

Task 1

1. Start Hadoop single node on Acadgild VM (Command start-all.sh)

```
acadgild@localhost~  
[acadgild@localhost ~]$ start-all.sh  
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh  
18/06/28 00:25:49 WARN util.NativeCodeLoader: Unable to load native-hadoop  
library for your platform... using builtin-java classes where applicable  
Starting namenodes on [localhost]  
localhost: starting namenode, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/hadoop-acadgild-namenode-localhost.localdomain.out  
localhost: starting datanode, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/hadoop-acadgild-datanode-localhost.localdomain.out  
Starting secondary namenodes [0.0.0.0]  
0.0.0.0: starting secondarynamenode, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/hadoop-acadgild-secondarynamenode-localhost.localdomain.out  
18/06/28 00:26:12 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
starting yarn daemons  
starting resourcemanager, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/yarn-acadgild-resourcemanager-localhost.localdomain.out  
localhost: starting nodemanager, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/yarn-acadgild-nodemanager-localhost.localdomain.out  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$
```

2. Run a JPS Command to see if all the Hadoop daemons are running

```
acadgild@localhost~  
[acadgild@localhost ~]$ start-all.sh  
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh  
18/06/28 00:25:49 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
Starting namenodes on [localhost]  
localhost: starting namenode, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/hadoop-acadgild-namenode-localhost.localdomain.out  
localhost: starting datanode, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/hadoop-acadgild-datanode-localhost.localdomain.out  
Starting secondary namenodes [0.0.0.0]  
0.0.0.0: starting secondarynamenode, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/hadoop-acadgild-secondarynamenode-localhost.localdomain.out  
18/06/28 00:26:12 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
starting yarn daemons  
starting resourcemanager, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/yarn-acadgild-resourcemanager-localhost.localdomain.out  
localhost: starting nodemanager, logging to /home/acadgild/install/hadoop/hadoop-2.6.5/logs/yarn-acadgild-nodemanager-localhost.localdomain.out  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ jps  
5905 SecondaryNameNode  
6049 ResourceManager  
6150 NodeManager  
6793 Jps  
5594 NameNode  
5693 DataNode  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ ^C  
[acadgild@localhost ~]$
```

3. Run couple of Unix commands like pwd, ls -ls etc.

Comments: Commands executed are

- pwd command is used to retrieve present working directory
- ls command lists the directories and files present in the current directory. Example ls -ls list the files and directories in the order along with other details like access write, time of access and so on.
- mkdir command is to make a new directory. Example mkdir sample where sample is a directory name.

