Exp.No: 2

Run a basic Word Count Map Reduce program to understand Map Reduce Paradigm

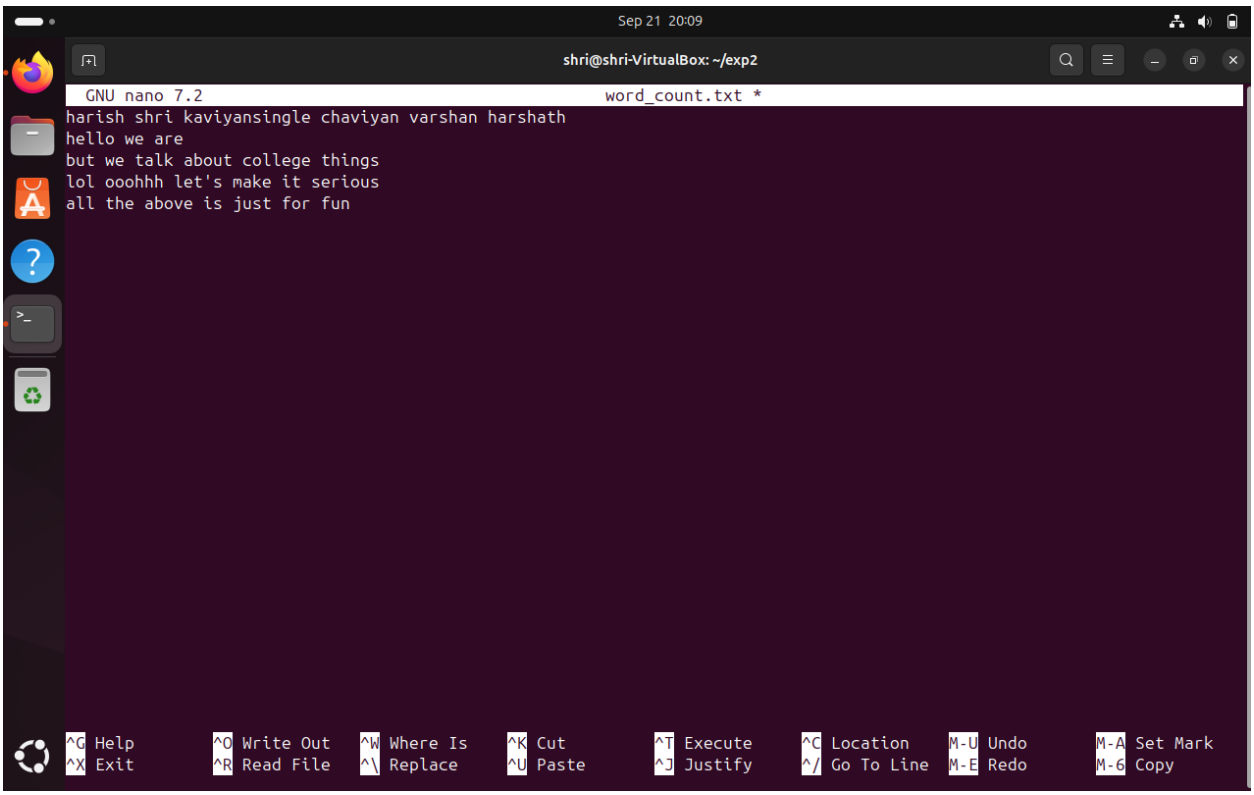
AIM:

To run a basic Word Count MapReduce program.

PROCEDURE:

