How to Run Hadoop wordcount MapReduce on Windows 10

Prepare

1. Download MapReduceClient.jar

   (Link: https://github.com/tejaliM/Hadoop_windows10/blob/main/MapReduceClient.jar)

2. Download Input_file.txt

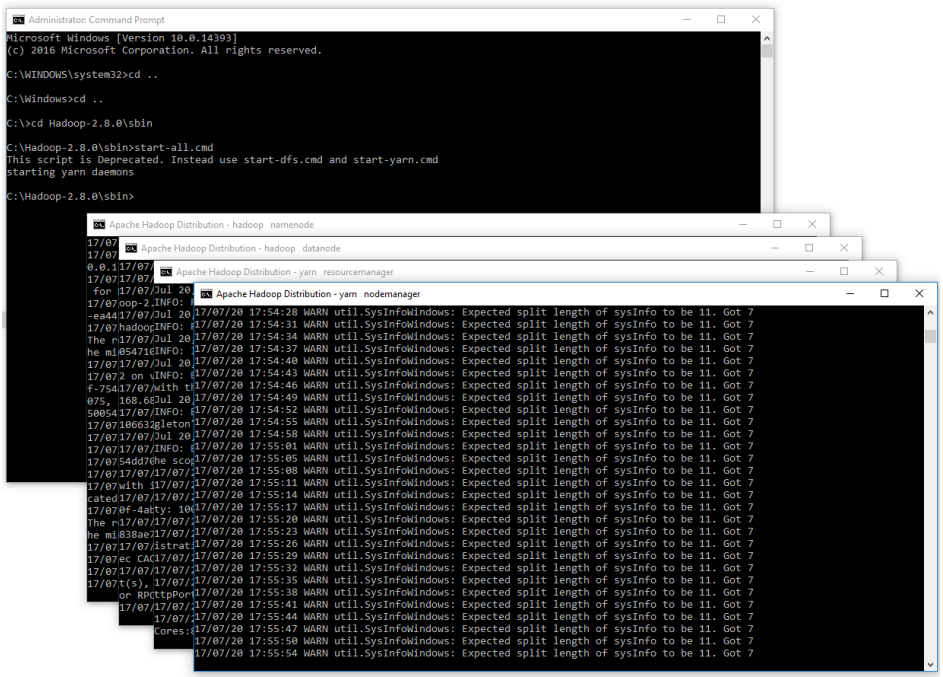
   (Link: **https://github.com/tejaliM/Hadoop_windows10/blob/main/input_file.txt**)

Place both files in “C:/”

