

Assignment # 2.1 – INTRODUCTION TO HDFS

Date: 25-Oct-2018

TASK 1:

Task:

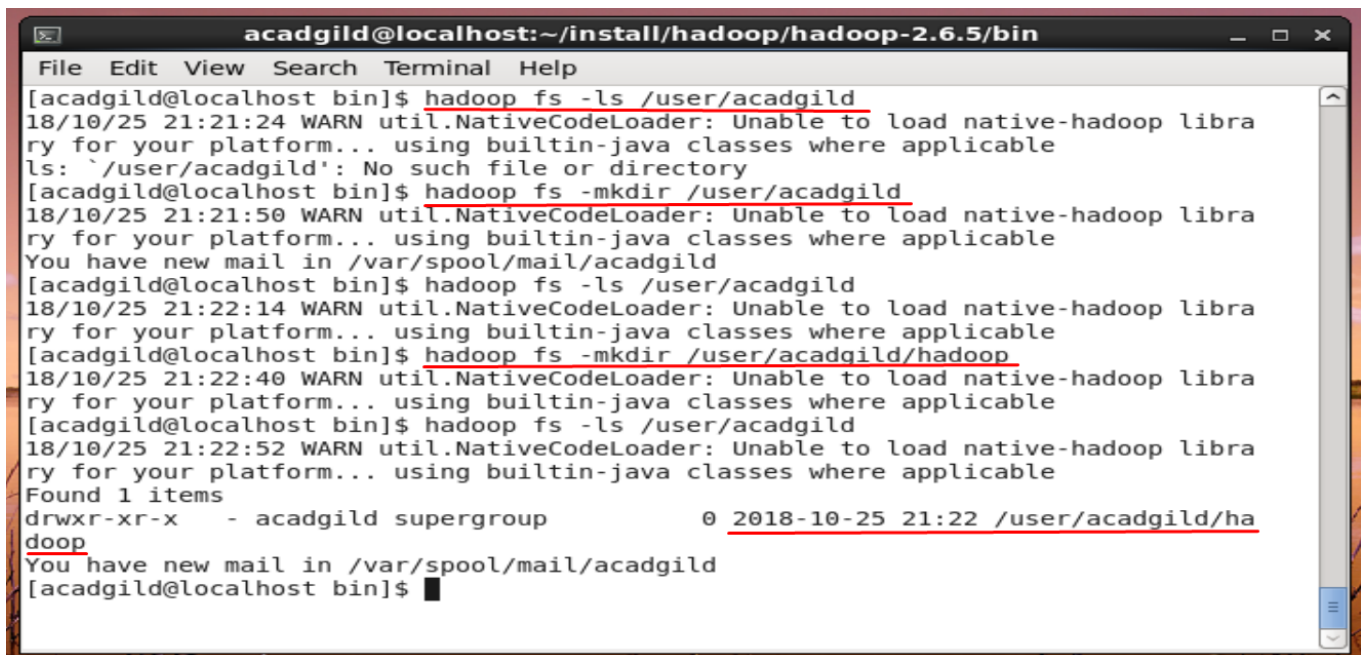
- Check whether /user/acadgild directory exists or not in the HDFS.
- If it doesn't exist, then create this.
- Create a directory /user/acadgild/hadoop.

Explanation:

- Execute "hadoop fs -ls /user/acadgild" command to check whether the folder exist or not.
- If not exist, execute "hadoop fs -mkdir /user/acadgild" command to create a new folder "acadgild" under "user" folder.
- Then execute "hadoop fs -mkdir /user/acadgild/hadoop" command to create "hadoop" folder under acadgild

Output:

Below is the screenshot of the commands executed in terminal.



```
acadgild@localhost:~/install/hadoop/hadoop-2.6.5/bin
File Edit View Search Terminal Help
[acadgild@localhost bin]$ hadoop fs -ls /user/acadgild
18/10/25 21:21:24 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
ls: `/user/acadgild': No such file or directory
[acadgild@localhost bin]$ hadoop fs -mkdir /user/acadgild
18/10/25 21:21:50 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost bin]$ hadoop fs -ls /user/acadgild
18/10/25 21:22:14 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
[acadgild@localhost bin]$ hadoop fs -mkdir /user/acadgild/hadoop
18/10/25 21:22:40 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
[acadgild@localhost bin]$ hadoop fs -ls /user/acadgild
18/10/25 21:22:52 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Found 1 items
drwxr-xr-x  - acadgild supergroup          0 2018-10-25 21:22 /user/acadgild/ha
doo
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost bin]$
```