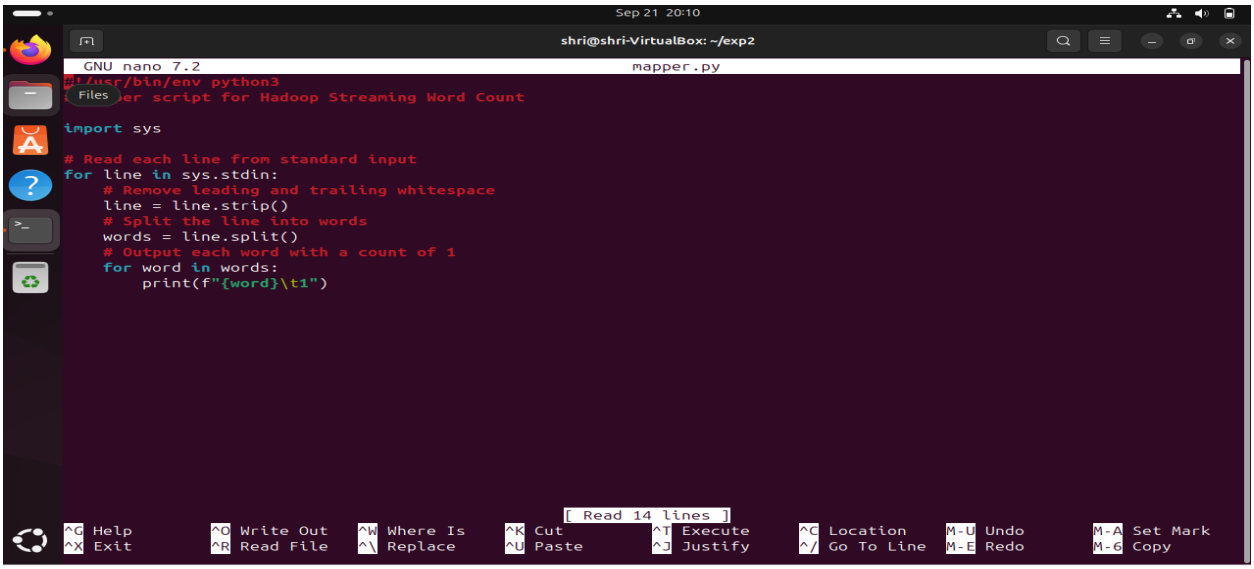
Step 1: Create Data File: Create a file named "word_count_data.txt" and populate it with text data that you wish to analyse. Login with your hadoop user.

nano word_count.txt



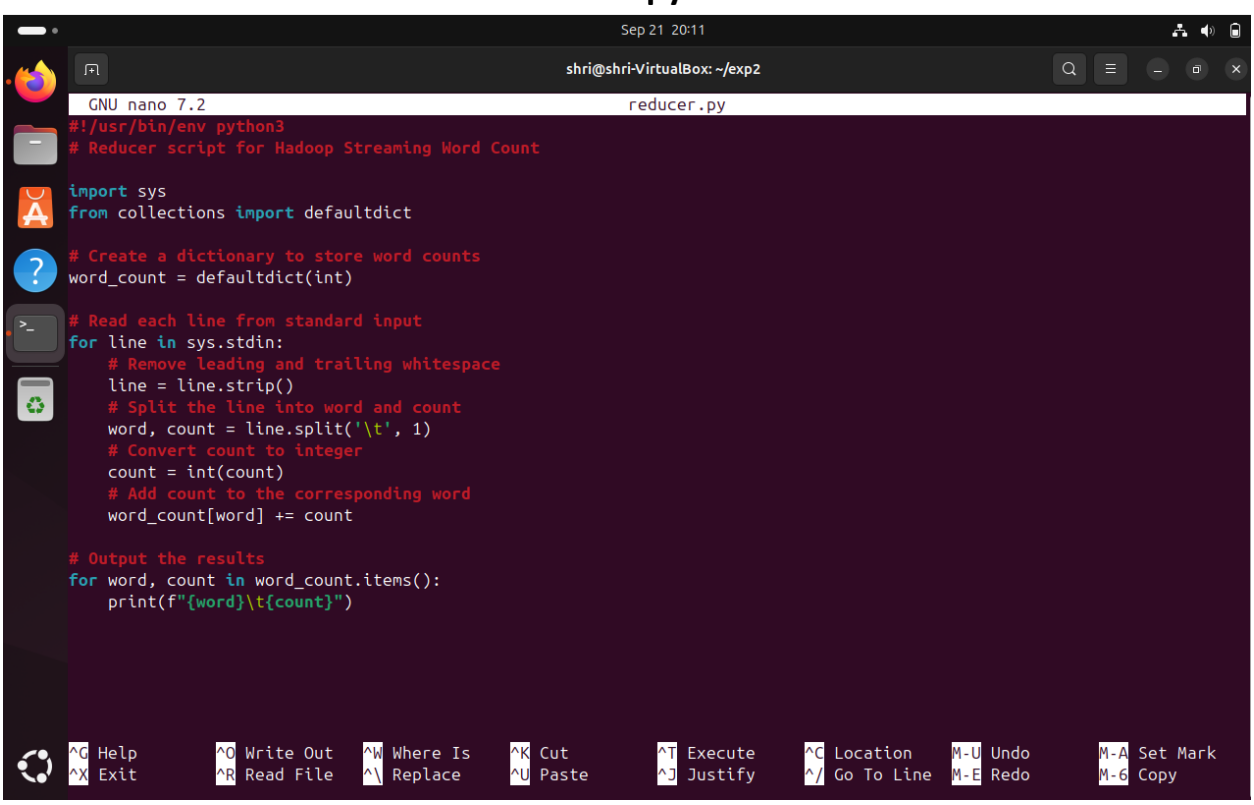
Step 2: Mapper Logic - mapper.py: Create a file named "mapper.py" to implement the logic for the mapper. The mapper will read input data from STDIN, split lines into words, and output each word with its count.