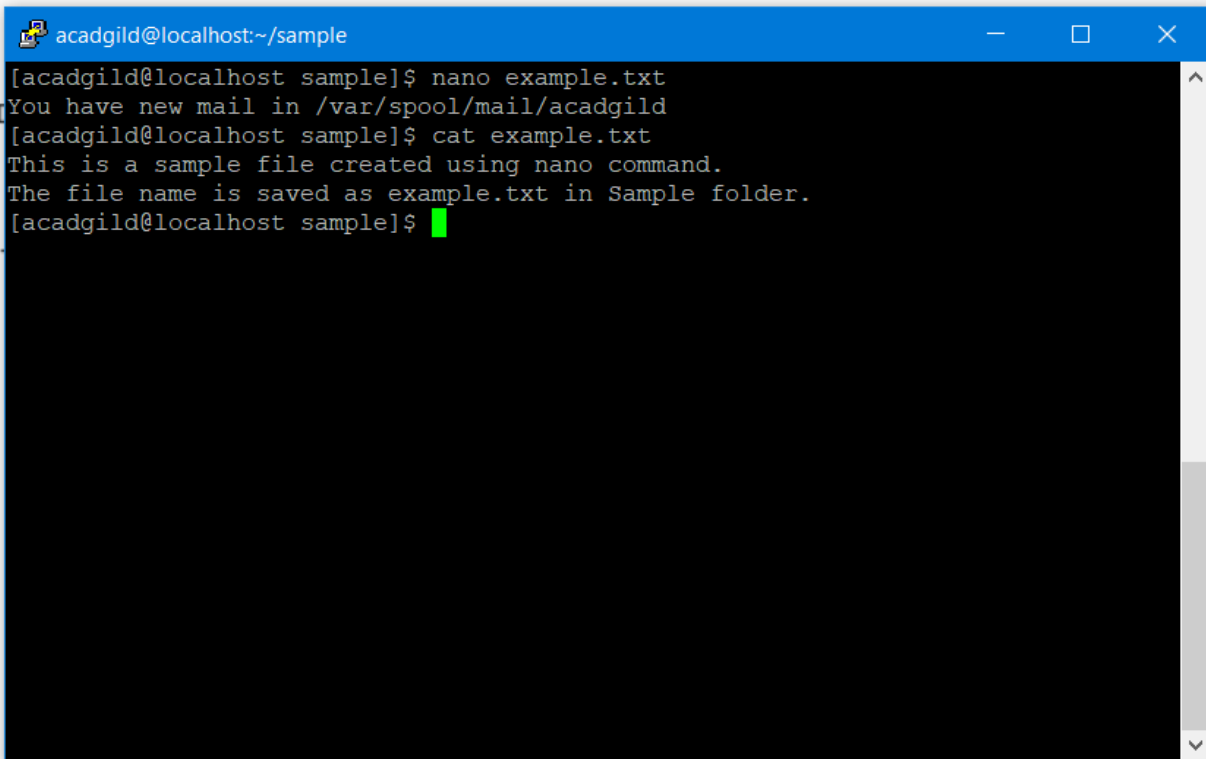
```

You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ ^C
[acadgild@localhost ~]$ pwd
/home/acadgild
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ ls -ls
total 76
0 -rw-rw-r--. 1 acadgild acadgild 0 Jun 17 13:12 abc
4 drwxr-xr-x. 3 acadgild acadgild 4096 Feb 2 12:51 Desktop
4 drwxr-xr-x. 2 acadgild acadgild 4096 Feb 2 12:52 Documents
4 drwxr-xr-x. 2 acadgild acadgild 4096 Feb 13 14:24 Downloads
4 drwxrwxr-x. 3 acadgild acadgild 4096 Dec 29 16:59 eclipse
4 drwxrwxr-x. 3 acadgild acadgild 4096 Jan 16 14:02 eclipse-workspace
4 -rw-rw-r--. 1 acadgild acadgild 178 Jun 24 13:52 emp_data_complex.txt
4 -rw-rw-r--. 1 acadgild acadgild 63 Jun 24 12:00 emp_data.txt
4 -rw-rw-r--. 1 acadgild acadgild 108 Jun 24 14:05 employee.csv
4 drwxrwxr-x. 4 acadgild acadgild 4096 Jun 17 13:47 example
0 -rw-rw-r--. 1 acadgild acadgild 0 Jun 17 13:12 f3
4 drwxrwxr-x. 13 acadgild acadgild 4096 Feb 9 18:06 install
4 -rw-rw-r--. 1 acadgild acadgild 55 Jun 24 14:23 location.txt
4 drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Music
0 -rw-rw-r--. 1 acadgild acadgild 0 Jun 17 13:10 nazia
4 -rw-rw-r--. 1 acadgild acadgild 41 Jun 17 13:07 nazia.txt
4 drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Pictures
4 drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Public
4 drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Templates
4 drwxrwxr-x. 2 acadgild acadgild 4096 Jun 17 14:00 test
4 -rw-rw-r--. 1 acadgild acadgild 122 Jun 24 14:22 user.txt
4 drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Videos
0 -rw-rw-r--. 1 acadgild acadgild 0 Jun 17 13:12 xyz
[acadgild@localhost ~]$ mkdir test
mkdir: cannot create directory `test': File exists
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ mkdir sample
[acadgild@localhost ~]$ cd sample
[acadgild@localhost sample]$ █

```

4. Create a file from the terminal using nano editor (for example nano test.txt) and put some Content in it. Cat it to see if the content is saved.

Comments: Screenshot below of file created using nano editor and later content display on terminal using Cat command.

