Vijay's Assignment – Spark Streaming2

There are two parts this case study

▪ First Part - You have to create a Spark Application which streams data from a file on local directory on your machine and does the word count on the fly. The word should be done by the spark application in such a way that as soon as you drop the file in your local directory, your spark application should immediately do the word count for you.

What did I do?

1) Created a folder C:\Users\VIJAYLAKSHMANAN\spark\input
2) Spark streaming code given below monitors this folder for any "new" files copied to it.
3) Once a file is received, it runs a flatmap to remove all the hierarchical lines and then map to suffix 1 to each word. Using reduceByKey function each word (key) occurance is counted
4) The file uploaded has data separed by ","

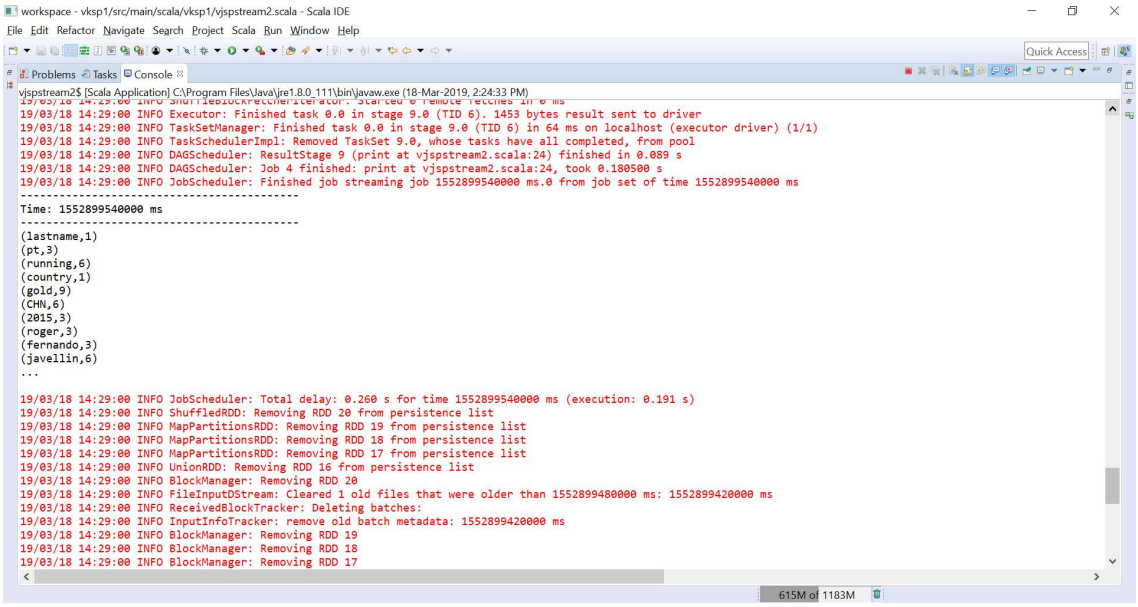
sports1.txt

5)

Code:

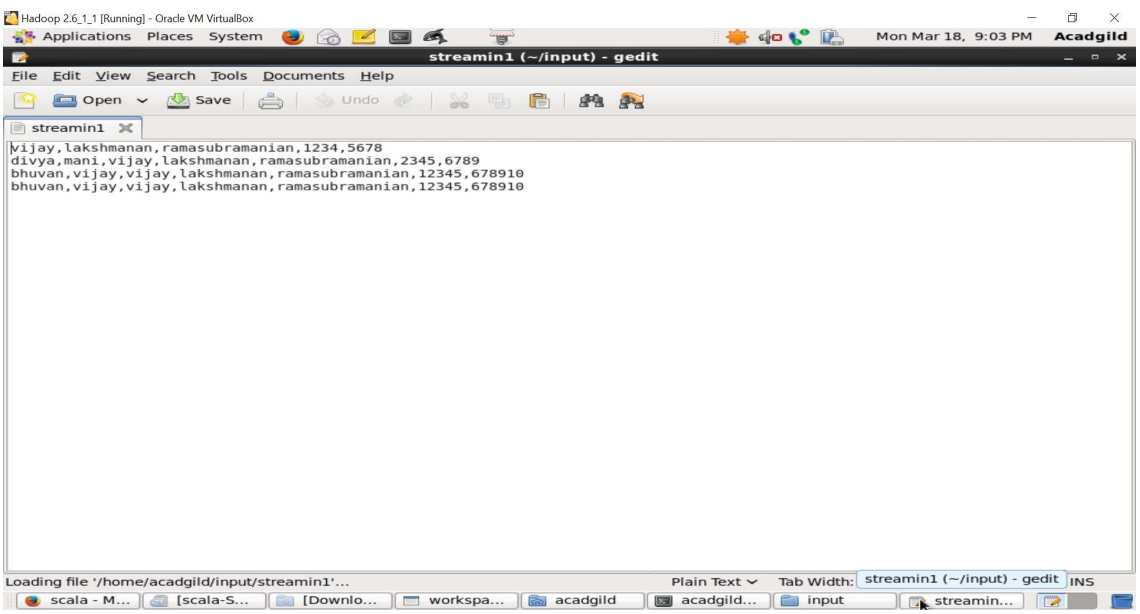
```
package vksp1
import org.apache.spark.SparkConf
import org.apache.spark.SparkContext
import org.apache.spark.rdd.RDD.rddToPairRDDFunctions
import org.apache.spark.streaming._
import org.apache.spark.streaming.StreamingContext

object vjspstream2 {
  def main(args: Array[String]) = {
    val conf = new SparkConf()
      .setAppName("vjspstream2")
      .setMaster("local")

    val ssc= new StreamingContext(conf, Seconds(60))

    val lines1 = ssc.textFileStream("C:\\Users\\VIJAYLAKSHMANAN\\spark\\input")

    val words = lines1.flatMap(line=>line.split(","))

    val pairs = words.map(x=>(x,1))

    val wcnt = pairs.reduceByKey(_+_)

    wcnt.print()

    ssc.start()
    ssc.awaitTermination()

   }
}
```

Output



▪ Second Part - In this part, you will have to create a Spark Applicationwhich should do the following

Text File used:



1. Pick up a file from the local directory and do the word count

Code:

```
vjspstream2.scala

package com.devinline.spark
import org.apache.spark.SparkConf
import org.apache.spark.SparkContext
import org.apache.spark.streaming._
import org.apache.spark.streaming.StreamingContext

import org.apache.hadoop.conf.Configuration
import org.apache.hadoop.fs.FileSystem
import org.apache.hadoop.fs.Path

import org.apache.commons.io.IOUtils


object vjspstream2 {
  def main(args: Array[String]){
    val conf = new SparkConf().setAppName("vjspstream2").setMaster("local")
    val sc = new SparkContext(conf)

    val test = sc.textFile("file:///home//acadgild//input//streamin1")

    val words=test.flatMap(line=>line.split(","))
    val paris=words.map(x=>(x,1))
    val wcnt=paris.reduceByKey(_+_)

    println(wcnt.collect().mkString(","))
```

Output:

```
19/03/18 20:57:44 INFO ShuffleBlockFetcherIterator: Started 0 remote fetches in 18 ms
19/03/18 20:57:44 INFO Executor: Finished task 0.0 in stage 1.0 (TID 1). 1580 bytes result sent to driver
19/03/18 20:57:44 INFO TaskSetManager: Finished task 0.0 in stage 1.0 (TID 1) in 330 ms on localhost (executor drive
19/03/18 20:57:44 INFO DAGScheduler: ResultStage 1 (collect at vjspstream2.scala:25) finished in 0.451 s
19/03/18 20:57:44 INFO TaskSchedulerImpl: Removed TaskSet 1.0, whose tasks have all completed, from pool
19/03/18 20:57:44 INFO DAGScheduler: Job 0 finished: collect at vjspstream2.scala:25, took 3.194586 s
(678910,2),(divya,1),(ramasubramanian,4),(12345,2),(lakshmanan,4),(mani,1),(6789,1),(,1),(2345,1),(1234,1),(5678,1),
```

2. Then in the same Spark Application, write the code to put the same file on HDFS.

3. Then in same Spark Application, do the word count of the file

copied on HDFS in step 2

4. Lastly, compare the word count of step 1 and 2. Both should

match, other throw an error