TASK 2:

Task:

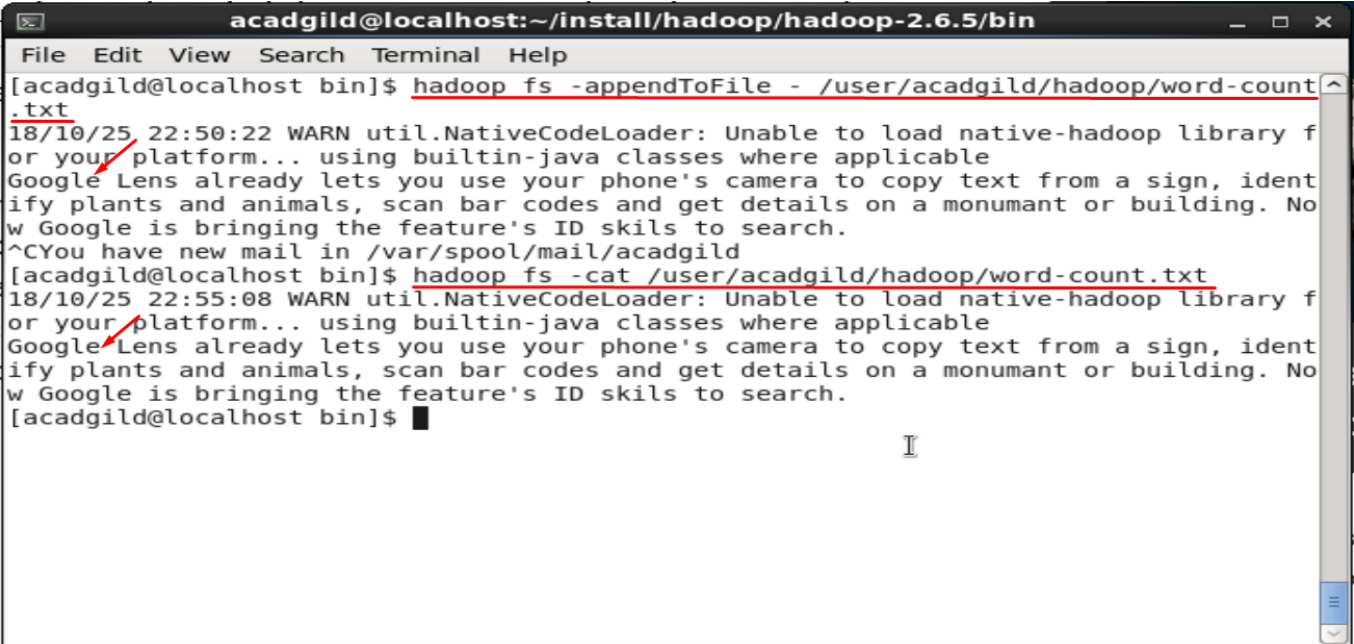
- Create a file in HDFS under directory /user/acadgild/hadoop, with name word-count.txt.
- Whatever we type on screen should get appended to the file.
- Try to type (on screen) few lines from any online article or textbook.

Explanation:

- To create a new file and append the text from stdin, use "hadoop fs -appendToFile - /user/acadgild/hadoop/word-count.txt" in the terminal prompt. This will create a new file word-count.txt and keeps writing text that are keyed in to stdin.
- To view the appended content in to file, execute command "hadoop fs -cat /user/acadgild/hadoop/word-count.txt" in terminal prompt.