A terminal window with a blue title bar containing the text 'acadgild@localhost:~/sample' and standard window controls. The terminal has a black background with white text. It shows the execution of 'nano example.txt', a system message about new mail, and the output of 'cat example.txt' which contains two lines of text. A green cursor is visible at the end of the last command line.

```
acadgild@localhost:~/sample
[acadgild@localhost sample]$ nano example.txt
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost sample]$ cat example.txt
This is a sample file created using nano command.
The file name is saved as example.txt in Sample folder.
[acadgild@localhost sample]$
```

5. Open the hdfs web page from the browser by typing localhost:50070 in the browser. Check all the details of the HDFS.

Comments: Screenshots below of the webpage with all the HDFS details like namenode details, editlog, file information

Main page which displays overview

The screenshot shows the Hadoop NameNode Overview page in Mozilla Firefox. The browser's address bar displays 'localhost:50070/dfshealth.html#tab-overview'. The page has a green navigation bar with tabs: Hadoop, Overview (selected), Datanodes, Snapshot, Startup Progress, and Utilities. The main content area is titled 'Overview 'localhost:8020' (active)'. Below the title is a table with the following information:

Started:	Thu Jun 28 23:17:58 IST 2018
Version:	2.6.5, re8c9fe0b4c252caf2ebf1464220599650f119997
Compiled:	2016-10-02T23:43Z by sjlee from branch-2.6.5
Cluster ID:	CID-7b3f9bd8-f34c-4fb8-87aa-f76b6dfbd809
Block Pool ID:	BP-437583619-127.0.0.1-1517555661954

Below the table is a section titled 'Summary'. It contains the following text:

Security is off.
Safemode is off.
85 files and directories, 48 blocks = 133 total filesystem object(s).
Heap Memory used 30.89 MB of 62.06 MB Heap Memory. Max Heap Memory is 966.69 MB.

The browser's taskbar at the bottom shows two tabs: 'Google - Mozilla Firefox' and 'NameNode informatio...'.

Datanode Information

The screenshot shows the Hadoop NameNode Datanode Information page in Mozilla Firefox. The browser's address bar displays 'localhost:50070/dfshealth.html#tab-datanode'. The page has a green navigation bar with tabs: Hadoop, Overview, Datanodes (selected), Snapshot, Startup Progress, and Utilities. The main content area is titled 'Datanode Information'. Below the title is a section titled 'In operation'. It contains a table with the following information:

Node	Last contact	Admin State	Capacity	Used	Non DFS Used	Remaining	Blocks	Block pool used	Failed Volumes	Version
localhost (127.0.0.1:50010)	1	In Service	17.11 GB	4.17 MB	11.74 GB	5.36 GB	48	4.17 MB (0.02%)	0	2.6.5

Below the 'In operation' section is a section titled 'Decommissioning'. It contains a table with the following information:

Node	Last contact	Under replicated blocks	Blocks with no live replicas	Under Replicated Blocks In files under construction
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The browser's taskbar at the bottom shows two tabs: 'Google - Mozilla Firefox' and 'NameNode informatio...'.

Edit log details

ApplicationsPlacesSystem

Namenode information - Mozilla Firefox

Thu Jun 28, 11:26 PMAcadgild

GoogleNamenode information

localhost:50070/dfshealth.html#tab-startup-progress

Search

Startup Progress

Elapsed Time: 39 sec, Percent Complete: 100%

Phase	Completion	Elapsed Time
Loading fsimage /home/acadgild/install/data/dfs/name/current /fsimage_00000000000000001800 8.28 KB	100%	1 sec
inodes (0/0)	100%	
delegation tokens (0/0)	100%	
cache pools (0/0)	100%	
Loading edits	100%	0 sec
/home/acadgild/install/data/dfs/name/current /edits_00000000000000001801-00000000000000001801 1 MB (1/1)	100%	
Saving checkpoint	100%	0 sec
inodes /home/acadgild/install/data/dfs/name/current/fsimage.ckpt_00000000000000001801 (0/0)	100%	
delegation tokens /home/acadgild/install/data/dfs/name/current /fsimage.ckpt_00000000000000001801 (0/0)	100%	
cache pools /home/acadgild/install/data/dfs/name/current /fsimage.ckpt_00000000000000001801 (0/0)	100%	

Google - Mozilla FirefoxNamenode informatio...

