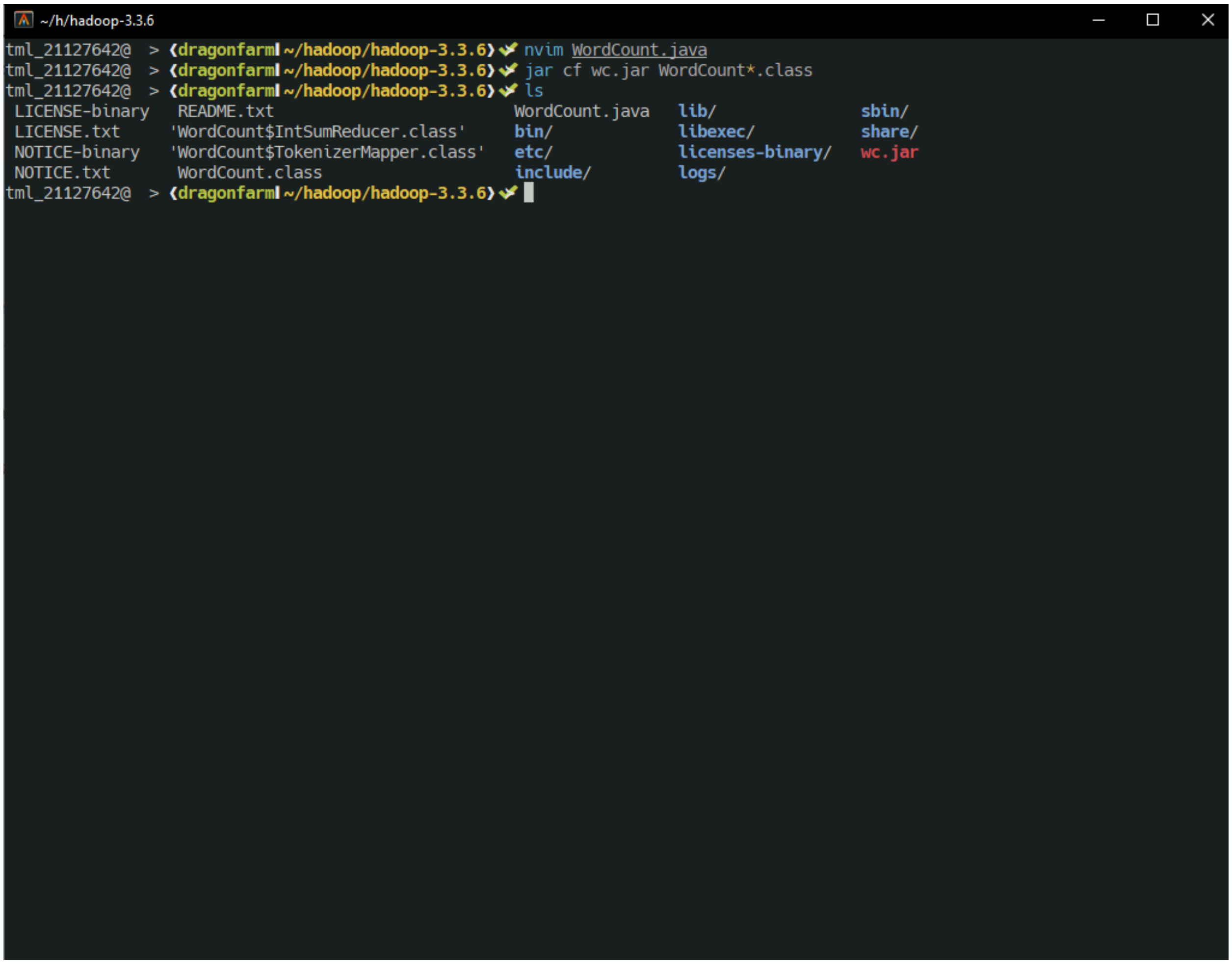
# WORDCOUNT PROBLEM ON HADOOP REPORT

## 1. Set up:

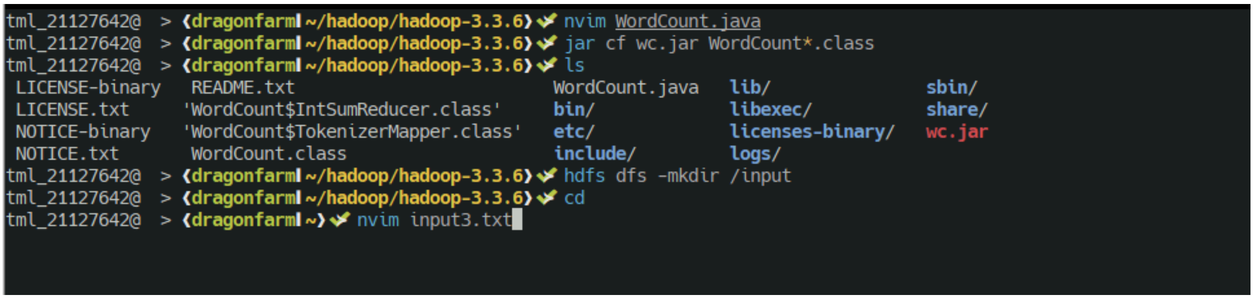


```
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ nvim WordCount.java
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ jar cf wc.jar WordCount*.class
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ ls
 LICENSE-binary   README.txt                        WordCount.java   lib/              sbin/
 LICENSE.txt     'WordCount$IntSumReducer.class'    bin/             libexec/          share/
 NOTICE-binary   'WordCount$TokenizerMapper.class'  etc/             licenses-binary/  wc.jar
 NOTICE.txt       WordCount.class                   include/         logs/
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔
```

- **Step 1:** Create a file named “WordCount.java”

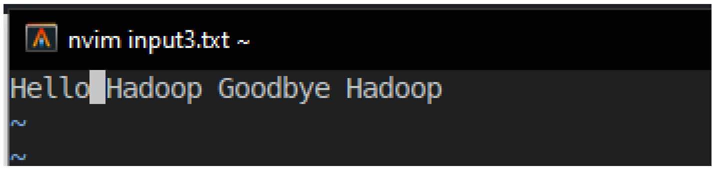
**Note: the nvim command will both create a file and open a code editor neovim**

- **Step 2:** Copy code from the tutorial into the file
- **Step 3:** Compile the java file into jar file (wc.jar)



