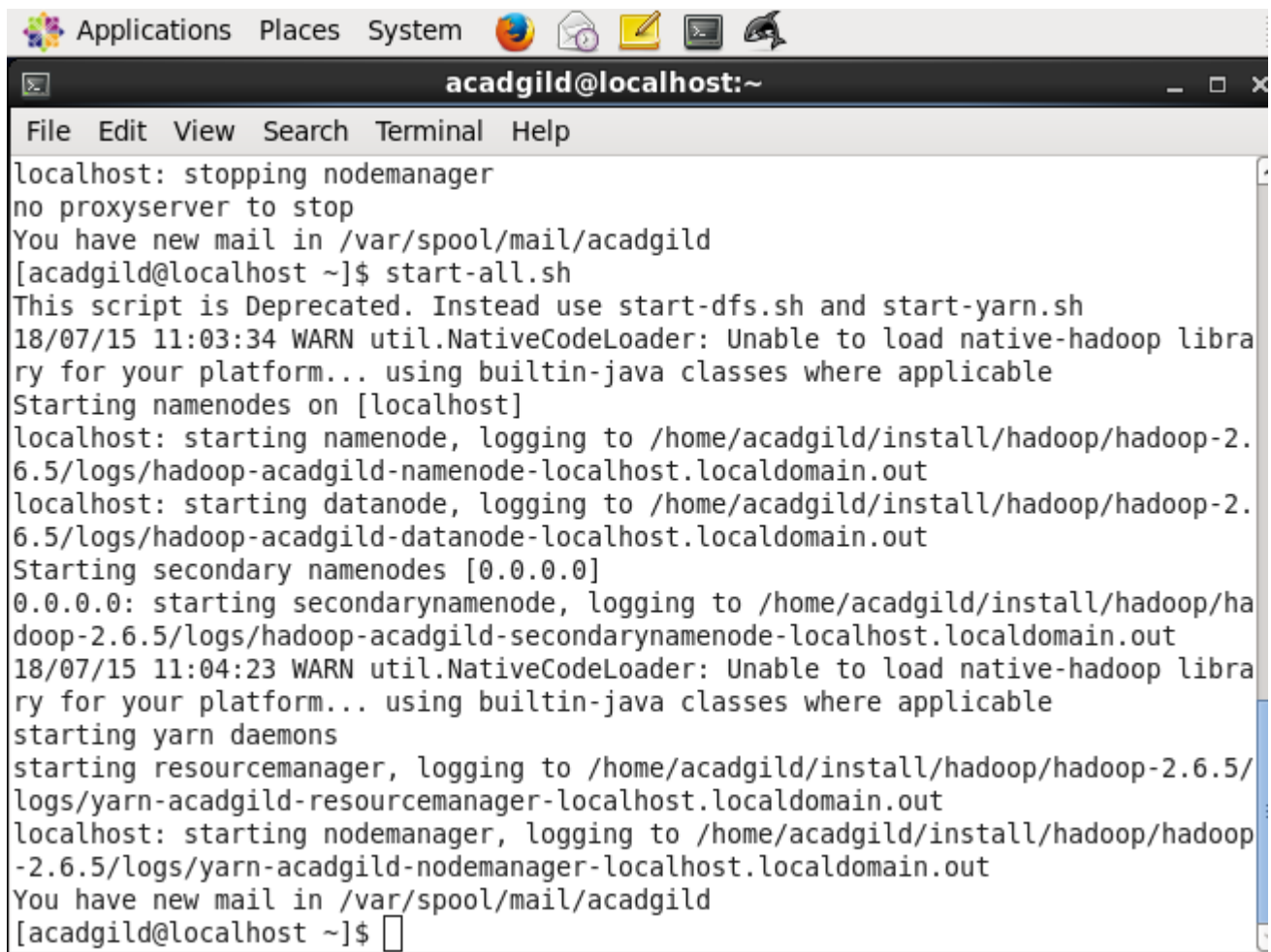







**1) Start Hadoop single node on AcadGild VM. The command is start-all.sh.**

**Ans:** Started a single node using command start-all.sh, when I type start-dfs.sh all the file system related daemons started. But, when I start-all.sh, I could identify from the logs that namenode, data-node, secondary namenode, resource manager, node manager have started, i.e. it started both yarn daemons and file system daemons.