nano mapper.py



Step 3: Reducer Logic - reducer.py: Create a file named "reducer.py" to implement the logic for the reducer. The reducer will aggregate the occurrences of each word and generate the final output.

nano reducer.py



Step 4: Prepare Hadoop Environment: Start the Hadoop daemons and create a directory in HDFS to store your data.

start-all.sh
hdfs dfs -mkdir /word_count_in_python
hdfs dfs -copyFromLocal /path/to/word_count.txt /word_count_in_python

Step 5: Make Python Files Executable: Give executable permissions to your mapper.py and reducer.py files.

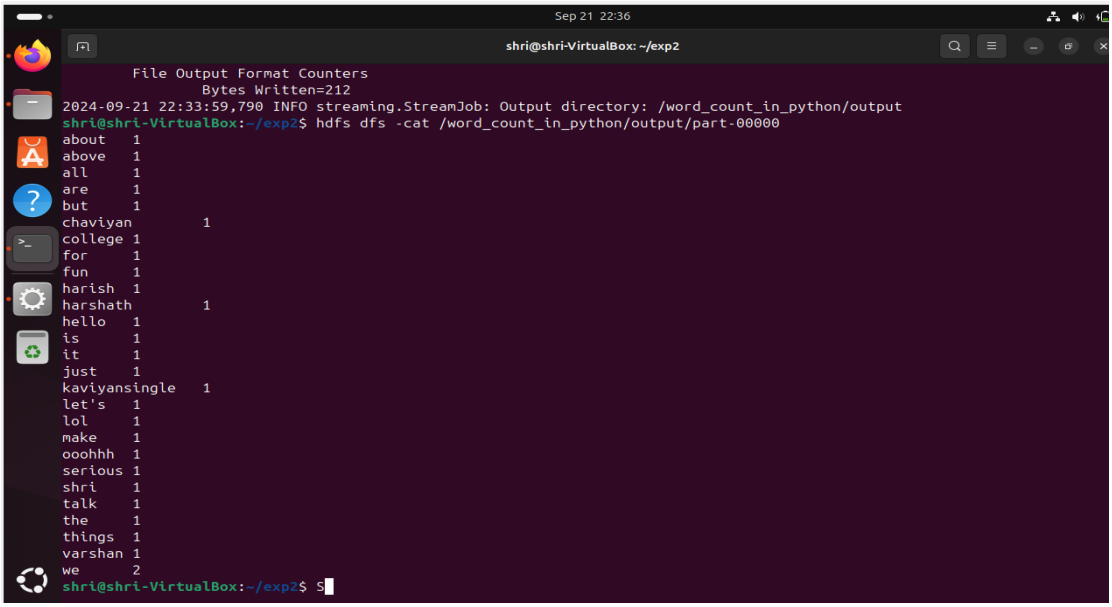
chmod 777 mapper.py reducer.py

Step 6: Run Word Count using Hadoop Streaming: Download the latest hadoop-streaming jar file and place it in a location you can easily access. Then run the Word Count program using Hadoop Streaming.