Directory Details

ApplicationsPlacesSystem

Browsing HDFS - Mozilla Firefox

Thu Jun 28, 11:26 PMAcadgild

GoogleBrowsing HDFS

localhost:50070/explorer.html#/example

Search

HadoopOverviewDatanodesSnapshotStartup ProgressUtilities

Browse Directory

/example

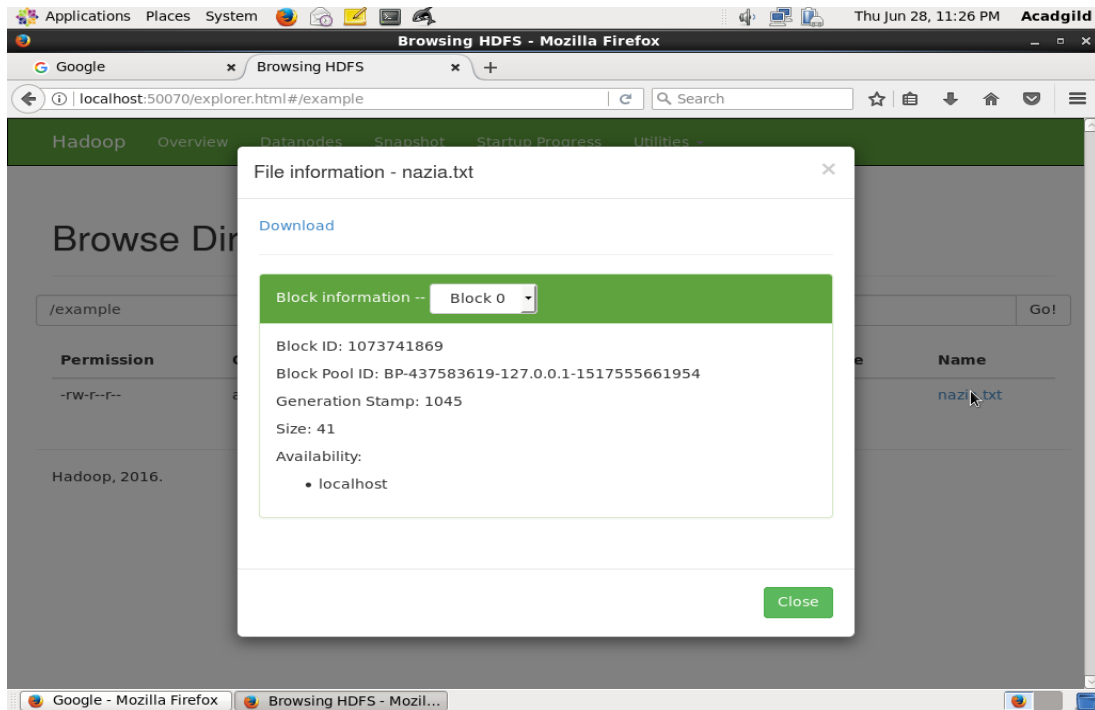
Go!

Permission	Owner	Group	Size	Replication	Block Size	Name
-rw-r--r--	acadgild	supergroup	41 B	1	128 MB	nazi.txt

Hadoop, 2016.

Google - Mozilla FirefoxBrowsing HDFS - Mozil...

File details with number of blocks created, block id , size and so on.



TASK 2

1. Check whether /user/acadgild directory exists or not in the HDFS. If it doesn't exist, then create this. Create a directory /user/acadgild/Hadoop.

Comments: User directory already existed, hence directory acadgild and sub directory hadoop was created using mkdir command. Screenshots below.

```
acadgild@localhost:~$  
[acadgild@localhost ~]$ hadoop fs -ls /  
18/07/06 16:47:44 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
Found 12 items  
drwxr-xr-x - acadgild supergroup          0 2018-06-17 14:38 /example  
drwxr-xr-x - acadgild supergroup          0 2018-07-01 11:21 /hbase  
drwxr-xr-x - acadgild supergroup          0 2018-07-04 14:06 /output12  
drwxr-xr-x - acadgild supergroup          0 2018-02-02 12:49 /sqoopout111  
drwxr-xr-x - acadgild supergroup          0 2018-07-04 13:59 /task12  
drwxr-xr-x - acadgild supergroup          0 2018-06-17 13:55 /test  
drwxrwx--- - acadgild supergroup          0 2018-06-24 12:34 /tmp  
drwxr-xr-x - acadgild supergroup          0 2018-07-06 16:47 /user  
drwxr-xr-x - acadgild supergroup          0 2018-07-04 14:19 /wordcount  
-rw-r--r-- 1 acadgild supergroup        49 2018-07-04 14:17 /wordcount.txt  
drwxr-xr-x - acadgild supergroup          0 2018-07-04 18:21 /wordmean1  
drwxr-xr-x - acadgild supergroup          0 2018-06-24 13:04 /xyz  
[acadgild@localhost ~]$ hadoop fs -mkdir /user/acadgild/hadoop  
18/07/06 16:48:37 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
mkdir: '/user/acadgild/hadoop': No such file or directory  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ hadoop fs -ls /user  
18/07/06 16:49:02 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
Found 1 items  
drwxr-xr-x - acadgild supergroup          0 2018-02-09 14:50 /user/hive  
[acadgild@localhost ~]$ hadoop fs -mkdir -p /user/acadgild/hadoop  
18/07/06 16:49:15 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
[acadgild@localhost ~]$ hadoop fs -ls /user  
18/07/06 16:49:23 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
Found 2 items  
drwxr-xr-x - acadgild supergroup          0 2018-07-06 16:49 /user/acadgild  
drwxr-xr-x - acadgild supergroup          0 2018-02-09 14:50 /user/hive  
[acadgild@localhost ~]$ hadoop fs -ls /user/acadgild  
18/07/06 16:49:35 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable  
Found 1 items  
drwxr-xr-x - acadgild supergroup          0 2018-07-06 16:49 /user/acadgild/hadoop  
[acadgild@localhost ~]$
```