```
Applications Places System     
acadgild@localhost:~
File Edit View Search Terminal Help
localhost: stopping nodemanager
no proxyserver to stop
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh
18/07/15 11:03:34 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
18/07/15 11:04:23 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 Hadoop daemons are running.

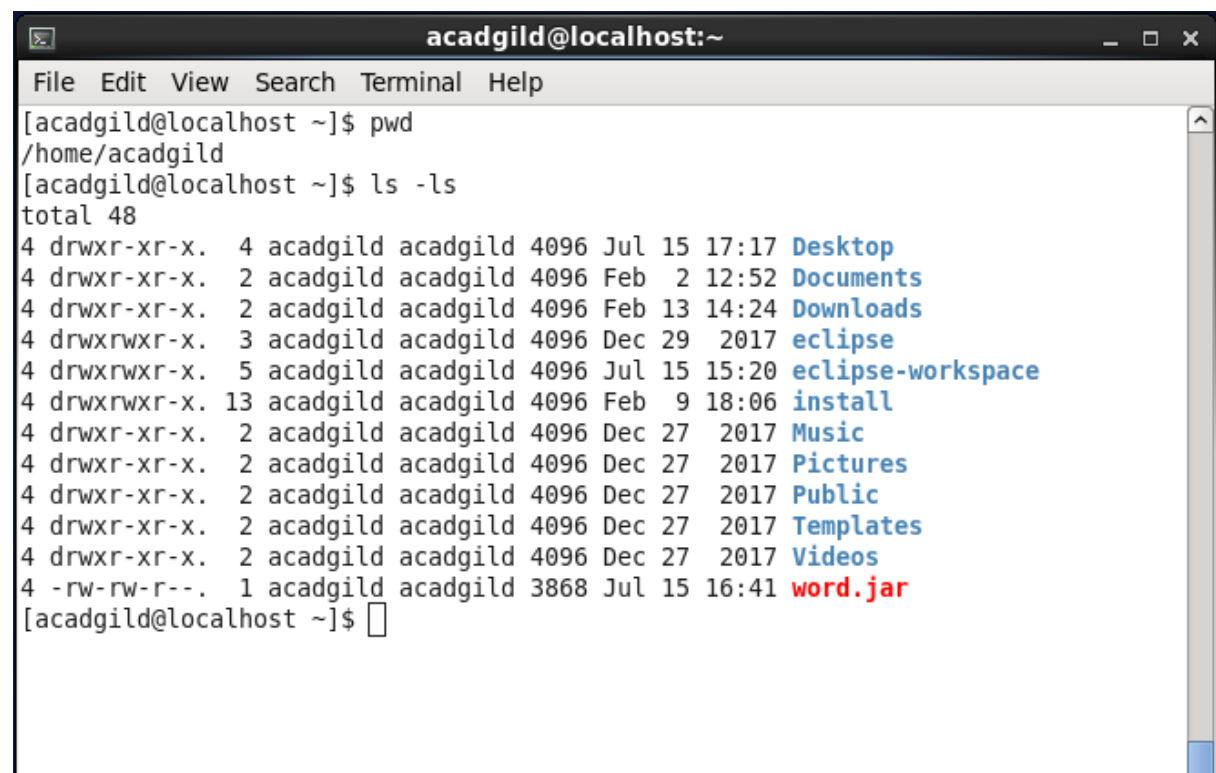
**Ans:** It shows all the daemons running.



```
acadgild@localhost:~  
File Edit View Search Terminal Help  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ jps  
26948 NodeManager  
12011 DataNode  
11915 NameNode  
26845 ResourceManager  
12205 SecondaryNameNode  
27327 Jps  
[acadgild@localhost ~]$
```

## 3) Run few Unix commands like pwd, ls -ls, etc.

