181 --topic test --from-beginning
```

7. download a relieable jar, and put it in /external/kafka-assembly

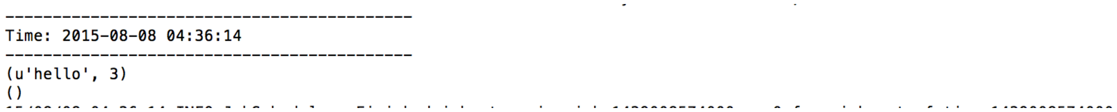
```
wget http://search.maven.org/remotecontent?filepath=org/apache/spark/spark-streaming-kafka-assembly_2.10/1.4.0/spark-streaming-kafka-assembly_2.10-1.4.0.jar
```

6.

```
bin/spark-submit --jars external/kafka-assembly/spark-streaming-kafka-assembly_2.10-1.4.0.jar examples/src/main/python/streaming/kafka_wordcount.py localhost:2181 test
```

Scala:

```
bin/run-example org.apache.spark.examples.streaming.KafkaWordCount localhost:2181
test-consumer-group test 1
```



```
-------------------------------------------
Time: 2015-08-08 04:36:14
-------------------------------------------
(u'hello', 3)
()
```

Flume word count

1. apt-get http://apache.arvixe.com/flume/1.6.0/apache-flume-1.6.0-bin.tar.gz
2.tar -xvz apache-flume-1.6.0-bin.tar.gz
3.add config.properies file.

```
 a1.sources = r1

  a1.sinks = k1

a1.channels = c1

# Describe/configure the source

a1.sources.r1.type = netcat

a1.sources.r1.bind = 127.0.0.1

a1.sources.r1.port = 44444



# Describe the sink

#a1.sinks = avroSink

a1.sinks.k1.type = avro

a1.sinks.k1.channel = memoryChannel

a1.sinks.k1.hostname = 127.0.0.1

a1.sinks.k1.port = 8989

#a1.sinks.k1.type = logger
```

# Use a channel which buffers events in memory

a1.channels.c1.type = memory

a1.channels.c1.capacity = 5

a1.channels.c1.transactionCapacity = 5

# Bind the source and sink to the channel

a1.sources.r1.channels = c1

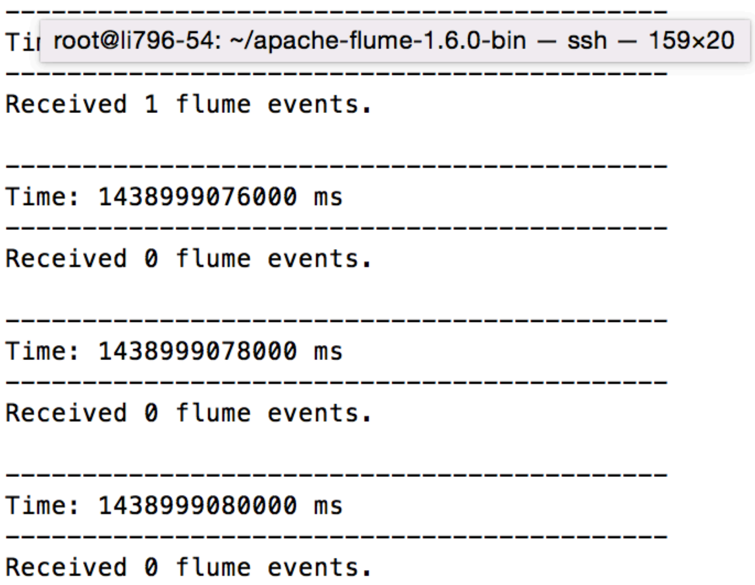
a1.sinks.k1.channel = c1

4.bin/flume-ng agent --conf conf --conf-file conf/flume-spark-integration.properties --name a1 -Dflume.root.logger=INFO,console

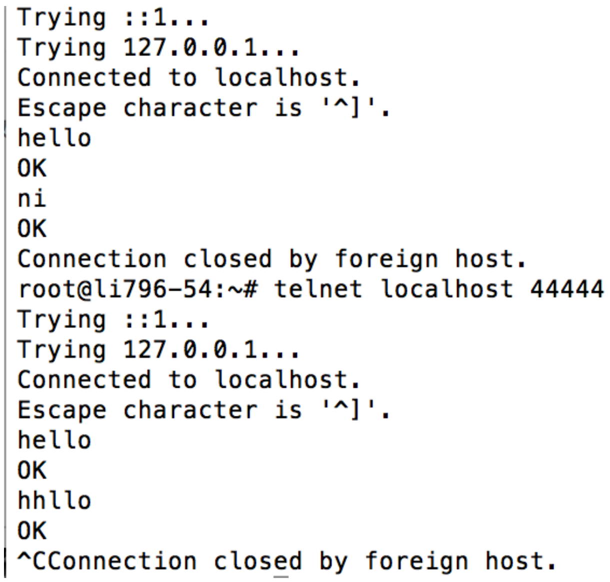
5. open another terminal: telnet localhost 44444

6.open another terminal: bin/run-example org.apache.spark.examples.streaming.FlumeEventCount 127.0.0.1 8989

NOTE: This should be ran first.



