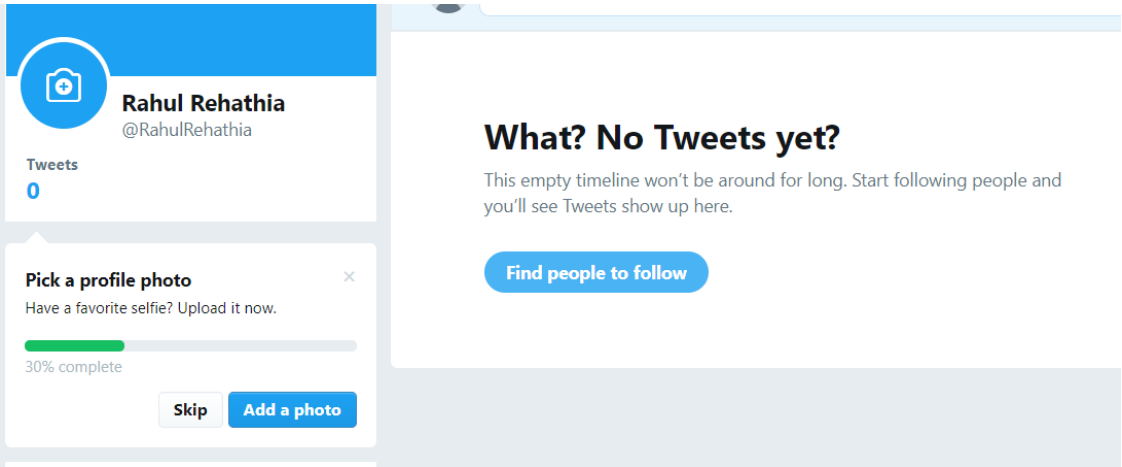
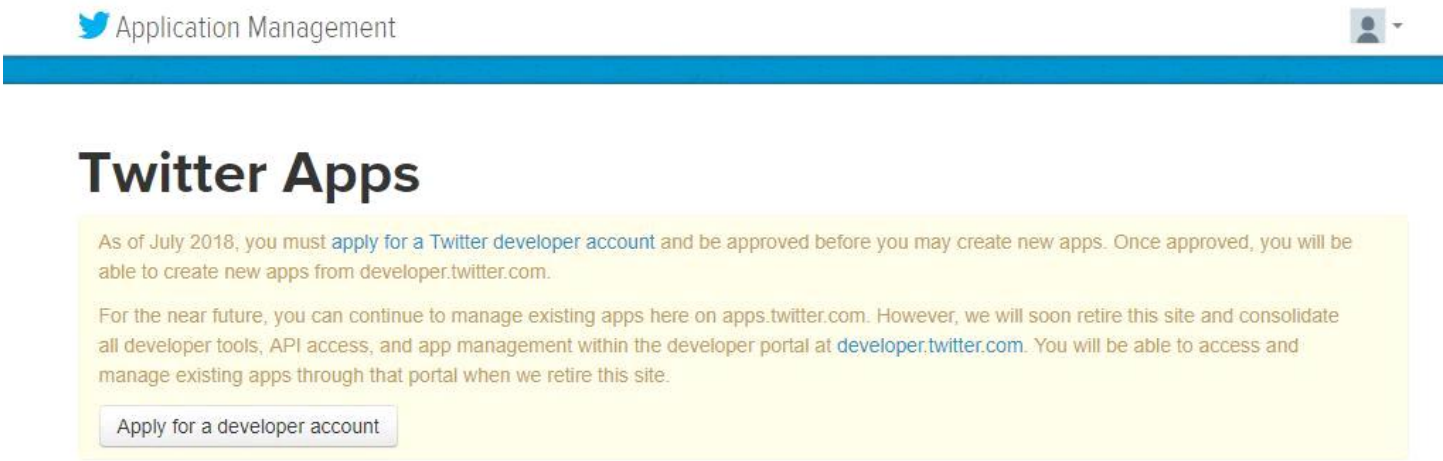
Assignment 12.1
Oozie and Flume

Create a flume agent that streams data from Twitter and stores in the HDFS.

1) We have created new account on Twitter.



1. Then we go to the link: **https://apps.twitter.com/app** and click the 'create new app' button.



Then we have applied for Developer Account. Now we are waiting for approval.