**Ans:** pwd is showing the present working directory in file system and ls -ls shows list of all files.



```
acadgild@localhost:~  
File Edit View Search Terminal Help  
[acadgild@localhost ~]$ pwd  
/home/acadgild  
[acadgild@localhost ~]$ ls -ls  
total 48  
4 drwxr-xr-x.  4 acadgild acadgild 4096 Jul 15 17:17 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 2017 eclipse  
4 drwxrwxr-x.  5 acadgild acadgild 4096 Jul 15 15:20 eclipse-workspace  
4 drwxrwxr-x. 13 acadgild acadgild 4096 Feb  9 18:06 install  
4 drwxr-xr-x.  2 acadgild acadgild 4096 Dec 27 2017 Music  
4 drwxr-xr-x.  2 acadgild acadgild 4096 Dec 27 2017 Pictures  
4 drwxr-xr-x.  2 acadgild acadgild 4096 Dec 27 2017 Public  
4 drwxr-xr-x.  2 acadgild acadgild 4096 Dec 27 2017 Templates  
4 drwxr-xr-x.  2 acadgild acadgild 4096 Dec 27 2017 Videos  
4 -rw-rw-r--.  1 acadgild acadgild 3868 Jul 15 16:41 word.jar  
[acadgild@localhost ~]$
```

**4) Create a file from the terminal using nano editor (example: nano test.txt), and add some content in it. Cat it to see if the content is saved.**

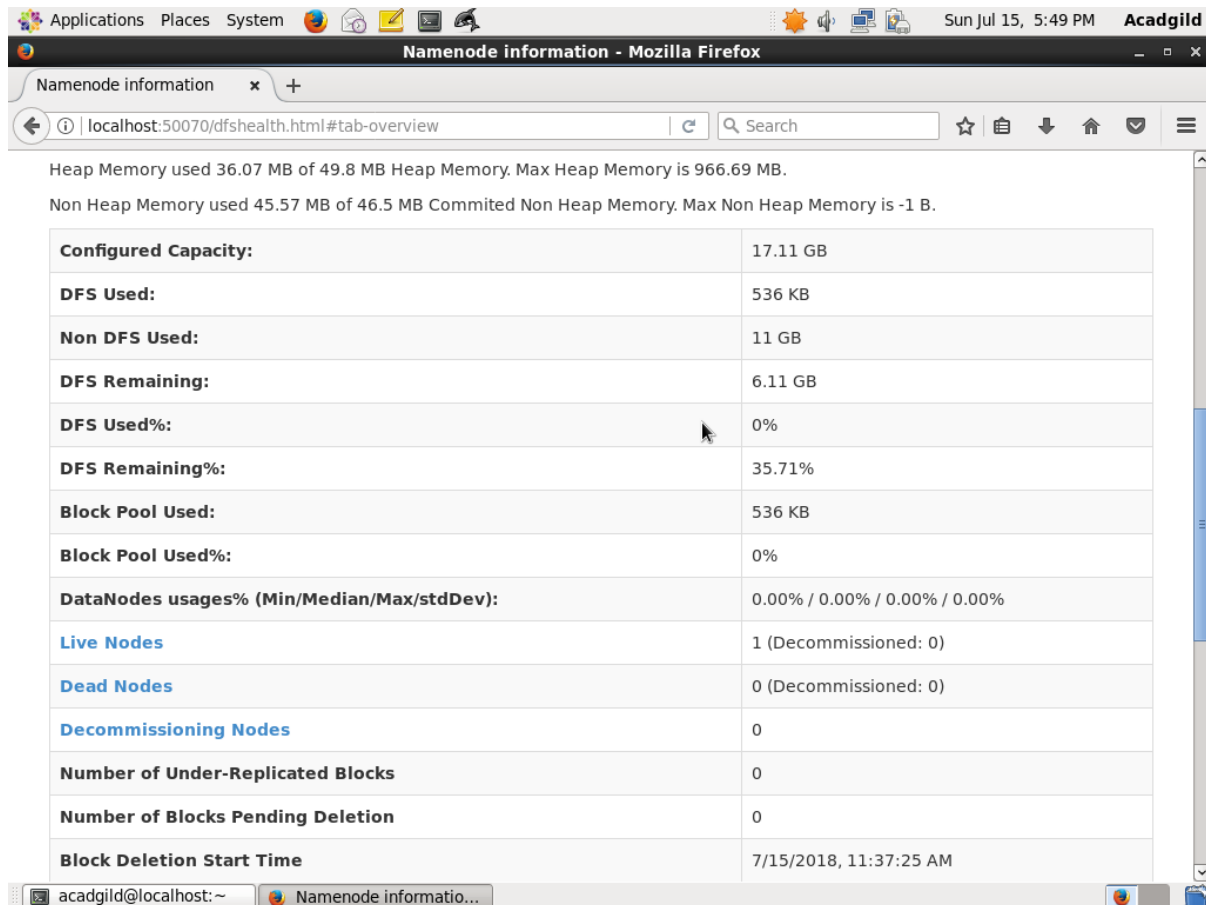
**Ans:** I created a file using nano editor from the command line and used "i" to insert text into the file and used cat command to review the content of the file.