2. Create a file in HDFS under directory `/user/acadgild/Hadoop`, with name `word-count.txt`. Whatever we type on screen should get appended to the file. Try to type (on screen) few lines from any online article or textbook.

Comments: A few lines are written on the screen and saved in a file. This file content is appended into a new file name 'word-count.txt' in the directory /user/acadgild/Hadoop using "-appendToFile" command.

```
acadm@localhost:~$ cat file.txt  
This is training on hadoop big data by acadm  
This file is created using vi command.  
This is an example to create a new file using append command.
```

```

[acacgild@localhost ~]$ vi word-count.txt
You have new mail in /var/spool/mail/acacgild
[acacgild@localhost ~]$ hadoop fs -appendToFile word-count.txt /user/acacgild/hadoop/word-count.txt
18/07/06 18:40:37 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
[acacgild@localhost ~]$ hadoop fs -cat /user/acacgild/hadoop/word-count.txt^C
You have new mail in /var/spool/mail/acacgild
[acacgild@localhost ~]$ hadoop fs -ls /user/acacgild/hadoop
18/07/06 18:41:42 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 1 items
-rw-r--r-- 1 acacgild supergroup 150 2018-07-06 18:40 /user/acacgild/hadoop/word-count.txt
[acacgild@localhost ~]$ hadoop fs ^C
[acacgild@localhost ~]$ hadoop fs -cat /user/acacgild/hadoop/word-count.txt
18/07/06 18:42:26 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
This is training on hadoop big data by acacgild
This file is created using vi command.
This is an exaxmple to create a new file using append command.
You have new mail in /var/spool/mail/acacgild
[acacgild@localhost ~]$ █

```


3. Create a file max-temp.txt in local FS. Put some 10-15 records of date and temperature. Example: dd-mm-yyyy, temperature
Move this file to HDFS at /user/acadgild/Hadoop.

Comments: Max-temp.txt file is created in local FS and then the file is moved to HDFS using -put command. The -put command creates a new file with the file name max-temp.txt itself in path /user/acadgild/Hadoop.

```
[acadgild@localhost ~]$ vi max-temp.txt
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ ls
10) Downloads emp_data.txt hive-hcatalog-core-0.14.0.jar location.txt pig_1530346437451.log sample Templates
dataset.txt eclipse emp_details.txt install max-temp.txt pig_1530349860919.log sample.txt user.txt
Desktop eclipse-workspace employee.csv jdk-8u171-windows-x64.exe Music Public task12.jar Videos
Documents emp_data_complex.txt f3 json.txt Pictures reg.txt task3.jar wordcount.jar
[acadgild@localhost ~]$ hadoop fs -put max-temp.txt /user/acadgild/hadoop
18/07/06 18:55:28 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop fs -ls /user/acadgild/hadoop
18/07/06 18:55:41 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 2 items
-rw-r--r-- 1 acadgild supergroup 94 2018-07-06 18:55 /user/acadgild/hadoop/max-temp.txt
-rw-r--r-- 1 acadgild supergroup 150 2018-07-06 18:40 /user/acadgild/hadoop/word-count.txt
[acadgild@localhost ~]$ hadoop fs -cat /user/acadgild/hadoop/max-temp.txt
18/07/06 18:56:13 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
01-07-2018,22
02-07-2018,24
12-04-2017,30
23-9-2016,26
4-5-2014,35
9-10-2014,15
20-11-2013,45
[acadgild@localhost ~]$
```

4. Change the permission of the file /user/acadgild/Hadoop/max-temp.txt, such that only the owner and the group members have full control over the file. Others do not have any control over it.