Hadoop Operation

1. Open cmd in Administrative mode and move to “C:/Hadoop-2.8.0/sbin” and start cluster

```
Start-all.cmd
```



1. Create an input directory in HDFS.

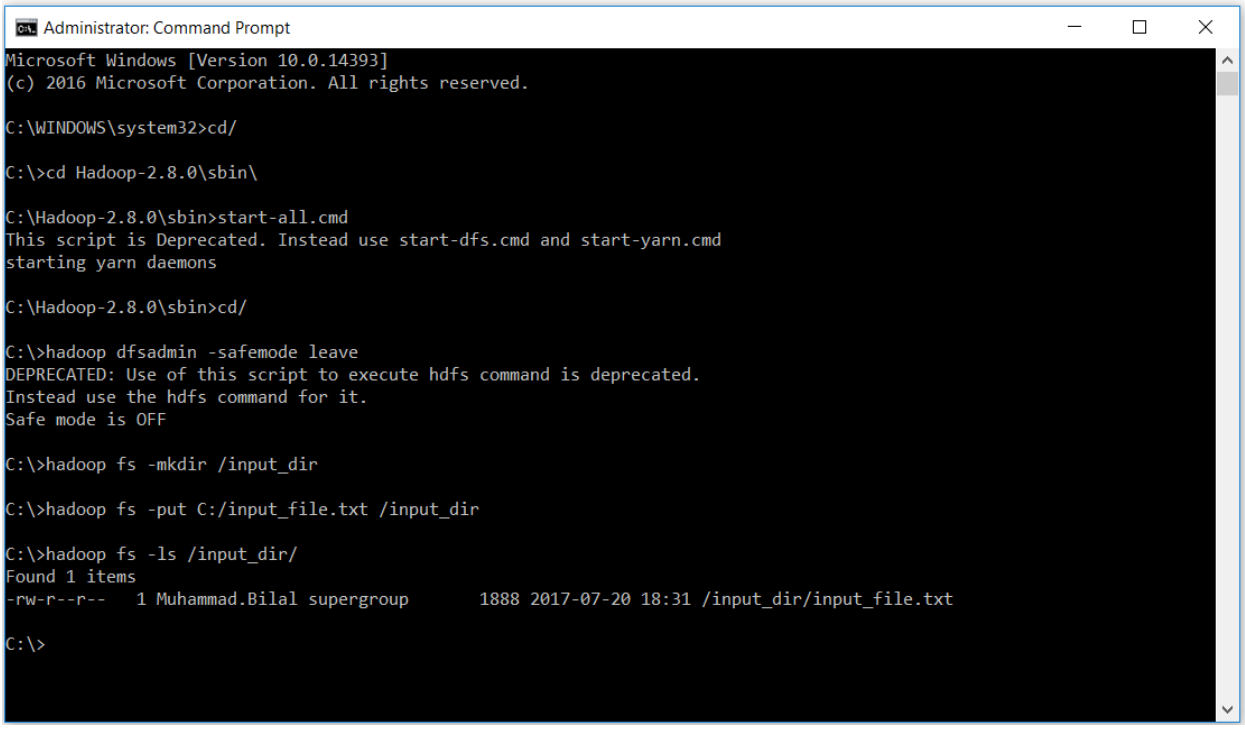
```
hadoop fs -mkdir /input_dir
```

1. Copy the input text file named input_file.txt in the input directory (input_dir)of HDFS.

```
hadoop fs -put C:/input_file.txt /input_dir
```

1. Verify input_file.txt available in HDFS input directory (input_dir).

```
hadoop fs -ls /input_dir/
```



1. Verify content of the copied file.

```
hadoop dfs -cat /input_dir/input_file.txt
```

```
C:\>hadoop fs -ls /input_dir/
Found 1 items
-rw-r--r--   1 Muhammad.Bilal supergroup       1888 2017-07-20 18:31 /input_dir/input_file.txt

C:\>hadoop dfs -cat /input_dir/input_file.txt
DEPRECATED: Use of this script to execute hdfs command is deprecated.
Instead use the hdfs command for it.
23    23    27  43    24    25    26    26    26    26    25    26  25
26    27    28  28    28    30    31    31    31    30    30    30  29
31    32    32  32    33    34    35    36    36    34    34    34  34
39    38    39  39    39    41    42    43    40    39    38    38  40
38    39    39  39    39    41    41    41    28    40    39    39  45
23    23    27  43    24    25    26    26    26    26    25    26  25
26    27    28  28    28    30    31    31    31    30    30    30  29
31    32    32  32    33    34    35    36    36    34    34    34  34
39    38    39  39    39    41    42    43    40    39    38    38  40
38    39    39  39    39    41    41    41    28    40    39    39  45
23    23    27  43    24    25    26    26    26    26    25    26  25
26    27    28  28    28    30    31    31    31    30    30    30  29
31    32    32  32    33    34    35    36    36    34    34    34  34
39    38    39  39    39    41    42    43    40    39    38    38  40
38    39    39  39    39    41    41    41    28    40    39    39  45
23    23    27  43    24    25    26    26    26    26    25    26  25
26    27    28  28    28    30    31    31    31    30    30    30  29
31    32    32  32    33    34    35    36    36    34    34    34  34
39    38    39  39    39    41    42    43    40    39    38    38  40
38    39    39  39    39    41    41    41    28    40    39    39  45
23    23    27  43    24    25    26    26    26    26    25    26  25
26    27    28  28    28    30    31    31    31    30    30    30  29
31    32    32  32    33    34    35    36    36    34    34    34  34
39    38    39  39    39    41    42    43    40    39    38    38  40
38    39    39  39    39    41    41    41    28    40    39    39  45
23    23    27  43    24    25    26    26    26    26    25    26  25
26    27    28  28    28    30    31    31    31    30    30    30  29
31    32    32  32    33    34    35    36    36    34    34    34  34
39    38    39  39    39    41    42    43    40    39    38    38  40
38    39    39  39    39    41    41    41    28    40    39    39  45
```