A terminal window titled 'acadgild@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the execution of 'nano sample1.txt', followed by 'cat sample1.txt' which displays the text 'Hi, Hello Good morning everyone. Have a pleasent day'. The prompt '[acadgild@localhost ~]\$' is followed by a cursor.

```
acadgild@localhost:~  
File Edit View Search Terminal Help  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ nano sample1.txt  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ cat sample1.txt  
Hi, Hello Good morning everyone.  
Have a pleasent day  
[acadgild@localhost ~]$
```

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

**Ans: 50070 is the port number of local host.**



The screenshot shows the 'Namenode information' page in a Mozilla Firefox browser. The address bar displays 'localhost:50070/dfshealth.html#tab-overview'. The page content includes memory usage statistics and a table of HDFS metrics.

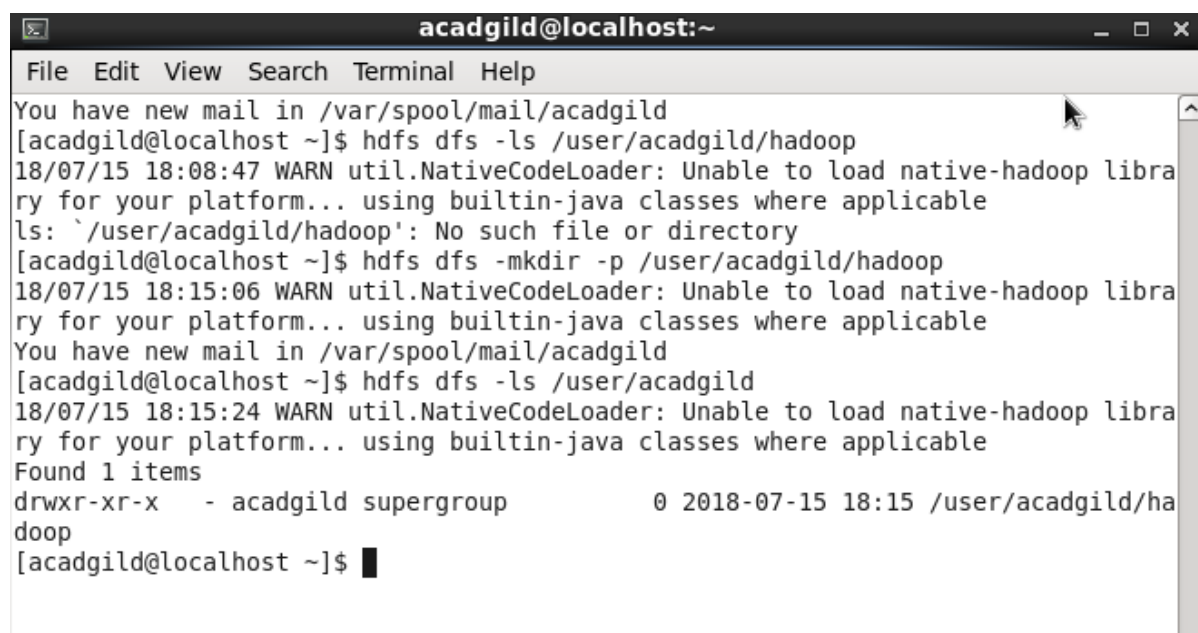
Heap Memory used 36.07 MB of 49.8 MB Heap Memory. Max Heap Memory is 966.69 MB.  
Non Heap Memory used 45.57 MB of 46.5 MB Committed Non Heap Memory. Max Non Heap Memory is -1 B.

Configured Capacity:	17.11 GB
DFS Used:	536 KB
Non DFS Used:	11 GB
DFS Remaining:	6.11 GB
DFS Used%:	0%
DFS Remaining%:	35.71%
Block Pool Used:	536 KB
Block Pool Used%:	0%
DataNodes usages% (Min/Median/Max/stdDev):	0.00% / 0.00% / 0.00% / 0.00%
Live Nodes	1 (Decommissioned: 0)
Dead Nodes	0 (Decommissioned: 0)
Decommissioning Nodes	0
Number of Under-Replicated Blocks	0
Number of Blocks Pending Deletion	0
Block Deletion Start Time	7/15/2018, 11:37:25 AM

**Task 2: 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.**

**Ans:** when I typed **hdfs dfs -ls /user/acadgild/hadoop**, it has thrown an error message as no such directory found. So created new directories that are both acadgild and hadoop in recursive mode along with the path. Command used is **hdfs dfs -mkdir -p /user/acadgild/hadoop**. The list of all the directories could be found out by giving command , **hdfs dfs -ls**