Comments: The permission access is changed by using command “-chmod”.

```
[acadgild@localhost ~]$ hadoop fs -chmod 777 /user/acadgild/hadoop/max-temp.txt
18/07/06 19:12:35 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using built
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop fs -ls /user/acadgild/hadoop
18/07/06 19:12:45 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using built
Found 2 items
-rwxrwxrwx 1 acadgild supergroup 94 2018-07-06 18:55 /user/acadgild/hadoop/max-temp.txt
-rw-r--r-- 1 acadgild supergroup 150 2018-07-06 18:40 /user/acadgild/hadoop/word-count.txt
[acadgild@localhost ~]$ hadoop fs -chmod 770 /user/acadgild/hadoop/max-temp.txt
18/07/06 19:13:03 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using built
[acadgild@localhost ~]$ hadoop fs -ls /user/acadgild/hadoop
18/07/06 19:13:10 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using built
Found 2 items
-rwxrwx--- 1 acadgild supergroup 94 2018-07-06 18:55 /user/acadgild/hadoop/max-temp.txt
-rw-r--r-- 1 acadgild supergroup 150 2018-07-06 18:40 /user/acadgild/hadoop/word-count.txt
[acadgild@localhost ~]$
```

TASK 3

1. Execute WordMedian, WordMean, WordStandardDeviation programs using Hadoop-mapreduce-examples-2.9.0.jar file present in your AcadGild VM

Comments: Screenshot of execution of wordmean program

```
at org.apache.hadoop.util.RunJar.main(RunJar.java:136)
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop jar hadoop-mapreduce-examples-2.6.5.jar wordmean /wordcount.txt /outputwordmean
18/07/08 14:11:12 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applica
18/07/08 14:11:13 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/07/08 14:11:15 INFO input.FileInputFormat: Total input paths to process : 1
18/07/08 14:11:15 INFO mapreduce.JobSubmitter: number of splits:1
18/07/08 14:11:16 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1531027983712_0004
18/07/08 14:11:16 INFO impl.YarnClientImpl: Submitted application application_1531027983712_0004
18/07/08 14:11:16 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1531027983712_0004/
18/07/08 14:11:16 INFO mapreduce.Job: Running job: job_1531027983712_0004
18/07/08 14:11:27 INFO mapreduce.Job: Job job_1531027983712_0004 running in uber mode : false
18/07/08 14:11:27 INFO mapreduce.Job: map 0% reduce 0%
18/07/08 14:11:35 INFO mapreduce.Job: map 100% reduce 0%
18/07/08 14:11:44 INFO mapreduce.Job: map 100% reduce 100%
18/07/08 14:11:45 INFO mapreduce.Job: Job job_1531027983712_0004 completed successfully
18/07/08 14:11:45 INFO mapreduce.Job: Counters: 49
File System Counters
  FILE: Number of bytes read=39
  FILE: Number of bytes written=215405
  FILE: Number of read operations=0
  FILE: Number of large read operations=0
  FILE: Number of write operations=0
```

```
[acadgild@localhost ~]$ hadoop fs -ls /outputwordmedian
18/07/08 14:28:04 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platfo
ls: '/outputwordmedian': No such file or directory
[acadgild@localhost ~]$ hadoop fs -ls /outputwordmean
18/07/08 14:28:25 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platfo
Found 2 items
-rw-r--r-- 1 acadgild supergroup 0 2018-07-08 14:11 /outputwordmean/_SUCCESS
-rw-r--r-- 1 acadgild supergroup 18 2018-07-08 14:11 /outputwordmean/part-r-00000
[acadgild@localhost ~]$ hadoop fs -cat/outputwordmean/part-r-00000
-cat/outputwordmean/part-r-00000: Unknown command
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop fs -cat /outputwordmean/part-r-00000
18/07/08 14:29:30 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platfo
count 6
length 42
[acadgild@localhost ~]$ ls
```