```
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ nvim WordCount.java
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ jar cf wc.jar WordCount*.class
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ ls
 LICENSE-binary   README.txt                        WordCount.java   lib/              sbin/
 LICENSE.txt     'WordCount$IntSumReducer.class'    bin/             libexec/          share/
 NOTICE-binary   'WordCount$TokenizerMapper.class'  etc/             licenses-binary/  wc.jar
 NOTICE.txt       WordCount.class                   include/         logs/
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ hdfs dfs -mkdir /input
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6)✔ cd
tml_21127642@  > (dragonfarm ~)✔ nvim input3.txt
```

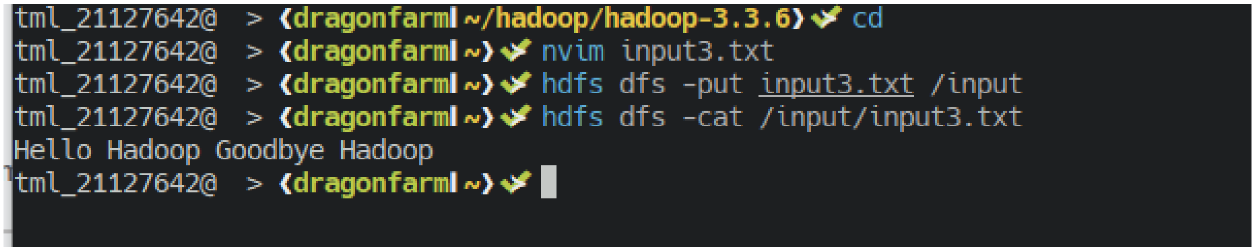
- **Step 4:** Create a input folder for our input file
- **Step 5:** Create a input file (input3.txt)



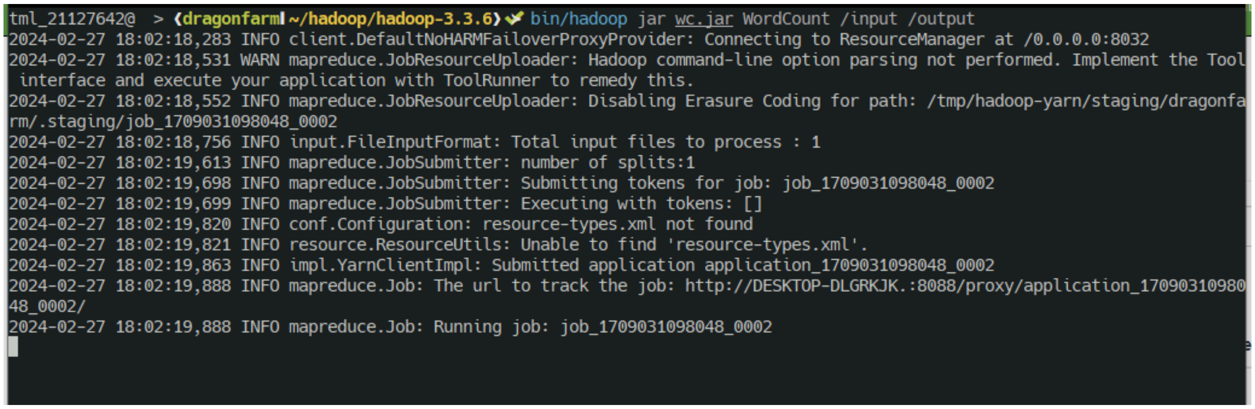
```
nvim input3.txt ~
Hello Hadoop Goodbye Hadoop
~
~
```