**/user/acadgild/hadoop** and could find the hadoop directory.

A terminal window titled 'acadgild@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following sequence of commands and output:

```
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hdfs dfs -ls /user/acadgild/hadoop
18/07/15 18:08:47 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
ls: `/user/acadgild/hadoop': No such file or directory
[acadgild@localhost ~]$ hdfs dfs -mkdir -p /user/acadgild/hadoop
18/07/15 18:15:06 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 ~]$ hdfs dfs -ls /user/acadgild
18/07/15 18:15:24 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 2018-07-15 18:15 /user/acadgild/hadoop
[acadgild@localhost ~]$
```

**Task 3: 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.**

**Ans:** Created a file named word-count.txt in base machine file system then copied it to HDFS in above mentioned directory. Added some more lines file in local copy and used "appendToFile" command to edit the file in HDFS.

1) Copied file from fs to HDFS and used cat command to check the content .

```
acadgild@localhost:~  
File Edit View Search Terminal Help  
[acadgild@localhost ~]$ pwd  
/home/acadgild  
[acadgild@localhost ~]$ ls  
Desktop Downloads eclipse-workspace max-temp.txt Pictures sample1.txt Videos  
Documents eclipse install Music Public Templates word.jar  
[acadgild@localhost ~]$ vi word-count.txt  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ ls  
Desktop Downloads eclipse-workspace max-temp.txt Pictures sample1.txt Videos word.jar  
Documents eclipse install Music Public Templates word-count.txt  
[acadgild@localhost ~]$ hdfs dfs -put word-count.txt /user/acadgild/hadoop  
18/07/15 22:33:41 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ hdfs dfs -ls /user/acadgild/hadoop  
18/07/15 22:34:07 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
Found 2 items  
-rwxrwx--- 1 acadgild supergroup 117 2018-07-15 18:52 /user/acadgild/hadoop/max-temp.txt  
-rw-r--r-- 1 acadgild supergroup 71 2018-07-15 22:33 /user/acadgild/hadoop/word-count.txt  
[acadgild@localhost ~]$ hdfs dfs -cat /user/acadgild/hadoop  
18/07/15 22:35:01 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
cat: `/user/acadgild/hadoop': Is a directory  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ hdfs dfs -cat /user/acadgild/hadoop/word.count.txt  
18/07/15 22:35:25 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
cat: `/user/acadgild/hadoop/word.count.txt': No such file or directory  
[acadgild@localhost ~]$ hdfs dfs -cat /user/acadgild/hadoop/word-count.txt  
18/07/15 22:35:45 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
Hi every one!!!!!!  
very good morning!!!!  
Today's qoute for the day is:  
[acadgild@localhost ~]$ vi word-count.txt  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$
```

[illegible]

```
acadgild@localhost:~  
File Edit View Search Terminal Help  
[acadgild@localhost ~]$ hdfs dfs -appendToFile word-count.txt /user/acadgild/hadoop/word-count.txt  
18/07/15 22:48:07 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
You have new mail in /var/spool/mail/acadgild  
[acadgild@localhost ~]$ hdfs dfs -cat /user/acadgild/hadoop/word-count.txt  
18/07/15 22:48:24 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl  
asses where applicable  
Hi every one!!!!!!  
very good morning!!!!  
Today's qoute for the day is:  
Hi every one!!!!!!  
very good morning!!!!  
Today's qoute for the day is:  
"Magic happens when  
you don't give up,  
even though you  
want to.  
The universe always  
falls in love with  
stubborn heart."  