Screenshot of wordmedian

```
acagild@localhost ~]$ hadoop jar hadoop-mapreduce-examples-2.6.5.jar wordmedian /wordcount.txt /outputwordmedian
18/07/08 14:38:30 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/08 14:38:31 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/07/08 14:38:32 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool interface and execute this.
18/07/08 14:38:33 INFO input.FileInputFormat: Total input paths to process : 1
18/07/08 14:38:33 INFO mapreduce.JobSubmitter: number of splits:1
18/07/08 14:38:33 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1531027983712_0005
18/07/08 14:38:34 INFO impl.YarnClientImpl: Submitted application application_1531027983712_0005
18/07/08 14:38:34 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1531027983712_0005/
18/07/08 14:38:34 INFO mapreduce.Job: Running job: job_1531027983712_0005
18/07/08 14:38:45 INFO mapreduce.Job: Job job_1531027983712_0005 running in uber mode : false
18/07/08 14:38:45 INFO mapreduce.Job: map 0% reduce 0%
18/07/08 14:38:52 INFO mapreduce.Job: map 100% reduce 0%
18/07/08 14:39:01 INFO mapreduce.Job: map 100% reduce 100%
18/07/08 14:39:02 INFO mapreduce.Job: Job job_1531027983712_0005 completed successfully
18/07/08 14:39:02 INFO mapreduce.Job: Counters: 49
    File System Counters
        FILE: Number of bytes read=56
```

```
    WRONG_REDUCE=0
    File Input Format Counters
        Bytes Read=49
    File Output Format Counters
        Bytes Written=20
The median is: 7
You have new mail in /var/spool/mail/acagild
acagild@localhost ~]$ hadoop fs -ls /outputwordmedian
18/07/08 14:41:34 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform
Found 2 items
-rw-r--r--  1 acagild supergroup          0 2018-07-08 14:39 /outputwordmedian/_SUCCESS
-rw-r--r--  1 acagild supergroup        20 2018-07-08 14:38 /outputwordmedian/part-r-00000
You have new mail in /var/spool/mail/acagild
acagild@localhost ~]$ hadoop fs -cat /outputwordmedian/part-r-00000
18/07/08 14:41:53 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform
4          1
6          1
7          1
8          2
9          1
acagild@localhost ~]$
```

Screenshot of WordStandardDeviation

```
acagild@localhost ~]$ hadoop jar hadoop-mapreduce-examples-2.6.5.jar wordstandarddeviation /wordcount.txt /outputstanddeviation
18/07/08 14:45:34 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
18/07/08 14:45:35 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/07/08 14:45:37 INFO input.FileInputFormat: Total input paths to process : 1
18/07/08 14:45:37 INFO mapreduce.JobSubmitter: number of splits:1
18/07/08 14:45:37 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1531027983712_0006
18/07/08 14:45:38 INFO impl.YarnClientImpl: Submitted application application_1531027983712_0006
18/07/08 14:45:38 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1531027983712_0006/
18/07/08 14:45:38 INFO mapreduce.Job: Running job: job_1531027983712_0006
18/07/08 14:45:49 INFO mapreduce.Job: Job job_1531027983712_0006 running in uber mode : false
18/07/08 14:45:49 INFO mapreduce.Job: map 0% reduce 0%
18/07/08 14:45:58 INFO mapreduce.Job: map 100% reduce 0%
18/07/08 14:46:08 INFO mapreduce.Job: map 100% reduce 100%
18/07/08 14:46:09 INFO mapreduce.Job: Job job_1531027983712_0006 completed successfully
18/07/08 14:46:09 INFO mapreduce.Job: Counters: 49
    File System Counters
        FILE: Number of bytes read=56
        FILE: Number of bytes written=215611
        FILE: Number of read operations=0
```

```
File Input Format Counters
  Bytes Read=49
File Output Format Counters
  Bytes Written=29
The standard deviation is: 1.6329931618554514
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop fs -ls /outputstanddeviation
18/07/08 14:48:55 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform...
Found 2 items
-rw-r--r--  1 acadgild supergroup      0 2018-07-08 14:46 /outputstanddeviation/_SUCCESS
-rw-r--r--  1 acadgild supergroup    29 2018-07-08 14:46 /outputstanddeviation/part-r-00000
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hadoop fs -cat /outputstanddeviation/part-r-00000
18/07/08 14:49:36 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform...
count      6
length    42
square    310
[acadgild@localhost ~]$
```