Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Big Data Analytics Lab
PMDS507P

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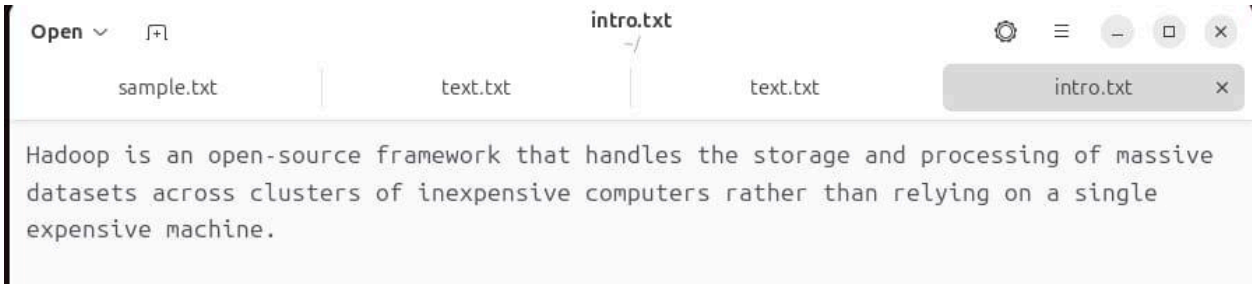
Slot: L29+L30

Digital Assignment 4

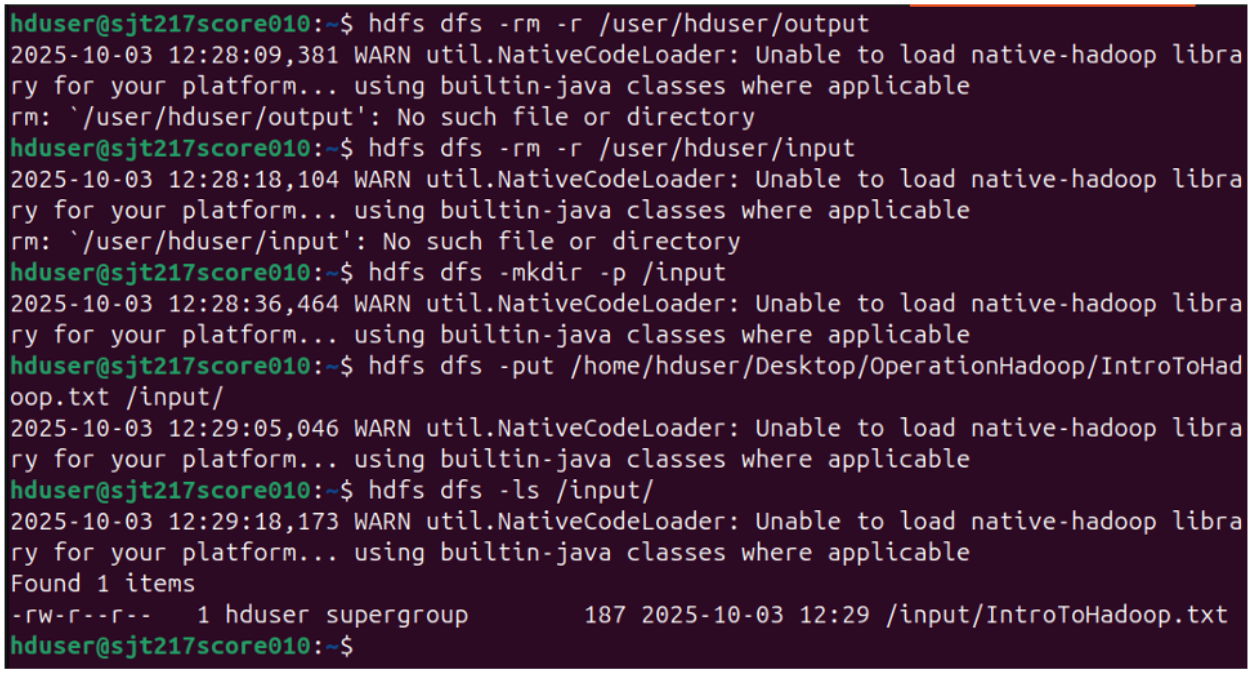
Explain the procedure to run the Hadoop WordCount program using the in-built mapreduce-examples.jar.