-Jmstorm  
[acadgild@localhost ~]$
```

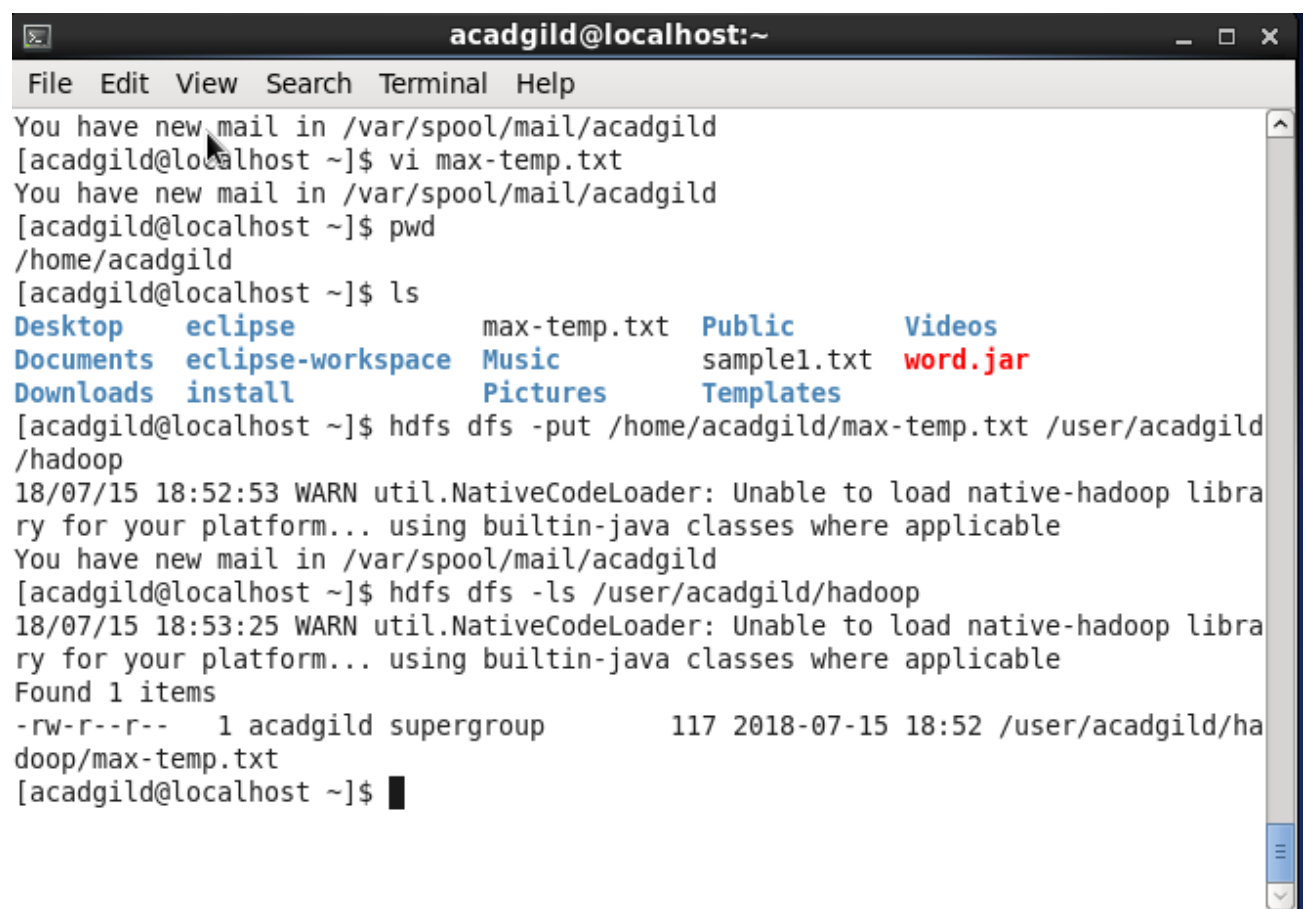
**Task 4: Create a file max-temp.txt in local FS. Put some 10-15 records of date and temperature example: dd-mm-yyyy, temperature. Move this file to HDFS at /user/acadgild/hadoop.**

**Example:**

**10-01-1990,10**

**10-02-1991,20**

**Ans:**

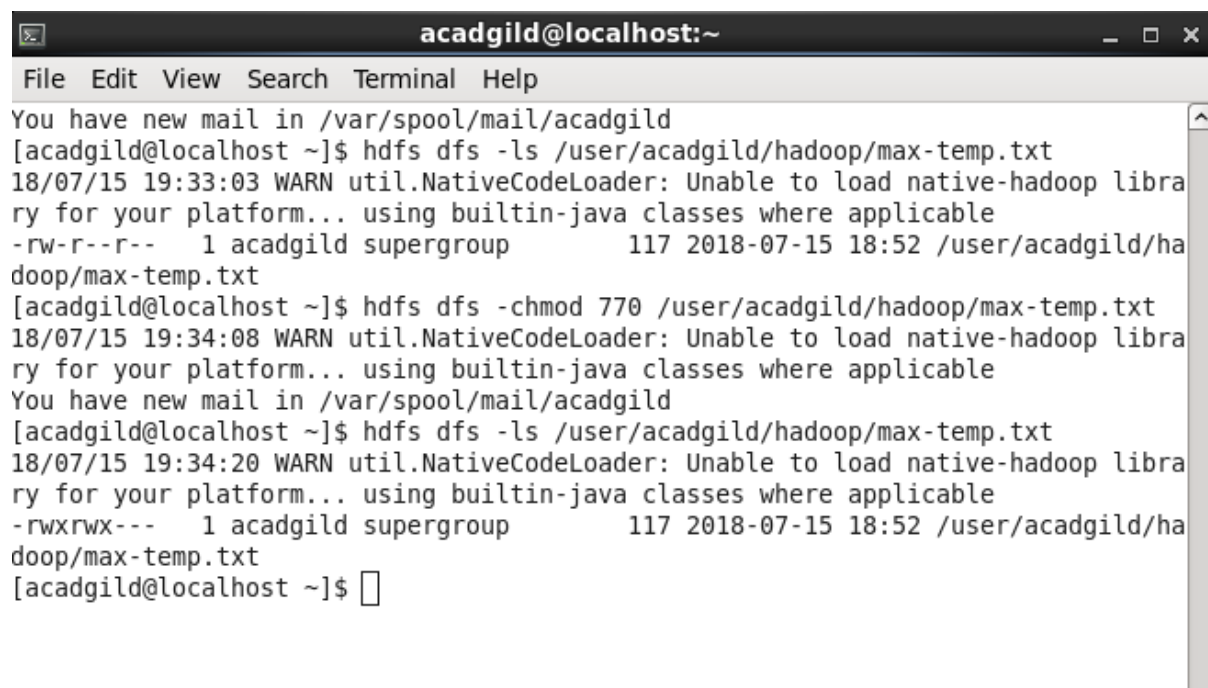
A terminal window titled 'acadgild@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ vi max-temp.txt
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ pwd
/home/acadgild
[acadgild@localhost ~]$ ls
Desktop  eclipse          max-temp.txt  Public        Videos
Documents eclipse-workspace Music          sample1.txt  word.jar
Downloads install          Pictures       Templates
[acadgild@localhost ~]$ hdfs dfs -put /home/acadgild/max-temp.txt /user/acadgild/hadoop
18/07/15 18:52:53 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 ~]$ hdfs dfs -ls /user/acadgild/hadoop
18/07/15 18:53:25 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 acadgild supergroup      117 2018-07-15 18:52 /user/acadgild/hadoop/max-temp.txt
[acadgild@localhost ~]$
```



**Task 5: 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.**

**Ans:** As checked the permissions for owner, group member and others were read-write, read, read respectively. So used chmod command with permissions set as 770 i.e. for both owner and group user are given full access where as others have no control.

