

Sentiment Analysis

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```
import org.apache.spark.sql.functions._
import org.apache.spark.streaming._
import org.apache.spark.streaming.twitter._
import org.apache.spark.storage.StorageLevel
import scala.io.Source
import scala.collection.mutable.HashMap
import java.io.File
import org.apache.log4j.Logger
import org.apache.log4j.Level
import sys.process.StringSeqToProcess
```

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import org.apache.spark.sql.functions._
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import org.apache.log4j.Level
import sys.process.StringSeqToProcess
```

Took 7 sec. Last updated by anonymous at January 26 2017, 6:56:47 PM.

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```
def configureTwitterCredentials(apiKey: String, apiSecret: String, accessToken: String, accessTo
  val configs = new HashMap[String, String] ++= Seq(
    "apiKey" -> "pqykjUmsa3coGNlrf2Xsl1DT0", "apiSecret" -> "UjPSfr7cx4LUsu0ndNYSrf6RxEBYlYfJW.
Ok1rCwBWxlGZs8", "accessTokenSecret" -> "HoLrzNGDuvlZUEhAEXRKPjBbzybmSETJBUKIteKFBrsGA")
  println("Configuring Twitter OAuth")
  configs.foreach{ case(key, value) =>
    if (value.trim.isEmpty) {
      throw new Exception("Error setting authentication - value for " + key + " not set")
    }
    val fullKey = "twitter4j.oauth." + key.replace("api", "consumer")
    System.setProperty(fullKey, value.trim)
    println("\tProperty " + fullKey + " set as [" + value.trim + "]")
  }
  println()
}
```

```
configureTwitterCredentials: (apiKey: String, apiSecret: String, accessToken: String, accessTo
kenSecret: String)Unit
```

Took 6 sec. Last updated by anonymous at January 26 2017, 6:56:49 PM.

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```
val apiKey = "pqykjUmsa3coGNlrf2Xsl1DT0"
val apiSecret = "UjPSfr7cx4LUsu0ndNYSrf6RxEBYlYfJWJYSYcqKFKIXeVshLj"
val accessToken = "824754248227442689-a7BjND0rMe2RQkxiS0klrCwBWxlGZs8"
val accessTokenSecret = "HoLrzNGDuvlZUEhAEXRKPjBbzybmSETJBUKIteKFBrsGA"
configureTwitterCredentials(apiKey, apiSecret, accessToken, accessTokenSecret)
```




apiKey: String = pqykjUmsa3coGNlrf2Xsl1DT0
 apiSecret: String = UjPSfr7cx4LUsu0ndNYSrf6RxEBY1YfJWJYSYcqKFKIXeVshLj
 accessToken: String = 82473424827442689-a7BjND0m29koiSkiaut
 accessTokenSecret: String = HoLrzNGDuvlzUEhAEXRKPjBbzybmSETJBUKIteKFBrsGA
 Configuring Twitter OAuth

Property twitter4j.oauth.consumerKey set as [pqykjUmsa3coGNlrf2Xsl1DT0]
 Property twitter4j.oauth.accessTokenSecret set as [82473424827442689-a7BjND0m29koiSkiaut
 wBWx1GZs8]

Property twitter4j.oauth.consumerSecret set as [UjPSfr7cx4LUsu0ndNYSrf6RxEBY1YfJWJYSYcqKFKIXeVshLj]

Property twitter4j.oauth.accessTokenSecret set as [HoLrzNGDuvlzUEhAEXRKPjBbzybmSETJBUKIteKFBrsGA]

Took 4 sec. Last updated by anonymous at January 26 2017, 6:57:01 PM.

ERROR   

```
import org.apache.spark.sql.DataFrame
import org.apache.spark.sql.SQLContext
import org.apache.spark.streaming.twitter._
val ssc = new StreamingContext(sc, Seconds(2))
val tweets = TwitterUtils.createStream(ssc, None)
val twt = tweets.window(Seconds(3600))
import sqlContext.implicits._
case class Tweet(createdAt:Long, text:String)
twt.map(status=>
  Tweet(status.getCreatedAt().getTime()/1000, status.getText())
).foreachRDD(rdd=>
  // Below line works only in spark 1.3.0.
  // For spark 1.1.x and spark 1.2.x,
  // use rdd.registerTempTable("tweets") instead.
  rdd.toDF().registerTempTable("tweets")
)

twt.print

ssc.start()
```