```
---------------------------------------------
Ti
---------------------------------------------
Received 1 flume events.

---------------------------------------------
Time: 1438999076000 ms
---------------------------------------------
Received 0 flume events.

---------------------------------------------
Time: 1438999078000 ms
---------------------------------------------
Received 0 flume events.

---------------------------------------------
Time: 1438999080000 ms
---------------------------------------------
Received 0 flume events.
```



```
Trying ::1...
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
hello
OK
ni
OK
Connection closed by foreign host.
root@li796-54:~# telnet localhost 44444
Trying ::1...
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
hello
OK
hhllo
OK
^CConnection closed by foreign host.
```

HDFS word count:

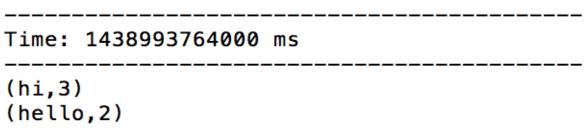
```
hadoop fs -ls /user
hadoop fs -mkdir /user/ningzhang/sparkStreaming
```

scala:

```
Counts words in new text files created in the given directory
 * Usage: HdfsWordCount <directory>
 *   <directory> is the directory that Spark Streaming will use to find and read new text f
iles.
 *
 * To run this on your local machine on directory `localdir`, run this example
 *    $ bin/run-example \
 *       org.apache.spark.examples.streaming.HdfsWordCount localdir
 *
 * Then create a text file in `localdir` and the words in the file will get counted.
 */
```

```
bin/run-example org.apache.spark.examples.streaming.HdfsWordCount
hdfs://ec2-52-2-200-145.compute-1.amazonaws.com/data/
```

```
hdfs dfs -copyFromLocal /home/hadoop/txtFile/hello.txt
hdfs://ec2-52-2-200-145.compute-1.amazonaws.com/data/hello1
```



```
-------------------------------------------
Time: 1438993764000 ms
-------------------------------------------
(hi,3)
(hello,2)
```

MQTT word count:

Install mosquitto:

1.http://mosquitto.org/download/

For Centos

Add the CentOS mosquitto repository to YUM's list of repositories

```
$ cd /etc/yum/yum.repos.d
$ sudo
wget http://download.opensuse.org/repositories/home:/oojah:/mqtt/CentOS_CentO...
$ sudo yum update
$ sudo yum install mosquitto
```

As of writing, no init.d script exists for the CentOS distribution of mosquitto. However, it is a simple enough matter to set it running as a daemon, you'll just need to restart it yourself whenever your machine gets restarted

```
1. $ sudo su
2. $ /usr/sbin/mosquitto -d -c /etc/mosquitto/mosquitto.conf > /var/log/mosquitto.log
        2>&1
```

```
$mosquitto
```

To run this example locally, you may run publisher as

```
bin/run-example
org.apache.spark.examples.streaming.MQTTPublisher tcp://localhost:1883 foo
bin/run-example
org.apache.spark.examples.streaming.MQTTWordCount tcp://localhost:1883 foo
```

TwitterPopularTags:

scala:

1.

```
./bin/run-example org.apache.spark.examples.streaming.TwitterPopularTags
fLFWZflOEZbUhPjhtfYvtmycy
iPGu1R7NGTt8SQkRpmFC1OfSs3VOC6vJwhzBP7yhABYTnzNvde
2612760793-cSRGyHgdIByaMeQZojsB6HYCJaPw9rgYsokbqjL
CAcXdrOf7XDnWOUrc94fdawucDs56Ylz7GZRtRpFRDnil
```

http://spark.apache.org/docs/latest/quick-start.html

1. install sbt

```
sudo yum update
```

```
curl https://bintray.com/sbt/rpm/rpm | sudo tee
/etc/yum.repos.d/bintray-sbt-rpm.repo
sudo yum install sbt
```

2. dependency: simple.sbt

```
name := "Simple Project"
version := "1.0"
scalaVersion := "2.10.4"
libraryDependencies ++= Seq(
 "org.apache.spark" %% "spark-core" % "1.4.1",
 "org.apache.spark" %% "spark-streaming" % "1.4.1",
 "org.apache.spark" %% "spark-streaming-twitter" % "1.4.1"
)
```

