

```
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
import sqlContext._
```

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```

Took 5 sec. Last updated by anonymous at January 26 2017, 6:55:15 PM.

```
/** Configures the Oauth Credentials for accessing Twitter */
def configureTwitterCredentials(apiKey: String, apiSecret: String, accessToken: String, acces:
  val configs = new HashMap[String, String] += Seq(
    "apiKey" -> apiKey, "apiSecret" -> apiSecret, "accessToken" -> accessToken, "accessTokenS
  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()
}
```

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

Took 1 sec. Last updated by anonymous at January 26 2017, 6:55:18 PM.

```
// Configure Twitter credentials
```

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```
val apiKey = "x7Jd43YiH41HmngxH45MTtweo"
val apiSecret = "iFRK3j5vmsogMCyjfN1cGPap5RD7KSnNWRcAKW4qeVV7o00Hz"
val accessToken = "2425726722-U6e2ICxctbYMIBel0fApsRkoSvZFyc4krYHCUo9"
val accessTokenSecret = "w0FdXuXkvjIzSVBawcN6qgb4P6NiKAh58pyVeZCeZ7cxZ"
configureTwitterCredentials(apiKey, apiSecret, accessToken, accessTokenSecret)
```

```
apiKey: String = x7Jd43YiH41HmngxH45MTtweo
```

```
apiSecret: String = iFRK3j5vmsogMCyjfN1cGPap5RD7KSnNWRcAKW4qeVV7o00Hz
```

```
accessToken: String = 2425726722-U6e2ICxctbYMIBel0fApsRkoSvZFyc4krYHCUo9
```

```
accessTokenSecret: String = w0FdXuXkvjIzSVBawcN6qgb4P6NiKAh58pyVeZCeZ7cxZ
```

```
Configuring Twitter OAuth
```

```
Property twitter4j.oauth.consumerKey set as [x7Jd43YiH41HmngxH45MTtweo]
```

```
Property twitter4j.oauth.accessToken set as [2425726722-U6e2ICxctbYMIBel0fApsRkoSvZFyc4krYHCUo9]
```

```
Property twitter4j.oauth.consumerSecret set as [iFRK3j5vmsogMCyjfN1cGPap5RD7KSnNWRcAKW4qeVV7o00Hz]
```

```
Property twitter4j.oauth.accessTokenSecret set as [w0FdXuXkvjIzSVBawcN6qgb4P6NiKAh58pyVeZCeZ7cxZ]
```

Took 2 sec. Last updated by anonymous at January 26 2017, 6:55:24 PM.

## Sentiment Analysis

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```
import org.apache.spark.streaming.twitter._
val ssc = new StreamingContext(sc, Seconds(2))
val tweets = TwitterUtils.createStream(ssc, None)
val twt = tweets.window(Seconds(60))
```

```
import org.apache.spark.streaming.twitter._
```

```
ssc: org.apache.spark.streaming.StreamingContext = org.apache.spark.streaming.StreamingContext@5bc9df39
```

```
tweets: org.apache.spark.streaming.dstream.ReceiverInputDStream[twitter4j.Status] = org.apache.spark.streaming.twitter.TwitterInputDStream@5852ef60
```

```
twt: org.apache.spark.streaming.dstream.DStream[twitter4j.Status] = org.apache.spark.streaming.dstream.WindowedDStream@65adeb32
```

Took 2 sec. Last updated by anonymous at January 26 2017, 6:55:29 PM.

```
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().registerAsTable("tweets")
  rdd.toDF().registerTempTable("tweets")
)

twt.print

ssc.start()
```

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```
use, profileImageUrl= http://pbs.twimg.com/profile_images/799739268310663169/2Z3GcEYt_normal.jpg', profileImageUrlHttps='https://pbs.twimg.com/profile_images/799739268310663169/2Z3GcEYt_normal.jpg', isDefaultProfileImage=false, url='http://PSNProfiles.com/Nemesis_WM', isProtected=false, followersCount=761, status=will use fileBackgroundColor=11215161, use fileTextColor=12222
```

```
alse, followersCount=761, status=null, profileBackgroundColor='151516', profileTextColor='333333', profileLinkColor='4A913C', profileSidebarFillColor='EFEFEF', profileSidebarBorderColor='EEEEEE', profileUseBackgroundImage=true, isDefaultProfile=false, showAllInlineMedia=false, friendsCount=760, createdAt=Thu May 10 09:42:52 EDT 2011, favouritesCount=2732, utcOffset=-7200, timeZone='Brasilia', profileBackgroundImageUrl='http://pbs.twimg.com/profile_background_images/418806401/bioshock11.jpg', profileBackgroundImageUrlHttps='https://pbs.twimg.com/profile_background_images/418806401/bioshock11.jpg', profileBackgroundTiled=true, lang='pt', statusesCount=131929, isGeoEnabled=true, isVerified=false, translator=false, listedCount=0, isFollowRequestSent=false, withheldInCountries=null}, withheldInCountries=null, quotedStatusId=-1, quotedStatus=null}
StatusJSONImpl{createdAt=Thu Jan 26 19:16:57 EST 2017, id=824773152085467137, text='16時間寝た脳みそ溶けそう', source='<a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a>', isTruncated=false, inReplyToStatusId=-1, inReplyToUserId=-1, isFavorited=false, isRetweeted=false, favoriteCount=0, inReplyToScreenName='null', geoLocation=null, place=null, retweetCount=0, isPossiblySensitive=false, lang='ja', contributorsIDs=[], retweetedStatus=null}
Took 2 sec. Last updated by anonymous at January 26 2017, 6:56:48 PM.
```

%sql

select \* from tweets where text like '%trump%' limit 10

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Sentiment Analysis

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createdAt

text

1,485,475,296

trump je pense qu'avec ce gars un nouvel ordre mondial est en marche

https://t.co/Xi

1,485,475,296

RT @JordanUhl: rt if trump needs to stop talking about himself

1,485,475,316

RT @TampQro: @BorrachosVIP Si yo fuera trump ya habría firmado estas ordenes

https://t.co/bVgTYan

1,485,475,321

I'm sure tiny hands will have #alternativefacts about this. #nevermypresident #trumpleak

1,485,475,322

RT @america\_trump: https://t.co/zc9L8bX7E2

1,485,475,328

RT @dumptrump33: THIS has no place in the White House. Not even a dog house. #Ren

1,485,475,342

RT @sticocundi1983: mit den meisten sexuellen Strumpfhosen und

https://t.co/bVgTYan

Took 1 sec. Last updated by anonymous at January 26 2017, 7:02:32 PM.

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

createdAt
1,485,475,359

1,485,475,360

1,485,475,361

1,485,475,362

1,485,475,363

1,485,475,364

1,485,475,365

Took 4 sec. Last updated by anonymous at January 26 2017, 7:03:45 PM.

## Sentiment Analysis

```
def sentiment(s:String) : String = {
  val positive = Array("like", "love", "good", "great", "happy", "cool", "the", "one", "that")
  val negative = Array("hate", "bad", "stupid", "is")
  var st = 0;
```

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

**Zeppelin**

## Sentiment Analysis

```
  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
res21: org.apache.spark.sql.expressions.UserDefinedFunction = UserDefinedFunction(<function1>,
StringType,Some(List(StringType)))
```

Took 2 sec. Last updated by anonymous at January 26 2017, 7:05:40 PM.

%sql

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

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UDF(text)	count(1)
neutral	3

Sentiment Analysis

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Took 3 sec. Last updated by anonymous at January 26 2017, 7:06:23 PM.



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Sentiment Analysis

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