 Time: 1485475814000 ms

```
StatusJSONImpl{createdAt=Thu Jan 26 19:09:13 EST 2017, id=824771205961904128, text='RT @Asecon
day_0502: 170126 ORD @BamBam1A
#BamBam #뽕뽕 #GOT7 #갯세븐
Looks delicious https://t.co/wYByv9HxkX', source='<a href="http://twitter.com/download/andr
oid" rel="nofollow">Twitter for Android</a>', isTruncated=false, inReplyToStatusId=-1, inReply
ToUserId=-1, isFavorited=false, isRetweeted=false, favoriteCount=0, inReplyToScreenName='nul
l', geoLocation=null, place=null, retweetCount=0, isPossiblySensitive=false, lang='en', contri
butorsIDs=[], retweetedStatus=StatusJSONImpl{createdAt=Thu Jan 26 16:56:30 EST 2017, id=824737
807029649413, text='170126 ORD @BamBam1A
#BamBam #뽕뽕 #GOT7 #갯세븐
Looks delicious https://t.co/wYByv9HxkX', source='<a href="http://twitter.com/download/iphone
" rel="nofollow">Twitter for iPhone</a>', isTruncated=false, inReplyToStatusId=-1, inReplyTo
UserId=-1, isFavorited=false, isRetweeted=false, favoriteCount=678, inReplyToScreenName='nul
l', geoLocation=null, place=null, retweetCount=1416, isPossiblySensitive=false, lang='en', con
tributorsIDs=[], retweetedStatus=null, userMentionEntities=[{"userMentionEntity":{"name='Ba
```

Took 12 sec. Last updated by anonymous at January 26 2017, 7:10:13 PM.

```
%sql select * from tweets where text like '%girl%' limit 10
```

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Zeppelin
createdAt text

Sentiment Analysis

id	text
1,485,475,760	#see porn girl squirt pornstar database foto video ebony https://t.co/v7ORcyFQ6y
1,485,475,761	RT @LaurenJaurogui: Mah girl @jillboard interviewed me for her amazzzzz podcast thob
1,485,475,763	RT @awecouples: I promise every girl loves the feeling of being off to the world by her ma
1,485,475,771	RT @girlposts: I NEED THIS https://t.co/0AIDueJTdw
1,485,475,779	RT @girlposts: I LOVE THIS https://t.co/yxf64F6rvi
1,485,475,779	RT @adennis318: ...and Brock Turner was in jail for 3 MONTHS for raping a girl. If you are
1,485,475,780	Blank Card, wife, mum, friend, sister, daughter, girlfriend, for her... https://t.co/mC9bjGyc
1,485,475,781	RT @girlposts: Me: Sorry, can't go out tonight, I have so much to do

takes quiz to see what kind of pizza I am https://t.co/7u53DnNtzg1485475782 RT @girlposts: I NEED THIS https://t.co/0AIDueJTdw1485475783 Guys who go after girls who are in relationship are fucking stupid

Took 1 sec. Last updated by anonymous at January 26 2017, 7:10:22 PM.

```
%sql select createdAt, count(1) from tweets group by createdAt order by createdAt
```

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createdAt

1,485,475,767
1,485,475,768
1,485,475,769
1,485,475,770
1,485,475,771
1,485,475,772
1,485,475,773
1,485,475,774
1,485,475,775

Took 3 sec. Last updated by anonymous at January 26 2017, 7:10:32 PM.

```
def sentiment(s:String) : String = {  
  val positive = Array("like", "love", "good", "great", "happy", "cool", "the", "one", "that")  
  val negative = Array("hate", "bad", "stupid", "is")
```

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```

var st = 0;

val words = s.split(" ")
positive.foreach(p =>
  words.foreach(w =>
    if(p==w) st = st+1
  )
)

negative.foreach(p=>
  words.foreach(w=>
    if(p==w) st = st-1
  )
)
if(st>0)
  "positive"
else if(st<0)
  "negative"
else
  "neutral"
}

// Below line works only in spark 1.3.0.
// For spark 1.1.x and spark 1.2.x,
// use sqlc.registerFunction("sentiment", sentiment _) instead.
sqlc.udf.register("sentiment", sentiment _)

```

```

sentiment: (s: String)String
res43: org.apache.spark.sql.expressions.UserDefinedFunction = UserDefinedFunction(<function1>,
StringType,Some(List(StringType)))

```

Took 4 sec. Last updated by anonymous at January 26 2017, 7:10:46 PM.

```
%sql select sentiment(text), count(1) from tweets where text like '%Trump%' group by sentiment
```

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UDF(text)	count
neutral	34
negative	3
positive	10

Took 2 sec. Last updated by anonymous at January 26 2017, 7:12:33 PM.

