

Mapper:

```
#!/usr/bin/python3 -0
import sys

# Loop through each line in the input
for line in sys.stdin:
    # Remove leading and trailing whitespace
    line = line.strip()
    # Split the line into words
    words = line.split()
    # Emit key-value pairs of word and count of 1
    for word in words:
        print(word,"\t",1)
```

Reducer:

```
#!/usr/bin/python3 -0
import sys

# Initialize variables to keep track of current word and its count
current_word = None
current_count = 0

# Loop through each line in the input
```

```
for line in sys.stdin:
    # Split the line into word and count, separated by tab
    word, count = line.strip().split('\t', 1)
   # Convert count to integer
    count = int(count)
    if word == current word:
        current_count += count
    else:
        # If the word is different, print the current word and its count
        if current word:
            print(current_word,"\t",current_count)
        # Update current word and its count
        current word = word
        current_count = count
# Print the last word and its count
if current word:
    print(current_word,"\t",current_count)
```

wbuntu@ip-172-31-34-199:~ x + v - - - X

ubuntu@ip-172-31-34-199:~ hadoop jar /home/ubuntu/hadoop/share/hadoop/tools/lib/hadoop-streaming-2.7.3.jar -file /home/
ubuntu/mapper.py -mapper mapper.py -file /home/ubuntu/reducer.py -reducer reducer.py -input /temp.txt -output /1

24/02/28 12:50:24 WARN streaming.StreamJob: -file option is deprecated, please use generic option -files instead.

packageJobJar: [/home/ubuntu/mapper.py, /home/ubuntu/reducer.py, /tmp/hadoop-unjar6744328353870054625/] [] /tmp/streamjob4882233691055212999.jar tmpDir=null

24/02/28 12:50:26 INFO client.RMProxy: Connecting to ResourceManager at ec2-13-234-118-49.ap-south-1.compute.amazonaws.c

om/172.31.34.199:8032

24/02/28 12:50:26 INFO client.RMProxy: Connecting to ResourceManager at ec2-13-234-118-49.ap-south-1.compute.amazonaws.c

om/172.31.34.199:8032

24/02/28 12:50:27 WARN hdfs.DFSClient: Caught exception

```
Merged Map outputs=2
    GC time elapsed (ms)=370
    CPU time spent (ms)=1610
    Physical memory (bytes) snapshot=518308352
    Virtual memory (bytes) snapshot=515010048
    Total committed heap usage (bytes)=259874816

Shuffle Errors
    BAD_ID=0
    CONNECTION=0
    IO_ERROR=0
    WRONG_IREDUCE=0
    WRONG_MAP=0
    WRONG_MAP=0
    WRONG_MAP=0
    File Input Format Counters
    Bytes Read=56
    File Output Format Counters
    Bytes Written=59

24/02/28 12:51:91 INFO streaming.StreamJob: Output directory: /1
ubuntu@ip-172-31-34-199:-$ hdfs dfs -cat /1/part-00000
are 2
doing 1
hello 1
how 1
what 1
you 2
ubuntu@ip-172-31-34-199:-$ cat temp.txt
hello
how are you
what are you doing
ubuntu@ip-172-31-34-199:-$
```