The content of the input file (input3.txt)

## 2. Run the application:



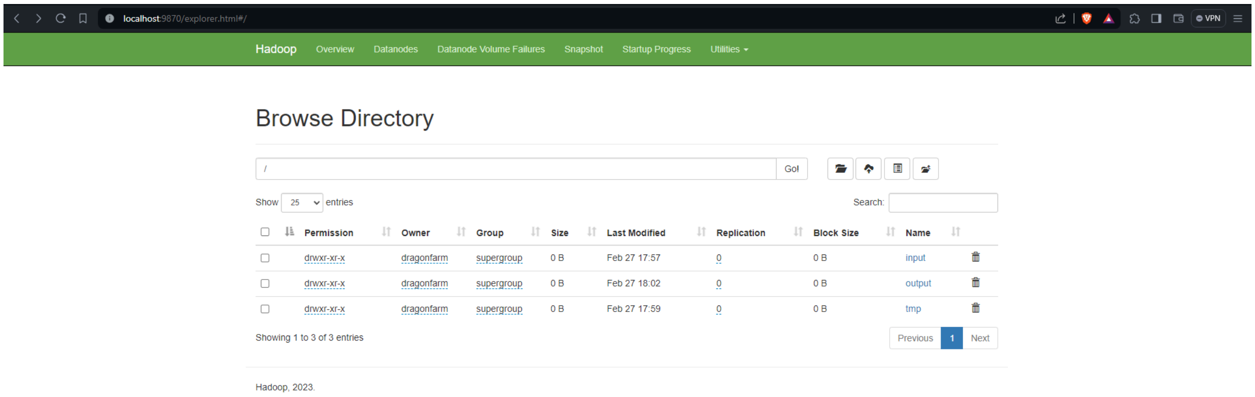
```
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6) ✔ cd
tml_21127642@  > (dragonfarm ~) ✔ nvim input3.txt
tml_21127642@  > (dragonfarm ~) ✔ hdfs dfs -put input3.txt /input
tml_21127642@  > (dragonfarm ~) ✔ hdfs dfs -cat /input/input3.txt
Hello Hadoop Goodbye Hadoop
tml_21127642@  > (dragonfarm ~) ✔
```



```
tml_21127642@  > (dragonfarm ~/hadoop/hadoop-3.3.6) ✔ bin/hadoop jar wc.jar WordCount /input /output
2024-02-27 18:02:18,283 INFO client.DefaultNoHARMFailoverProxyProvider: Connecting to ResourceManager at /0.0.0.0:8032
2024-02-27 18:02:18,531 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool
 interface and execute your application with ToolRunner to remedy this.
2024-02-27 18:02:18,552 INFO mapreduce.JobResourceUploader: Disabling Erasure Coding for path: /tmp/hadoop-yarn/staging/dragonfa
rm/.staging/job_1709031098048_0002
2024-02-27 18:02:18,756 INFO input.FileInputFormat: Total input files to process : 1
2024-02-27 18:02:19,613 INFO mapreduce.JobSubmitter: number of splits:1
2024-02-27 18:02:19,698 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1709031098048_0002
2024-02-27 18:02:19,699 INFO mapreduce.JobSubmitter: Executing with tokens: []
2024-02-27 18:02:19,820 INFO conf.Configuration: resource-types.xml not found
2024-02-27 18:02:19,821 INFO resource.ResourceUtils: Unable to find 'resource-types.xml'.
2024-02-27 18:02:19,863 INFO impl.YarnClientImpl: Submitted application application_1709031098048_0002
2024-02-27 18:02:19,888 INFO mapreduce.Job: The url to track the job: http://DESKTOP-DLGRKJK.:8088/proxy/application_17090310980
48_0002/
2024-02-27 18:02:19,888 INFO mapreduce.Job: Running job: job_1709031098048_0002
```

- **Step 6**: Put the input3.txt file into the input folder
- **Step 7:** Go into the hadoop folder and run the application

