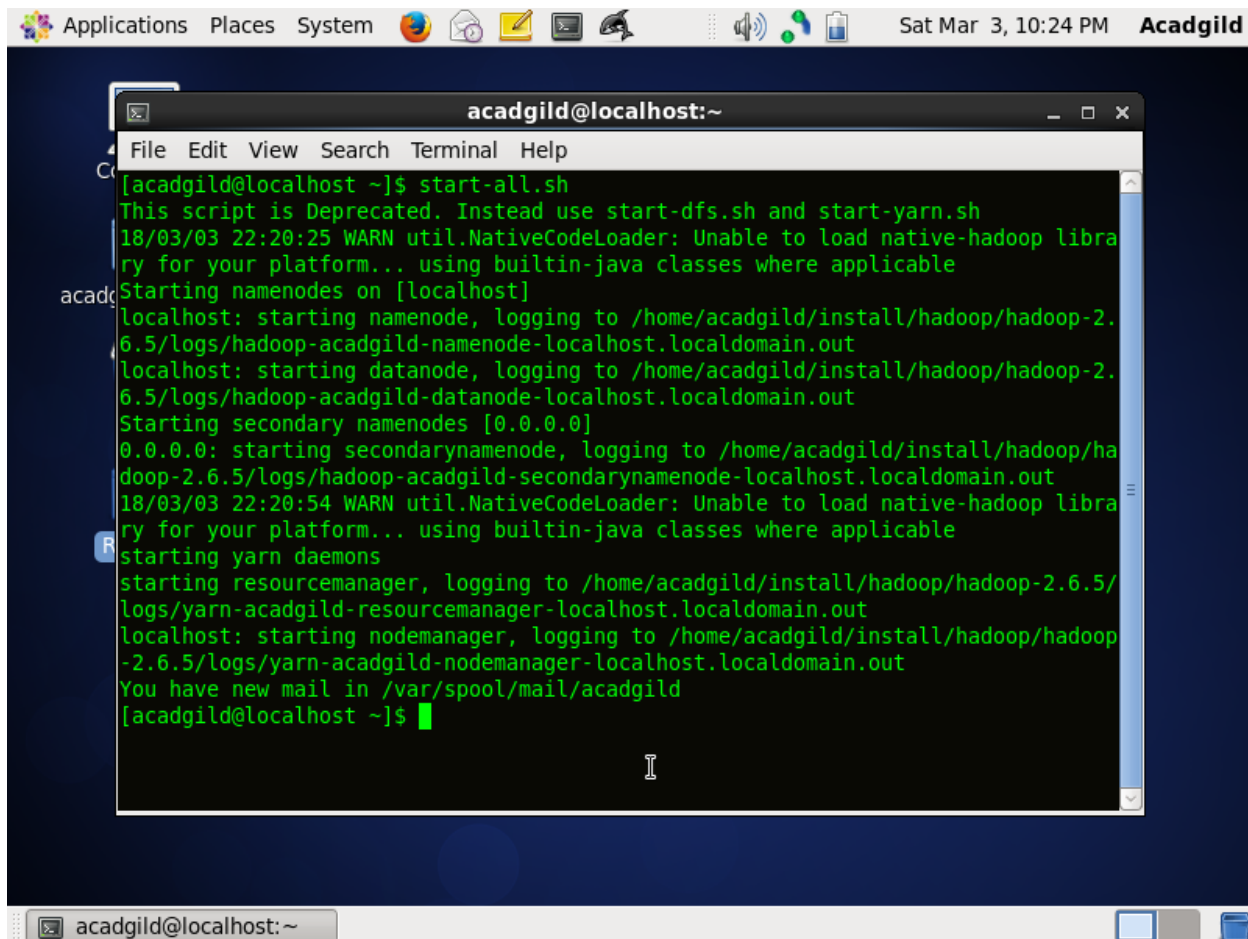


- 1) To start the Hadoop single node cluster on Acadgild VM, the command is **start-all.sh**, which will start the all the daemons necessary to run Hadoop.

