LAB SHEET 2

(Single-Node Hadoop Cluster with Docker)

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Academic Period : 3rd Year 2nd Semester

Setting up the Distributed Hadoop Cluster

Prepare the Docker Compose File

Deploy the Cluster

Verify Cluster Status

Uploading Data to HDFS

Upload Data to HDFS

Running a MapReduce Job

Run the WordCount MapReduce Job

Monitor the Job

```
What's next:
    Try Docker Debug for seamless, persistent debugging tools in any container or image → docker debug namenode
    Learn more at https://docs.docker.com/go/debug-cli/
PS D:\Docker\Docker - Practicles_02> docker exec -it namenode hdfs dfs -ls /new_output
Found 2 items
-rw-r--r--   3 root supergroup          0 2024-11-25 09:45 /new_output/_SUCCESS
-rw-r--r--   3 root supergroup        205 2024-11-25 09:45 /new_output/part-r-00000
```

```
What's next:
    Try Docker Debug for seamless, persistent debugging tools in any container or image → docker debug namenode
    Learn more at https://docs.docker.com/go/debug-cli/
PS D:\Docker\Docker - Practicles_02> docker exec -it namenode hdfs dfs -cat /new_output/part-r-00000
2024-11-25 10:03:21,729 INFO sasl.SaslDataTransferClient: SASL encryption trust check: localHostTrusted = false, remote
ostTrusted = false
If      1
Legend, 1
Mr.     1
Wayne.  1
a       1
an      1
and     1
become  1
can't   1
devote  1
else    1
entirely…       1
ideal,  1
if      2
just    1
make    1
man,    1
more    1
```

Clean Up the Cluster

```
PS D:\Docker\Docker - Practicles_02> docker-compose down
time="2024-11-25T15:36:38+05:30" level=warning msg="D:\\Docker\\Docker - Practicles_02\\docker-compose.yml: the attribut
e `version` is obsolete, it will be ignored, please remove it to avoid potential confusion"
[+] Running 4/4
 ✓ Container historyserver                Removed                                                         11.7s
 ✓ Container datanode                     Removed                                                         10.5s
 ✓ Container namenode                     Removed                                                         12.0s
 ✓ Network docker-practicles_02_default   Removed                                                          0.4s
PS D:\Docker\Docker - Practicles_02>
```