## 3. Checking the result:



Browse Directory

/

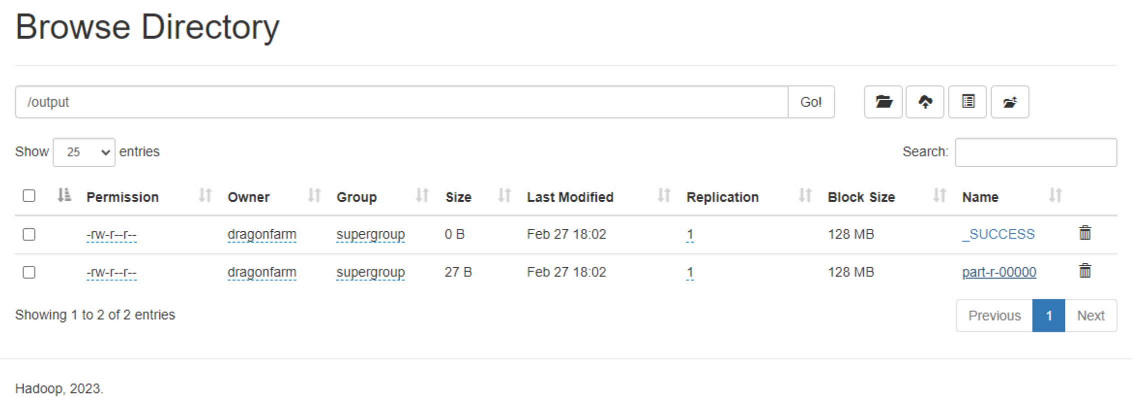
Show 25 entries Search:

| □ | Permission | Owner | Group | Size | Last Modified | Replication | Block Size | Name |
|---|---|---|---|---|---|---|---|---|
| □ | drwxr-xr-x | dragonfarm | supergroup | 0 B | Feb 27 17:57 | 0 | 0 B | input |
| □ | drwxr-xr-x | dragonfarm | supergroup | 0 B | Feb 27 18:02 | 0 | 0 B | output |
| □ | drwxr-xr-x | dragonfarm | supergroup | 0 B | Feb 27 17:59 | 0 | 0 B | tmp |

Showing 1 to 3 of 3 entries

Hadoop, 2023.

**Website should have both input folder and output folder**



## Browse Directory

/output Go!

Show 25 entries Search:

| □ | Permission | Owner | Group | Size | Last Modified | Replication | Block Size | Name |
|---|---|---|---|---|---|---|---|---|
| □ | -rw-r--r-- | dragonfarm | supergroup | 0 B | Feb 27 18:02 | 1 | 128 MB | _SUCCESS |
| □ | -rw-r--r-- | dragonfarm | supergroup | 27 B | Feb 27 18:02 | 1 | 128 MB | part-r-00000 |

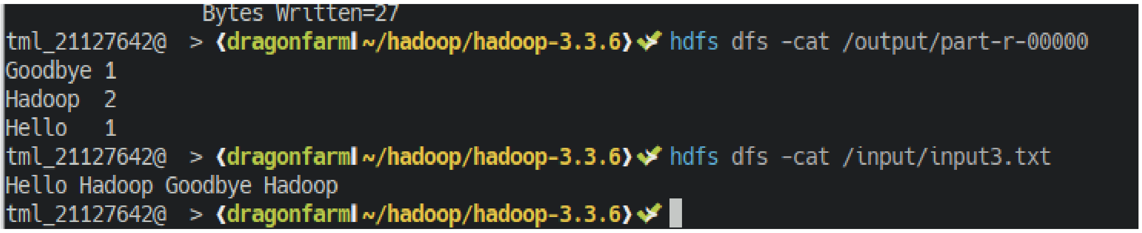
Showing 1 to 2 of 2 entries

Previous 1 Next

Hadoop, 2023.

**Output folder content**

- **Step 8:** Go into your terminal.
- **Step 9:** Enter command **"hdfs dfs -cat /output/part-r-00000".**
- **Step 10:** Now it should show the result like the image below.



```
                Bytes Written=27
tml_21127642@  > ⟨dragonfarm|~/hadoop/hadoop-3.3.6⟩✔ hdfs dfs -cat /output/part-r-00000
Goodbye 1
Hadoop  2
Hello   1
tml_21127642@  > ⟨dragonfarm|~/hadoop/hadoop-3.3.6⟩✔ hdfs dfs -cat /input/input3.txt
Hello Hadoop Goodbye Hadoop
tml_21127642@  > ⟨dragonfarm|~/hadoop/hadoop-3.3.6⟩✔ 
```

**The result**

And there you have it, you've run the Example WordCount problem on hadoop

## 4. Source:

- https://hadoop.apache.org/docs/current/hadoop-mapreduce-client/hadoop-mapreduce-client-core/MapReduceTutorial.html#Example%3A_WordCount_v1.0 – ("Apache Hadoop 3.3.6 – MapReduce Tutorial")