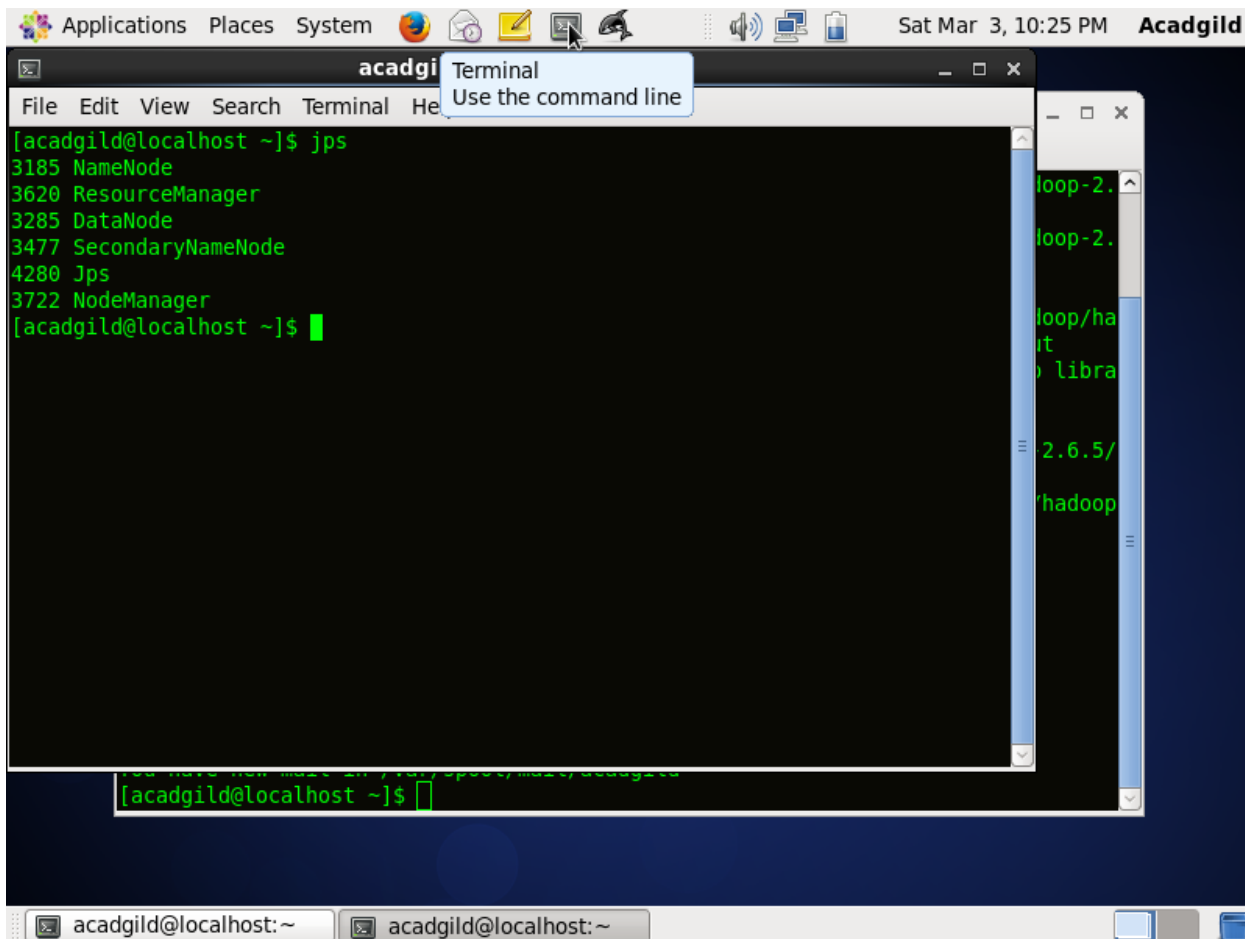


The screenshot shows a terminal window titled 'acadgild@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal output is as follows:

```
[acadgild@localhost ~]$ start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh
18/03/03 22:20:25 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
18/03/03 22:20:54 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 ~]$
```

The terminal window is part of a desktop environment with a top bar showing 'Applications', 'Places', 'System', and system status 'Sat Mar 3, 10:24 PM Acadgild'. The bottom bar shows the terminal's title 'acadgild@localhost:~' and window controls.