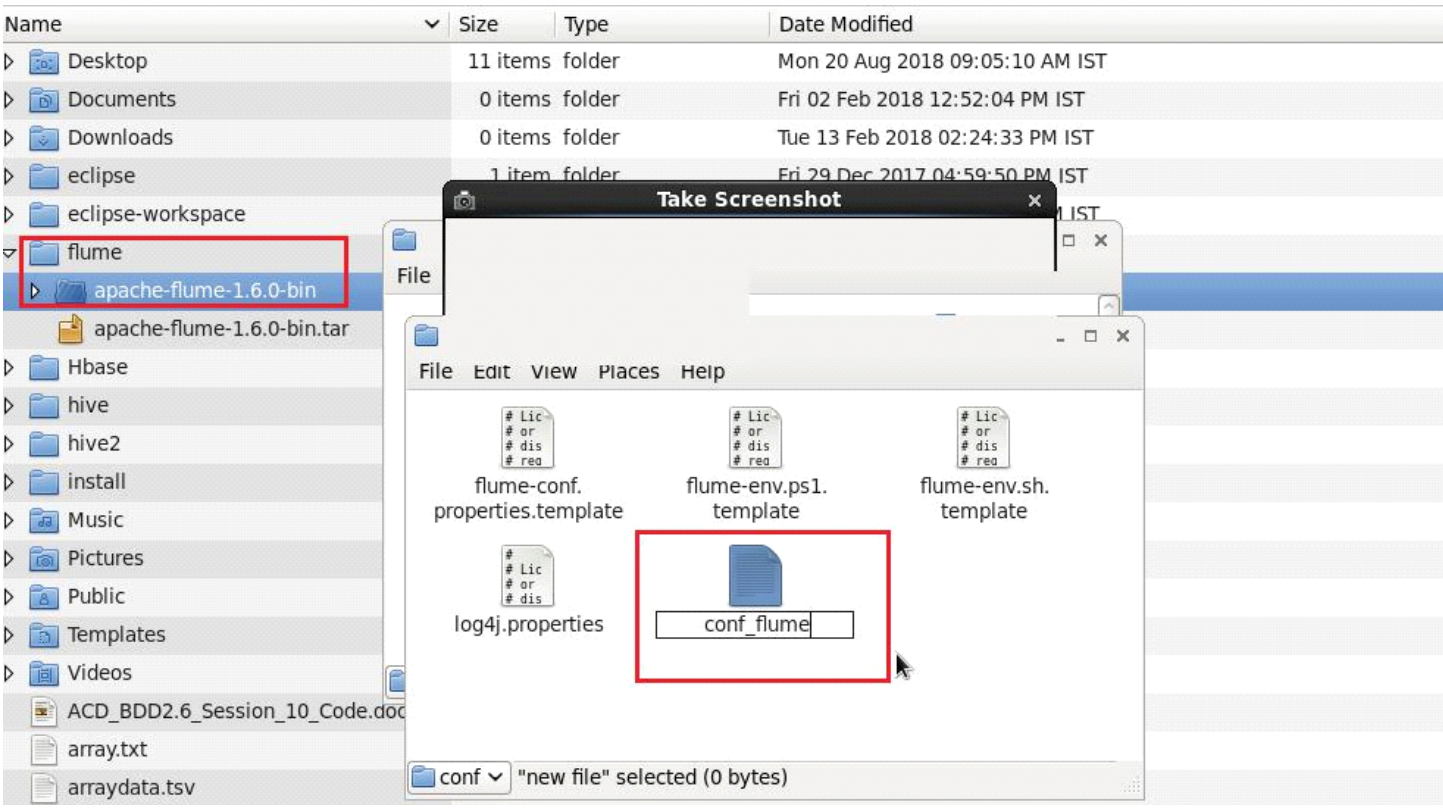
As approval is still pending, we could not create a new application with required details like Name, Decsription, key,etc.

1. We have downloaded flume tar file from link : **https://drive.google.com/drive/u/0/folders/0B1QaXx7tpw3SWkMwVFBkc3djNFk** and extracted it.

1. Then we have edited .bashrc file and set the path of flume directory. Then closed the .bashrc file after saving it. And then in the terminal, we have used command **'source .bashrc'** to update the .bashrc file.

```
# Below 2 lines we have to add for kafka Installation

export KAFKA_HOME=/home/acadgild/install/kafka/kafka_2.12-0.10.1.1
export PATH=$PATH:$KAFKA_HOME/bin

# Below 2 lines we have to add for FLUME Installation

export FLUME_HOME=/home/acadgild/flume
export PATH=$PATH:$FLUME_HOME/bin

# Below 2 lines we have to add for zookeeper Installation
```

1. We have created a new file **conf_flume** inside the **conf** directory of **apache-flume-1.6.0-bin** folder.



- We have verified that below jars placed in $FLUME_HOME/lib directory i.e. apache-flume-1.6.0-bin/lib folder :

- twitter4j-core-X.XX.jar
- twitter4j-stream-X.X.X.jar
- twitter4j-media-support-X.X.X.jar

1. We have copied the Flume configuration code from the link https://drive.google.com/open?id=0B1QaXx7tpw3Sb3U4LW9SWlNidkk and pasted it in the newly created file inside the conf directory of **apache-flume-1.6.0-bin** folder. Then we have saved this file as **flume.conf**