A terminal window titled 'acadgild@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a sequence of commands and their outputs. First, a notification about new mail is shown. Then, the command 'hdfs dfs -ls /user/acadgild/hadoop/max-temp.txt' is executed, showing file details with permissions '-rw-r--r--'. Next, the command 'hdfs dfs -chmod 770 /user/acadgild/hadoop/max-temp.txt' is executed. Another notification about new mail is shown. Finally, the command 'hdfs dfs -ls /user/acadgild/hadoop/max-temp.txt' is executed again, showing the updated permissions as '-rwxrwx---'.

```
acadgild@localhost:~
File Edit View Search Terminal Help
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ hdfs dfs -ls /user/acadgild/hadoop/max-temp.txt
18/07/15 19:33:03 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
-rw-r--r--  1 acadgild supergroup      117 2018-07-15 18:52 /user/acadgild/hadoop/max-temp.txt
[acadgild@localhost ~]$ hdfs dfs -chmod 770 /user/acadgild/hadoop/max-temp.txt
18/07/15 19:34:08 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 ~]$ hdfs dfs -ls /user/acadgild/hadoop/max-temp.txt
18/07/15 19:34:20 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
-rwxrwx---  1 acadgild supergroup      117 2018-07-15 18:52 /user/acadgild/hadoop/max-temp.txt
[acadgild@localhost ~]$
```