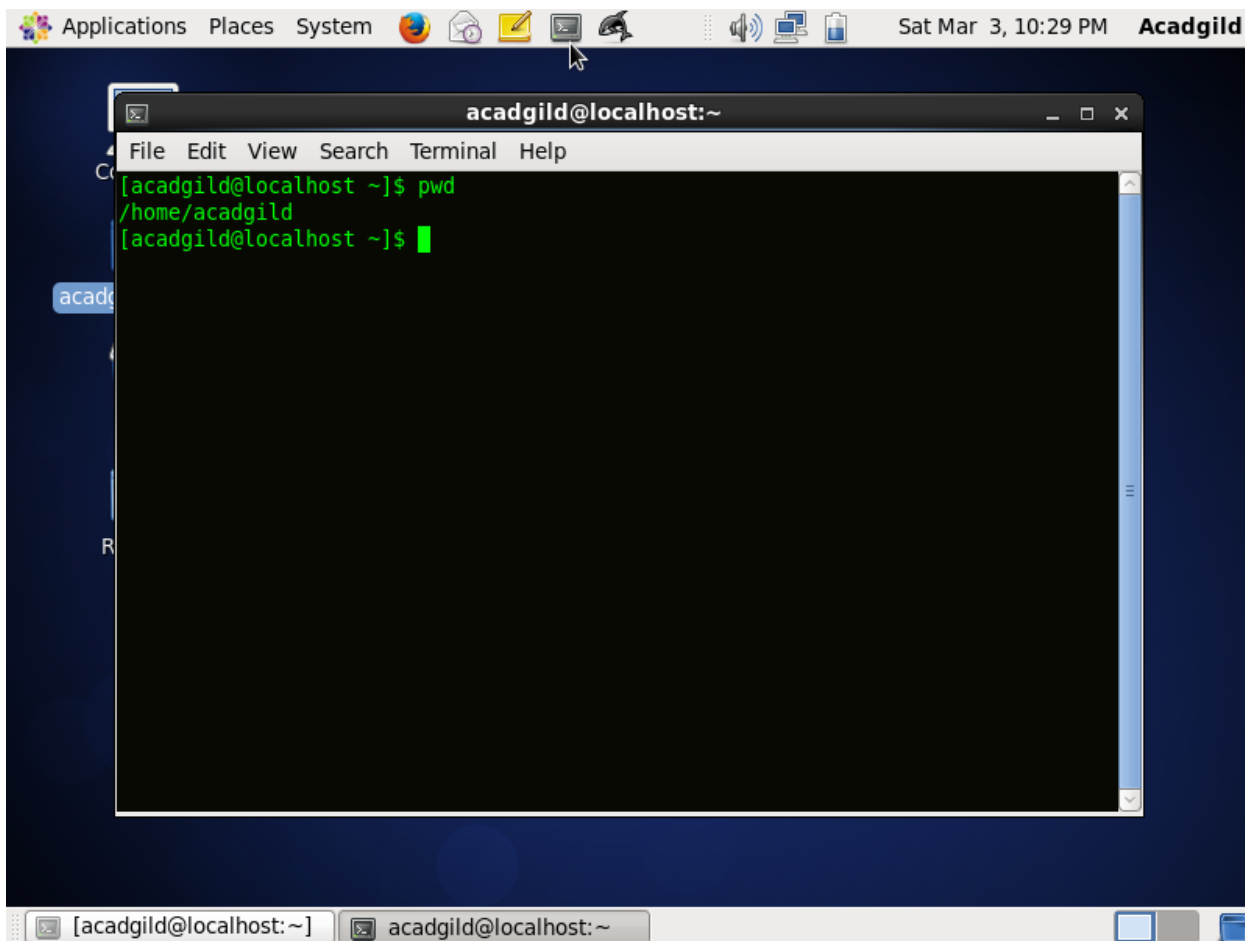
2) Run **jps** command, to view the daemons running. As one can see that the daemons namenode, secondary namenode, datanode, resource manager and nodemanager are running.



```
[acadgild@localhost ~]$ jps
3185 NameNode
3620 ResourceManager
3285 DataNode
3477 SecondaryNameNode
4280 Jps
3722 NodeManager
[acadgild@localhost ~]$
```

3) Pwd command shows the directory you are currently working in and **ls -l** command, shows all the files and directories along with their details in that respective directory.

