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```scala
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
```

```scala
import org.apache.spark.streaming._
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Took 10 sec. Last updated by anonymous at January 26 2017, 7:12:06 PM.

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```scala
/** 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, "accessTokenSe
  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
```

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```scala
// Configure Twitter credentials
val apiKey = "eRYQFIrPPqNgqTaWFnB6HMIrA"
val apiSecret = "TaH0eED40J8iP5MO6PWckYz8RhZOqx8JLCbfESrYqeUDWLfgik"
val accessToken = "823235947311595520-CRm8gK5STlzf6krBZE2zFQxFgr3V7NW"
val accessTokenSecret = "UZeg9cyuRqKcqemTX2Zexqyxt6YuBpLzzQVnAPSsvr6wz"
configureTwitterCredentials(apiKey, apiSecret, accessToken, accessTokenSecret)
```

```
apiKey: String = eRYQFIrPPqNgqTaWFnB6HMIrA
apiSecret: String = TaH0eED40J8iP5MO6PWckYz8RhZOqx8JLCbfESrYqeUDWLfgik
accessToken: String = 823235947311595520-CRm8gK5STlzf6krBZE2zFQxFgr3V7NW
accessTokenSecret: String = UZeg9cyuRqKcqemTX2Zexqyxt6YuBpLzzQVnAPSsvr6wz
Configuring Twitter OAuth
        Property twitter4j.oauth.consumerKey set as [eRYQFIrPPqNgqTaWFnB6HMIrA]
        Property twitter4j.oauth.accessToken set as [823235947311595520-CRm8gK5STlzf6krBZE2zFQ
xFgr3V7NW]
        Property twitter4j.oauth.consumerSecret set as [TaH0eED40J8iP5MO6PWckYz8RhZOqx8JLCbfES
rYqeUDWLfgik]
        Property twitter4j.oauth.accessTokenSecret set as [UZeg9cyuRqKcqemTX2Zexqyxt6YuBpLzzQV
nAPSsvr6wz]
```

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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(300))

import org.apache.spark.streaming.twitter._
ssc: org.apache.spark.streaming.StreamingContext = org.apache.spark.streaming.StreamingContext
@2c9e3bc9
tweets: org.apache.spark.streaming.dstream.ReceiverInputDStream[twitter4j.Status] = org.apach
e.spark.streaming.twitter.TwitterInputDStream@319888
```

2016-01-26 Twitter Zeppelin

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```
... org.apache.spark.streaming.dstream.DStream[twitter4j.Status] = org.apache.spark.streamin
g.dstream.WindowedDStream@746d91d6
```

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2016-01-26 Twitter

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```
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()
```

```
r.com/', isProtected=false, followersCount=3685, status=null, profileBackgroundColor='FFFFF
F', profileTextColor='333333', profileLinkColor='ABB8C2', profileSidebarFillColor='FFFFFF',
 profileSidebarBorderColor='FFFFFF', profileUseBackgroundImage=true, isDefaultProfile=false,
 showAllInlineMedia=false, friendsCount=738, createdAt=Tue Mar 23 16:36:22 EDT 2010, favouri
tesCount=1985, utcOffset=-7200, timeZone='Brasilia', profileBackgroundImageUrl='http://pbs.t
wimg.com/profile_background_images/571486663839186944/FzZIYYDb.png', profileBackgroundImageU
rlHttps='https://pbs.twimg.com/profile_background_images/571486663839186944/FzZIYYDb.png', p
rofileBackgroundTiled=false, lang='pt', statusesCount=45464, isGeoEnabled=true, isVerified=f
alse, translator=false, listedCount=27, isFollowRequestSent=false, withheldInCountries=nul
l}, withHeldInCountries=null, quotedStatusId=-1, quotedStatus=null}
StatusJSONImpl{createdAt=Thu Jan 26 19:12:29 EST 2017, id=824772028007841793, text='puceta d
e Internet', source='<a href="http://twitter.com/download/android" rel="nofollow">Twitter fo
r Android</a>', isTruncated=false, inReplyToStatusId=-1, inReplyToUserId=-1, isFavorited=fal
se, isRetweeted=false, favoriteCount=0, inReplyToScreenName='null', geoLocation=null, place=
```

null, retweetCount=0, isPossiblySensitive=false, lang='es', contributorsIDs=[], retweetedStatus=null, userMentionEntities=[], urlEntities=[], hashtagEntities=[], mediaEntities=[], symbolEntities=[], currentUserRetweetId=-1, user=UserJSONImpl{id=2759265044, name='jenipapo', screenName='lmignake', location '#tigayad' description 'i [p]remisse to be your umbrella whe

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```
%sql
select * from tweets where text like '%trump%' limit 100
```

createdAt	text
1,485,475,952	RT @PgzU46: @Yes_Donaldtrump ひっ、広島県衽
1,485,475,956	RT @iowa_trump: Stop Soros
Just a few of his evil deeds.... https://t.co/bJgNeR4aVA	
1,485,475,967	RT @Linda65542703: @NBCNews because they
1,485,475,971	@realDonaldTrump You make me sick to my ston
1,485,475,98?	RT @trumpquility1: https://t.co/LyMLpqw6L? Tru...
?,?35,?,??3	RT @tamia707: "if you can't respect trump as you

2016-01-26 Twitter

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me:https://t.co/wSRK0oLCVg

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

createdAt
1,485,475,949
1,485,475,950
1,485,475,951
1,485,475,952
1,485,475,953
1,485,475,954
1,485,475,955
1,485,475,956

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

    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)
        "positivie"
    else if(st<0)
        "negative"
    else
        "neutral"
```

2016-01-26 Twitter Zeppelin

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```
// 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
res11: org.apache.spark.sql.expressions.UserDefinedFunction = UserDefinedFunction(<function1>,
StringType,Some(List(StringType)))
```

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

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UDF(text)

neutral

positivie

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