Step 1: Preparing the text file



Step 2: Start HDFS and YARN and verify with jps

Step 3: Creating the directory



Step 4: Displaying the text file

hdfs dfs -cat /input/intro.txt

Step 5: Running wordcount by inbuilt mapreduce functions

hadoop jar /home/hduser/hadoop/share/hadoop/mapreduce/hadoop-mapreduce-examples-3.3.1.jar wordcount /input /output

```
hduser@sjt217score010:~$ hadoop jar /home/hduser/hadoop/share/hadoop/mapreduce/hadoop-mapreduce-examples-3.3.1.jar wordcount /input /output

2025-10-03 12:51:10,296 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
2025-10-03 12:51:11,558 INFO impl.MetricsConfig: Loaded properties from hadoop-metrics2.properties
2025-10-03 12:51:11,781 INFO impl.MetricsSystemImpl: Scheduled Metric snapshot period at 10 second(s).
2025-10-03 12:51:11,781 INFO impl.MetricsSystemImpl: JobTracker metrics system started
2025-10-03 12:51:12,322 INFO input.FileInputFormat: Total input files to process : 1
2025-10-03 12:51:12,425 INFO mapreduce.JobSubmitter: number of splits:1
2025-10-03 12:51:12,692 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_local1093694298_0001
2025-10-03 12:51:12,692 INFO mapreduce.JobSubmitter: Executing with tokens: []
2025-10-03 12:51:12,947 INFO mapreduce.Job: The url to track the job: http://localhost:8080/
2025-10-03 12:51:12,948 INFO mapreduce.Job: Running job: job_local1093694298_0001
2025-10-03 12:51:12,952 INFO mapred.LocalJobRunner: OutputCommitter set in config null
2025-10-03 12:51:12,970 INFO output.FileOutputCommitter: File Output Committer Algorithm version is 2
2025-10-03 12:51:12,970 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output directory:false, ignore cleanup failures:
2025-10-03 12:51:12,973 INFO mapred.LocalJobRunner: OutputCommitter is org.apache.hadoop.mapreduce.lib.output.FileOutputCommitter
2025-10-03 12:51:13,060 INFO mapred.LocalJobRunner: Waiting for map tasks
2025-10-03 12:51:13,061 INFO mapred.LocalJobRunner: Starting task: attempt_local1093694298_0001_m_000000_0
2025-10-03 12:51:13,112 INFO output.FileOutputCommitter: File Output Committer Algorithm version is 2
2025-10-03 12:51:13,113 INFO output.FileOutputCommitter: FileOutputCommitter skip cleanup _temporary folders under output directory:false, ignore cleanup failures:
2025-10-03 12:51:13,148 INFO mapred.Task:  Using ResourceCalculatorProcessTree : [ ]
2025-10-03 12:51:13,163 INFO mapred.MapTask: Processing split: hdfs://localhost:54310/input/IntroToHadoop.txt:0+187
2025-10-03 12:51:13,296 INFO mapred.MapTask: (EQUATOR) 0 kvi 26214396(104857584)
2025-10-03 12:51:13,296 INFO mapred.MapTask: mapreduce.task.io.sort.mb: 100
2025-10-03 12:51:13,296 INFO mapred.MapTask: soft limit at 83886080
2025-10-03 12:51:13,296 INFO mapred.MapTask: bufstart = 0; bufvoid = 104857600
2025-10-03 12:51:13,296 INFO mapred.MapTask: kvstart = 26214396; length = 6553600
2025-10-03 12:51:13,312 INFO mapred.MapTask: Map output collector class = org.apache.hadoop.mapred.MapTask$MapOutputBuffer
2025-10-03 12:51:13,838 INFO mapred.LocalJobRunner:
2025-10-03 12:51:13,847 INFO mapred.MapTask: Starting flush of map output
2025-10-03 12:51:13,847 INFO mapred.MapTask: Spilling map output
2025-10-03 12:51:13,847 INFO mapred.MapTask: bufstart = 0; bufend = 295; bufvoid = 104857600
2025-10-03 12:51:13,847 INFO mapred.MapTask: kvstart = 26214396(104857584); kvend = 26214292(104857168); length = 105/6553600
2025-10-03 12:51:13,925 INFO mapred.MapTask: Finished spill 0
2025-10-03 12:51:13,959 INFO mapreduce.Job: Job job_local1093694298_0001 running in uber mode : false
2025-10-03 12:51:13,960 INFO mapreduce.Job:  map 0% reduce 0%
2025-10-03 12:51:13,963 INFO mapred.Task: Task:attempt_local1093694298_0001_m_000000_0 is done. And is in the process of committing
2025-10-03 12:51:13,979 INFO mapred.LocalJobRunner: map
2025-10-03 12:51:13,980 INFO mapred.Task: Task 'attempt_local1093694298_0001_m_000000_0' done.
2025-10-03 12:51:13,996 INFO mapred.Task: Final Counters for attempt_local1093694298_0001_m_000000_0: Counters: 24
```

Step 6: Display the results

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

```
hduser@sjt217score010:~$ hdfs dfs -cat /output/part-r-00000
2025-10-03 12:57:17,083 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Hadoop  1
a       1
across  1
an      1
and     1
clusters        1
computers       1
datasets        1
expensive       1
framework       1
handles 1
inexpensive     1
is      1
machine.        1
massive 1
of      2
on      1
open-source     1
processing      1
rather  1
relying 1
single  1
storage 1
than    1
that    1
the     1
```