Output:

Below is the screenshot of the command executed in terminal.



```
acadgild@localhost:~/install/hadoop/hadoop-2.6.5/bin
File Edit View Search Terminal Help
[acadgild@localhost bin]$ hadoop fs -appendToFile - /user/acadgild/hadoop/word-count.txt
18/10/25 22:50:22 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Google Lens already lets you use your phone's camera to copy text from a sign, identify plants and animals, scan bar codes and get details on a monument or building. Now Google is bringing the feature's ID skills to search.
^CYou have new mail in /var/spool/mail/acadgild
[acadgild@localhost bin]$ hadoop fs -cat /user/acadgild/hadoop/word-count.txt
18/10/25 22:55:08 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Google Lens already lets you use your phone's camera to copy text from a sign, identify plants and animals, scan bar codes and get details on a monument or building. Now Google is bringing the feature's ID skills to search.
[acadgild@localhost bin]$
```

TASK 3:

Task:

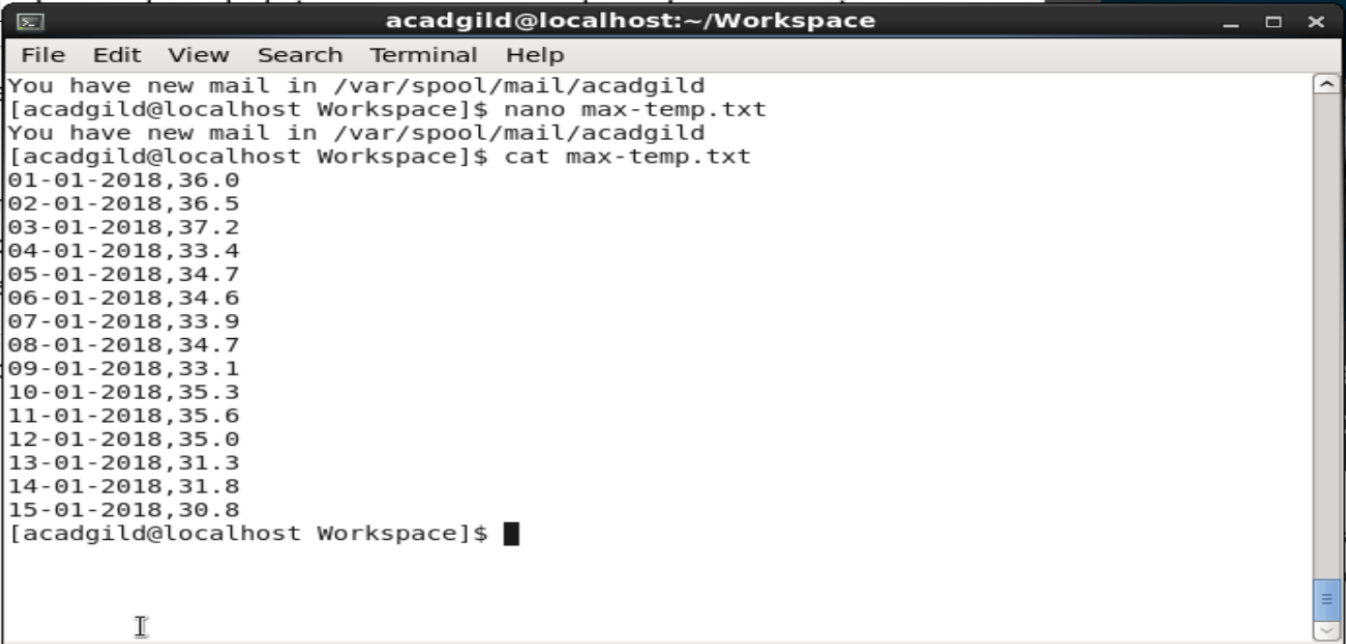
- Create a file max-temp.txt in local FS.
- Put some 10-15 records of date and temperature example:
dd-mm-yyyy,temperature
Example:
10-01-1990,10
10-02-1991,20

Explanation:

- Create a file in local file system using "nano" command
- Use "Hadoop fs -copyFromLocal <localfilename> <destination hdfs folder path>" to copy the file from local file system to hdfs.

Output:

Below is the screenshot of the command executed in the terminal.



```
acadgild@localhost:~/Workspace
File Edit View Search Terminal Help
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost Workspace]$ nano max-temp.txt
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost Workspace]$ cat max-temp.txt
01-01-2018,36.0
02-01-2018,36.5
03-01-2018,37.2
04-01-2018,33.4
05-01-2018,34.7
06-01-2018,34.6
07-01-2018,33.9
08-01-2018,34.7
09-01-2018,33.1
10-01-2018,35.3
11-01-2018,35.6
12-01-2018,35.0
13-01-2018,31.3
14-01-2018,31.8
15-01-2018,30.8
[acadgild@localhost Workspace]$
```

```
acadgild@localhost:~/Workspace
File Edit View Search Terminal Help
07-01-2018,33.9
08-01-2018,34.7
09-01-2018,33.1
10-01-2018,35.3
11-01-2018,35.6
12-01-2018,35.0
13-01-2018,31.3
14-01-2018,31.8
15-01-2018,30.8
[acadgild@localhost Workspace]$ hadoop fs -copyFromLocal max-temp.txt /user/acadgild/hadoop
18/10/25 23:09:16 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 Workspace]$ hadoop fs -ls /user/acadgild/hadoop
18/10/25 23:09:55 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 3 items
-rw-r--r-- 1 acadgild supergroup 96 2018-10-25 22:49 /user/acadgild/hadoop/Test.txt
-rw-r--r-- 1 acadgild supergroup 240 2018-10-25 23:09 /user/acadgild/hadoop/max-temp.txt
-rw-r--r-- 1 acadgild supergroup 223 2018-10-25 22:54 /user/acadgild/hadoop/word-count.txt
```

```
acadgild@localhost:~/Workspace
File Edit View Search Terminal Help
-rw-r--r-- 1 acadgild supergroup 240 2018-10-25 23:09 /user/acadgild/hadoop/max-temp.txt
-rw-r--r-- 1 acadgild supergroup 223 2018-10-25 22:54 /user/acadgild/hadoop/word-count.txt
[acadgild@localhost Workspace]$ hadoop fs -cat /user/acadgild/hadoop/max-temp.txt
18/10/25 23:10:53 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
01-01-2018,36.0
02-01-2018,36.5
03-01-2018,37.2
04-01-2018,33.4
05-01-2018,34.7
06-01-2018,34.6
07-01-2018,33.9
08-01-2018,34.7
09-01-2018,33.1
10-01-2018,35.3
11-01-2018,35.6
12-01-2018,35.0
13-01-2018,31.3
14-01-2018,31.8
15-01-2018,30.8
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost Workspace]$
```

TASK 4:

Task:

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.

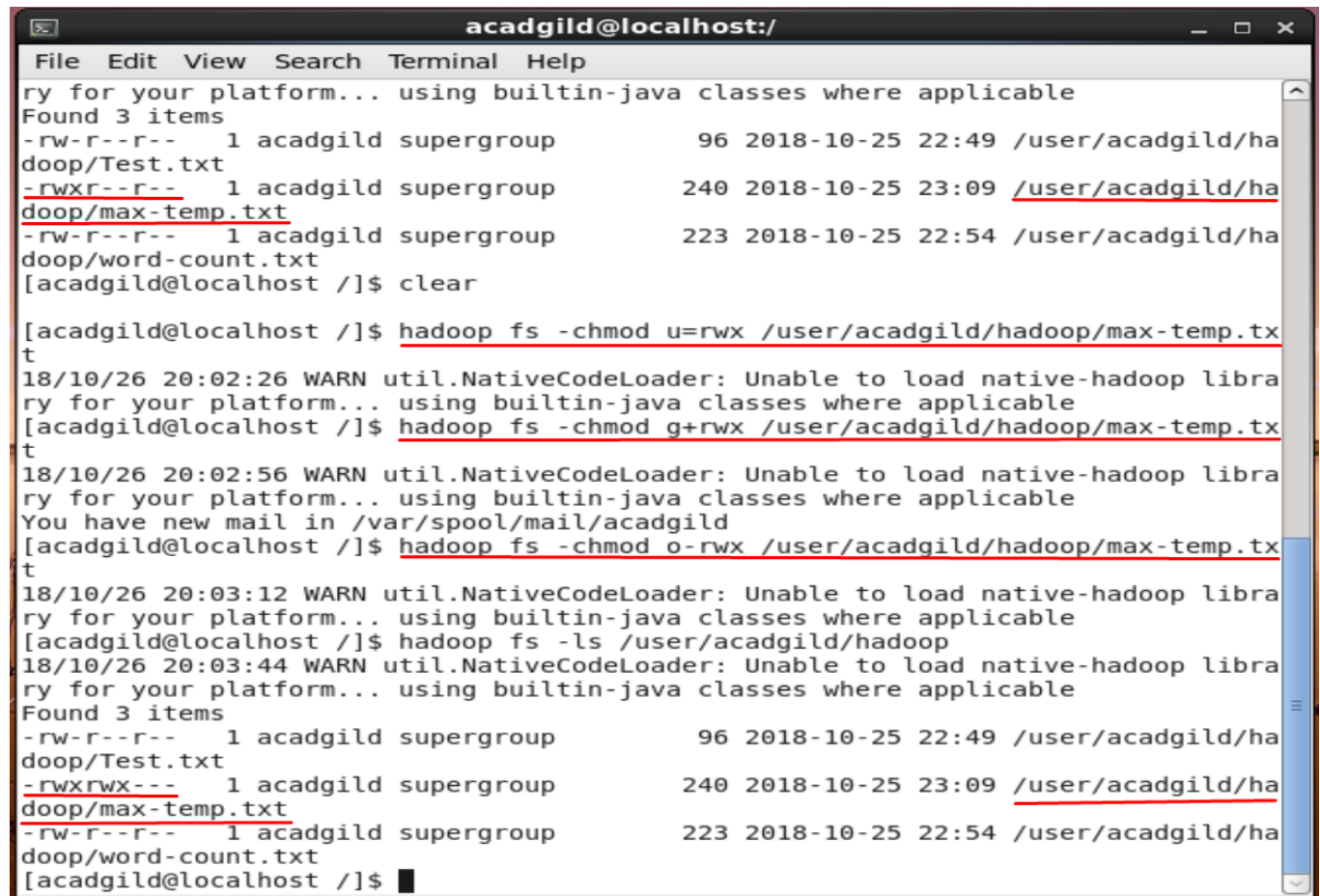
Others do not have any control over it.