1. Run MapReduceClient.jar and also provide input and out directories.

```
hadoop jar C:/MapReduceClient.jar wordcount /input_dir /output_dir
```

```
Administrator: Command Prompt
                FILE: Number of large read operations=0
                FILE: Number of write operations=0
                HDFS: Number of bytes read=1999
                HDFS: Number of bytes written=120
                HDFS: Number of read operations=6
                HDFS: Number of large read operations=0
                HDFS: Number of write operations=2
        Job Counters
                Launched map tasks=1
                Launched reduce tasks=1
                Data-local map tasks=1
                Total time spent by all maps in occupied slots (ms)=2180
                Total time spent by all reduces in occupied slots (ms)=2442
                Total time spent by all map tasks (ms)=2180
                Total time spent by all reduce tasks (ms)=2442
                Total vcore-milliseconds taken by all map tasks=2180
                Total vcore-milliseconds taken by all reduce tasks=2442
                Total megabyte-milliseconds taken by all map tasks=2232320
                Total megabyte-milliseconds taken by all reduce tasks=2500608
        Map-Reduce Framework
                Map input records=30
                Map output records=390
                Map output bytes=2730
                Map output materialized bytes=195
                Input split bytes=111
                Combine input records=390
                Combine output records=21
                Reduce input groups=21
                Reduce shuffle bytes=195
                Reduce input records=21
                Reduce output records=21
                Spilled Records=42
                Shuffled Maps =1
                Failed Shuffles=0
                Merged Map outputs=1
                GC time elapsed (ms)=70
                CPU time spent (ms)=764
                Physical memory (bytes) snapshot=471478272
                Virtual memory (bytes) snapshot=619429888
                Total committed heap usage (bytes)=353894400
        Shuffle Errors
                BAD_ID=0
                CONNECTION=0
                IO_ERROR=0
                WRONG_LENGTH=0
                WRONG_MAP=0
                WRONG_REDUCE=0
        File Input Format Counters
                Bytes Read=1888
        File Output Format Counters
                Bytes Written=120

C:\>
```

1. Verify content for generated output file.

```
hadoop dfs -cat /output_dir/*
```

```
C:\>hadoop dfs -cat /output_dir/*
DEPRECATED: Use of this script to execute hdfs command is deprecated.
Instead use the hdfs command for it.
23      12
24      6
25      18
26      36
27      12
28      24
29      6
30      24
31      24
32      18
33      6
34      30
35      6
36      12
38      24
39      66
40      18
41      24
42      6
43      12
45      6

C:\>
```

Some Other usefull commands

To leave Safe mode

```
hadoop dfsadmin –safemode leave
```

To Delete file from HDFS directory

```
hadoop fs -rm -r /iutput_dir/input_file.txt
```

To Delete directory from HDFS directory

```
hadoop fs -rm -r /iutput_dir
```

```
C:\>hadoop dfsadmin -safemode leave
DEPRECATED: Use of this script to execute hdfs command is deprecated.
Instead use the hdfs command for it.
Safe mode is OFF

C:\>hadoop fs -rm -r /input_dir/input_file.txt
Deleted /input_dir/input_file.txt




C:\>hadoop fs -rm -r /input_dir
Deleted /input_dir

C:\>
```

Practice

Part I

1) Make directory

    hadoop fs -mkdir /input_dir

2) Assign our input file to hadoop for processing

    hadoop fs -put c:\WordCount\input_file.txt /input_dir

3) Execute the process in Hadoop

    hadoop jar c:\WordCount\MapReduceClient.jar wordcount /input_dir /output_dir

4) View the Results

    hadoop dfs -cat /output_dir/*

Part II

a) Remove a folder

    hadoop fs -rmdir /input_dir

b) Remove a file

    hadoop fs -rm /input_dir/*

c) Listing the contents of folder

   hadoop fs -ls /input_dir

d) View the contents of file in Hadoop folder

   hadoop dfs -cat /output_dir/*