```
vi   TwitterPopularTags.scala
/*     StreamingExamples.setStreamingLogLevels() */
```

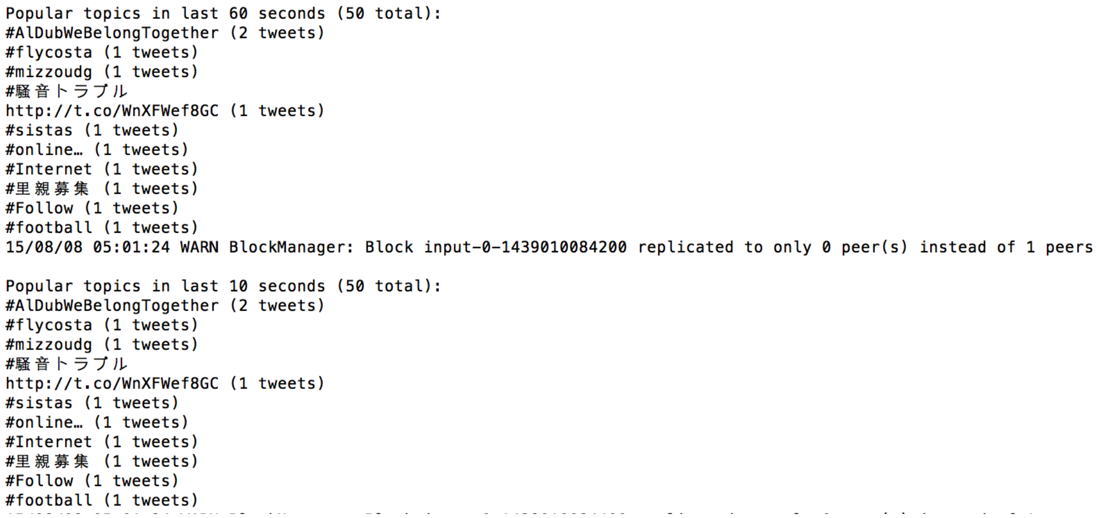
3. sbt package

4. go to twitter developer to get token
https://apps.twitter.com/app/new

```
Consumer Key (API Key)      fLFWZflOEZbUhPjhtfYvtmycy
Consumer Secret (API
Secret)      iPGu1R7NGTt8SQkRpmFC1OfSs3VOC6vJwhzBP7yhABYTnzNvde
Access Token     2612760793-cSRGyHgdIByaMeQZojsB6HYCJaPw9rgYsokbqjL
Access Token      Secret CAcXdrOf7XDnWOUrc94fdawucDs56Ylz7GZRtRpFRDnil
```

5.

```
./../../../usr/lib/spark/bin/spark-submit
twitterPopularTags/target/scala-2.10/simple-project_2.10-1.0.jar
fLFWZflOEZbUhPjhtfYvtmycy
iPGu1R7NGTt8SQkRpmFC1OfSs3VOC6vJwhzBP7yhABYTnzNvde
2612760793-cSRGyHgdIByaMeQZojsB6HYCJaPw9rgYsokbqjL
CAcXdrOf7XDnWOUrc94fdawucDs56Ylz7GZRtRpFRDnil
```



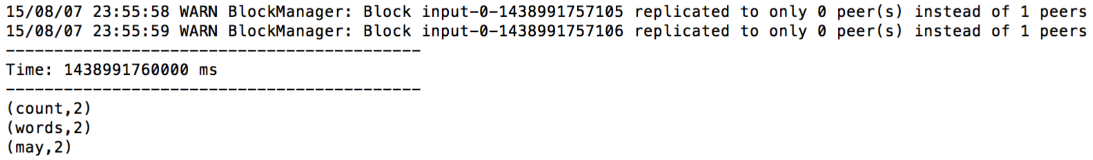
```
Popular topics in last 60 seconds (50 total):
#AlDubWeBelongTogether (2 tweets)
#flycosta (1 tweets)
#mizzoudg (1 tweets)
#騒音トラブル
http://t.co/WnXFWef8GC (1 tweets)
#sistas (1 tweets)
#online… (1 tweets)
#Internet (1 tweets)
#里親募集 (1 tweets)
#Follow (1 tweets)
#football (1 tweets)
15/08/08 05:01:24 WARN BlockManager: Block input-0-1439010084200 replicated to only 0 peer(s) instead of 1 peers

Popular topics in last 10 seconds (50 total):
#AlDubWeBelongTogether (2 tweets)
#flycosta (1 tweets)
#mizzoudg (1 tweets)
#騒音トラブル
http://t.co/WnXFWef8GC (1 tweets)
#sistas (1 tweets)
#online… (1 tweets)
#Internet (1 tweets)
#里親募集 (1 tweets)
#Follow (1 tweets)
#football (1 tweets)
```

ZeroMQ word count:

Install ZeroMQ:
https://www.digitalocean.com/community/tutorials/how-to-install-zeromq-from-source-on-a-centos-6-x64-vps

wget http://download.zeromq.org/zeromq-2.1.10.tar.gz
2.0.10

bin/run-example org.apache.spark.examples.streaming.SimpleZeroMQPublisher tcp://127.0.1.1:1234 foo.bar
bin/run-example org.apache.spark.examples.streaming.ZeroMQWordCount tcp://127.0.1.1:1234 foo



```
15/08/07 23:55:58 WARN BlockManager: Block input-0-1438991757105 replicated to only 0 peer(s) instead of 1 peers
15/08/07 23:55:59 WARN BlockManager: Block input-0-1438991757106 replicated to only 0 peer(s) instead of 1 peers
-------------------------------------------
Time: 1438991760000 ms
-------------------------------------------
(count,2)
(words,2)
(may,2)
```