Explanation:

- The existing permission of the file "max-temp.txt" is -rwxr--r-. That is, the owner of the file has all permissions – read, write and execute. The group and others have only read permission.
- In order to change the permissions of the file to owner, group and others, below set of commands should be executed to assign the permissions,
 - `hadoop fs -chmod u=rwx <filename>` - This will assign all permissions to the owner
 - `hadoop fs -chmod g=rwx <filename>` - This will assign all permissions to the group
 - `hadoop fs -chmod o=rwx <filename>` - This will revoke all kind of permissions to others

Output:

Below are the screenshot of commands to change the permissions for a file,



```
acadgild@localhost:/  
File Edit View Search Terminal Help  
ry for your platform... using builtin-java classes where applicable  
Found 3 items  
-rw-r--r-- 1 acadgild supergroup          96 2018-10-25 22:49 /user/acadgild/ha  
doop/Test.txt  
-rwxr--r-- 1 acadgild supergroup          240 2018-10-25 23:09 /user/acadgild/ha  
doop/max-temp.txt  
-rw-r--r-- 1 acadgild supergroup          223 2018-10-25 22:54 /user/acadgild/ha  
doop/word-count.txt  
[acadgild@localhost /]$ clear  
  
[acadgild@localhost /]$ hadoop fs -chmod u=rwx /user/acadgild/hadoop/max-temp.tx  
t  
18/10/26 20:02:26 WARN util.NativeCodeLoader: Unable to load native-hadoop libra  
ry for your platform... using builtin-java classes where applicable  
[acadgild@localhost /]$ hadoop fs -chmod g=rwx /user/acadgild/hadoop/max-temp.tx  
t  
18/10/26 20:02:56 WARN util.NativeCodeLoader: Unable to load native-hadoop libra  
ry for your platform... using builtin-java classes where applicable  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost /]$ hadoop fs -chmod o=rwx /user/acadgild/hadoop/max-temp.tx  
t  
18/10/26 20:03:12 WARN util.NativeCodeLoader: Unable to load native-hadoop libra  
ry for your platform... using builtin-java classes where applicable  
[acadgild@localhost /]$ hadoop fs -ls /user/acadgild/hadoop  
18/10/26 20:03:44 WARN util.NativeCodeLoader: Unable to load native-hadoop libra  
ry for your platform... using builtin-java classes where applicable  
Found 3 items  
-rw-r--r-- 1 acadgild supergroup          96 2018-10-25 22:49 /user/acadgild/ha  
doop/Test.txt  
-rwxrwx--- 1 acadgild supergroup          240 2018-10-25 23:09 /user/acadgild/ha  
doop/max-temp.txt  
-rw-r--r-- 1 acadgild supergroup          223 2018-10-25 22:54 /user/acadgild/ha  
doop/word-count.txt  
[acadgild@localhost /]$
```