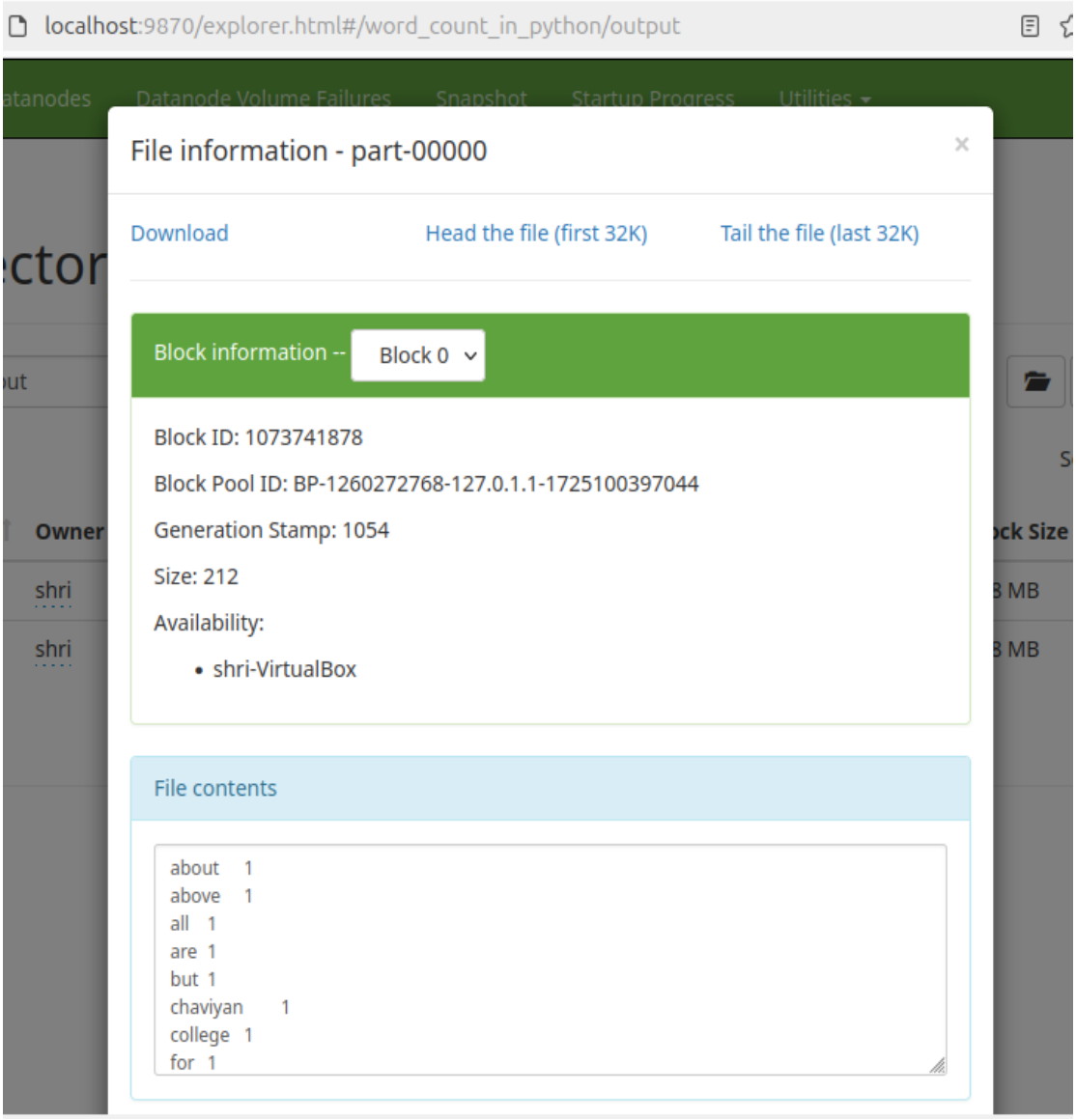
hadoop jar /path/to/hadoop-streaming-3.3.6.jar \ -input /word_count_in_python/word_count.txt \ -output /word_count_in_python/output \ -mapper /path/to/mapper.py \ -reducer /path/to/reducer.py

Step 7: Check Output: Check the output of the Word Count program in the specified HDFS output directory.

hdfs dfs -cat /word_count_in_python/output/part-00000



Step-8: Check the Output in the browser.



RESULT:

Thus, the program for basic Word Count Map Reduce has been executed successfully.