Assignment 2.1
Session 2 - HDFS Introduction

Tasks :

Task 1:

Check whether /user/acadgild directory exists or not in the HDFS.

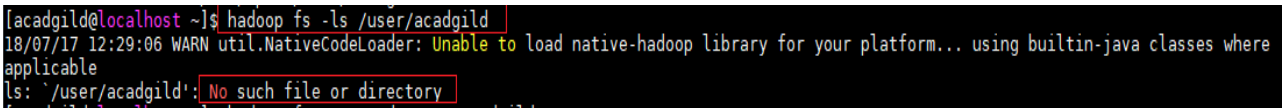
If it doesn't exist, then create this.

Create a directory /user/acadgild/hadoop.

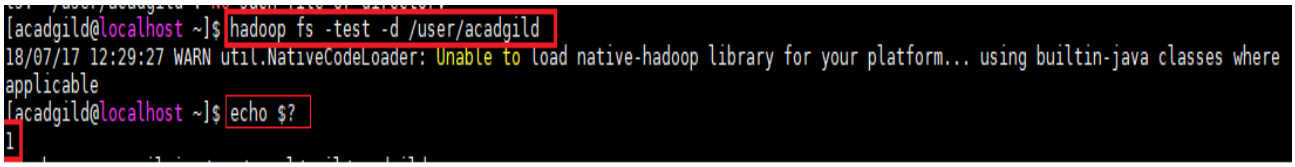
There are two ways to check whether any directory exists in HDFS or not.

1) By using command 'hadoop fs -ls'
2) By using command 'hadoop fs -test'

1) **hadoop fs -ls** :
   Here command 'hadoop fs -ls /user/acadgild' is used to display list of files and directories under this directory. But as directory does not exists, output is 'No such file or directory'.

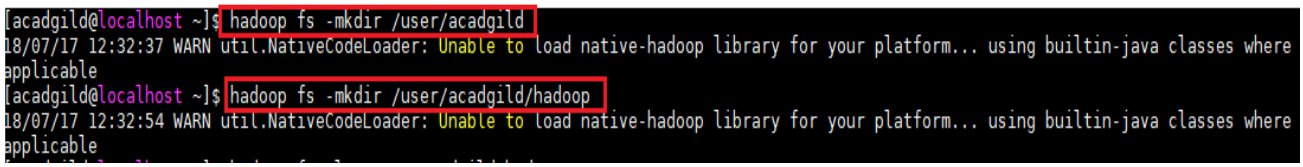


2) **hadoop fs -test** :
   Here in command 'hadoop fs -test -d /user/acadgild', '-d' is for directory, if directory mentioned in path exists then it returns 0 else 1. Here we have used 'echo $?', so that we can see the output. As directory does not exists in Hadoop, result is 1.



Here, we have created 'acadgild' directory under 'user' by using 'mkdir' hdfs command.

Similarly created 'hadoop' directory under 'acadgild' by using 'mkdir' hdfs command.



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Task 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.

Here we have used **appendToFile** command to create a new file 'word-count.txt' under '/user/acadgild/hadoop'. Here we have used '-' next to appendToFile i.e. in place of <sourcefilename> to read input from stdin and appends to destination file in HDFS.

```
[acadgild@localhost ~]$ hadoop fs -appendToFile - /user/acadgild/hadoop/word-count.txt
18/07/17 12:57:37 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where
applicable
Hello Everyone.My name is Sachin Gorade.
I am from Mumbai.I have joined Hadoop online course in Acadgild.
This course commenced from 2nd june 2018.
I have 7 years of experience in Oracle PL/SQL skill.
```

Below, **cat** command displays content in word-count.txt file which we have typed through input console.

```
[acadgild@localhost ~]$ hadoop fs -cat /user/acadgild/hadoop/word-count.txt
18/07/17 13:02:05 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where
applicable
Hello Everyone.My name is Sachin Gorade.
I am from Mumbai.I have joined Hadoop online course in Acadgild.
This course commenced from 2nd june 2018.
I have 7 years of experience in Oracle PL/SQL skill.
```

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Task 3:

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

Move this file to HDFS at /user/acadgild/hadoop.

We have used **nano** command to create a new file 'max-temp.txt' in local file system.

```
[acadgild@localhost ~]$ nano max-temp.txt
You have new mail in /var/spool/mail/acadgild
```

Ctrl+O is to save content in the file. **Ctrl+X** is to come out of this file. Please see below :

```
 GNU nano 2.0.9                    File: max-temp.txt

10-01-1990,10
10-02-1991,20
10-03-1992,30
10-04-1993,40
10-05-1994,50
10-06-1995,60
10-07-1996,70
10-08-1997,80
10-09-1998,90
10-10-1999,100
10-11-2000,110
10-12-2001,120
10-12-2002,130
```

By using **cat** command, we can see content in max-temp.txt in local file system.

```
[acadgild@localhost ~]$ cat max-temp.txt
10-01-1990,10
10-02-1991,20
10-03-1992,30
10-04-1993,40
10-05-1994,50
10-06-1995,60
10-07-1996,70
10-08-1997,80
10-09-1998,90
10-10-1999,100
10-11-2000,110
10-12-2001,120
10-12-2002,130
10-12-2003,140
10-12-2004,150
```

Then to move this file to HDFS at location /user/acadgild/hadoop, we have used **put** command.

Then to verify that it has been moved properly, we have used **ls** command.

```
[acadgild@localhost ~]$ hadoop fs -put max-temp.txt /user/acadgild/hadoop
18/07/17 13:23:33 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
18/07/17 13:23:50 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        217 2018-07-17 13:23 /user/acadgild/hadoop/max-temp.txt
-rw-r--r--   1 acadgild supergroup        201 2018-07-17 13:01 /user/acadgild/hadoop/word-count.txt
```

Task 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.

We have used **chmod** command to change permissions of owner of file,its group members and others. Here **chmod 770** means owner and group members will have all permissions i.e. read,write,execute (4 for read,2 for write,1 for execute; 4+2+1=7) .

Then we have used to **ls** command to list files under '**/user/acadgild/hadoop**', it shows read, write, execute permissions for owner and group members(highlighted in red colour).

```
[acadgild@localhost ~]$ hadoop fs -chmod 770 /user/acadgild/hadoop/max-temp.txt
18/07/17 13:30:00 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where
applicable
[acadgild@localhost ~]$ hadoop fs -ls /user/acadgild/hadoop
18/07/17 13:30:19 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where
applicable
Found 2 items
-rwxrwx---   1 acadgild supergroup        217 2018-07-17 13:23 /user/acadgild/hadoop/max-temp.txt
-rw-r--r--   1 acadgild supergroup        201 2018-07-17 13:01 /user/acadgild/hadoop/word-count.txt
[acadgild@localhost ~]$
```