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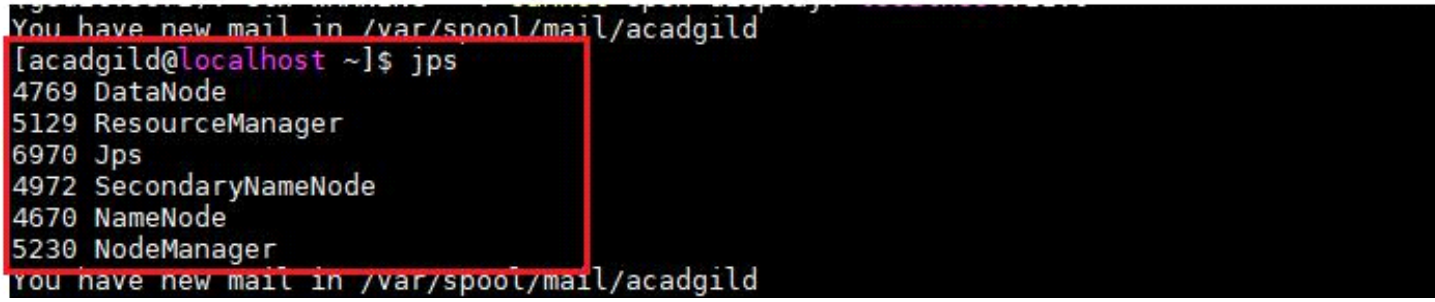
flume.conf

```
TwitterAgent.sources = Twitter
TwitterAgent.channels = MemChannel
TwitterAgent.sinks = HDFS

# Describing/Configuring the source
TwitterAgent.sources.Twitter.type = org.apache.flume.source.twitter.TwitterSource
TwitterAgent.sources.Twitter.consumerKey=uX0TWqkx0okYEjjqLzxIx6mD6
TwitterAgent.sources.Twitter.consumerSecret=rzHIs3TMJnADbZNvdGU7LQUo0kPxPISq3RGSLfqcBip39X5END
TwitterAgent.sources.Twitter.accessToken=559516596-yDA9xqOljo4CV32wSnqsx2BXh4RBIRKFxZGSZrPC
TwitterAgent.sources.Twitter.accessTokenSecret=zDxePILZitS5tIWBhre0GWqps0FIj9OadX8RZb6w8ZCwz
TwitterAgent.sources.Twitter.keywords=hadoop, bigdata, mapreduce, mahout, hbase, nosql
# Describing/Configuring the sink

TwitterAgent.sources.Twitter.keywords= hadoop,election,sports, cricket,Big data

TwitterAgent.sinks.HDFS.channel=MemChannel
TwitterAgent.sinks.HDFS.type=hdfs
TwitterAgent.sinks.HDFS.hdfs.path=hdfs://localhost:9000/user/flume/tweets
TwitterAgent.sinks.HDFS.hdfs.fileType=DataStream
TwitterAgent.sinks.HDFS.hdfs.writeformat=Text
TwitterAgent.sinks.HDFS.hdfs.batchSize=1000
TwitterAgent.sinks.HDFS.hdfs.rollSize=0
TwitterAgent.sinks.HDFS.hdfs.rollCount=10000
TwitterAgent.sinks.HDFS.hdfs.rollInterval=600

TwitterAgent.channels.MemChannel.type=memory
TwitterAgent.channels.MemChannel.capacity=10000
TwitterAgent.channels.MemChannel.transactionCapacity=1000

TwitterAgent.sources.Twitter.channels = MemChannel
TwitterAgent.sinks.HDFS.channel = MemChannel
```

8) We run jps command to verify all hadoop daemons are running fine.



1. We have created a new directory inside HDFS path, where the Twitter tweet data should be stored.

hadoop dfs -mkdir -p /user/flume/tweets

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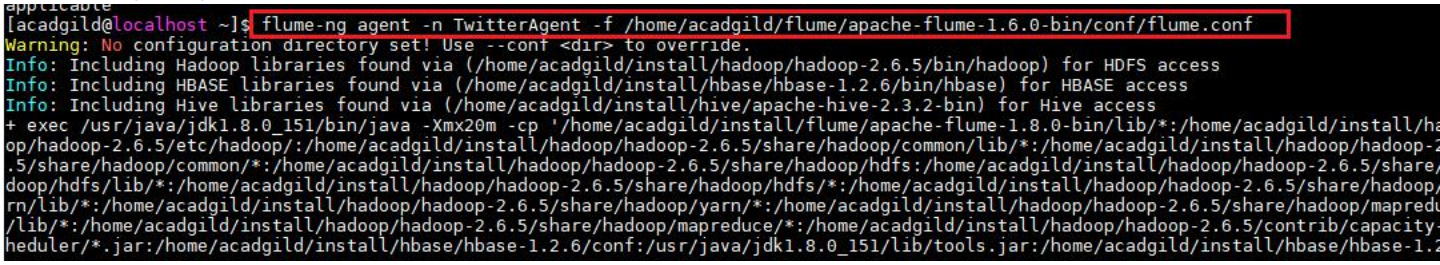
1. To fetch data from Twitter, we are using below command to fetch the twitter tweet data into the HDFS cluster path.

   flume-ng agent -n TwitterAgent -f /home/acadgild/flume/apache-flume-1.6.0-bin/conf/flume.conf



1. To check the contents of the tweet data we can use the following command:
   hadoop dfs -ls /user/flume/tweets

12)Then to display the tweet data inside the /user/flume/tweets folder we are using below command :

hadoop dfs -cat /user/flume/tweets/<flumeData file name>