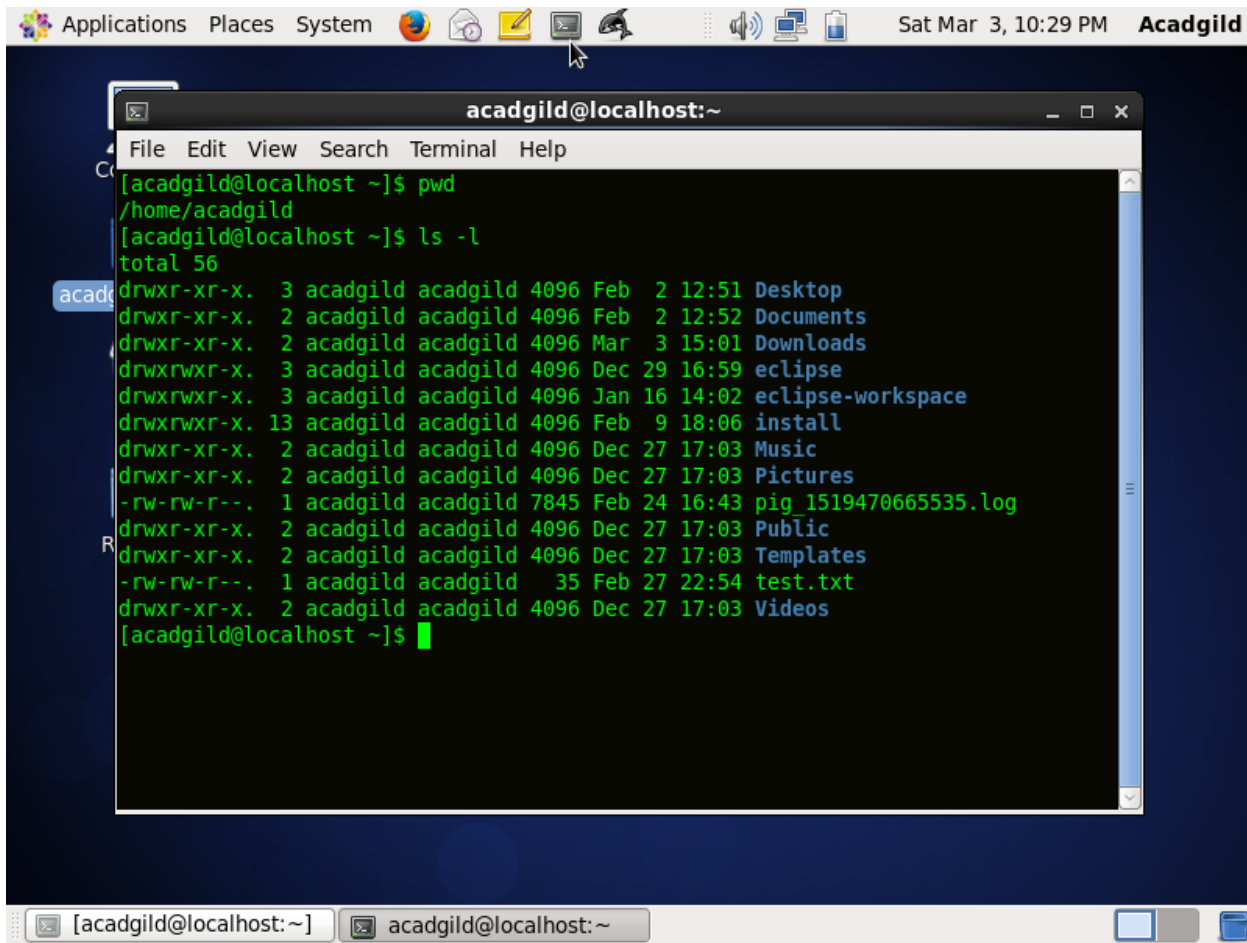
In the screenshot below, one can see that the current working directory is mentioned as home/Acadgild



The screenshot displays a Linux desktop environment. At the top, a panel shows 'Applications', 'Places', and 'System' menus, along with various system icons and the date 'Sat Mar 3, 10:29 PM'. The desktop background is dark blue. A terminal window titled 'acadgild@localhost:~' is open, showing the command 'pwd' and its output '/home/acadgild'. The terminal window has a menu bar with 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The output of the 'pwd' command is displayed in green text on a black background. The terminal window is part of a workspace with other tabs visible at the bottom.

```
acadgild@localhost:~  
File Edit View Search Terminal Help  
[acadgild@localhost ~]$ pwd  
/home/acadgild  
[acadgild@localhost ~]$
```

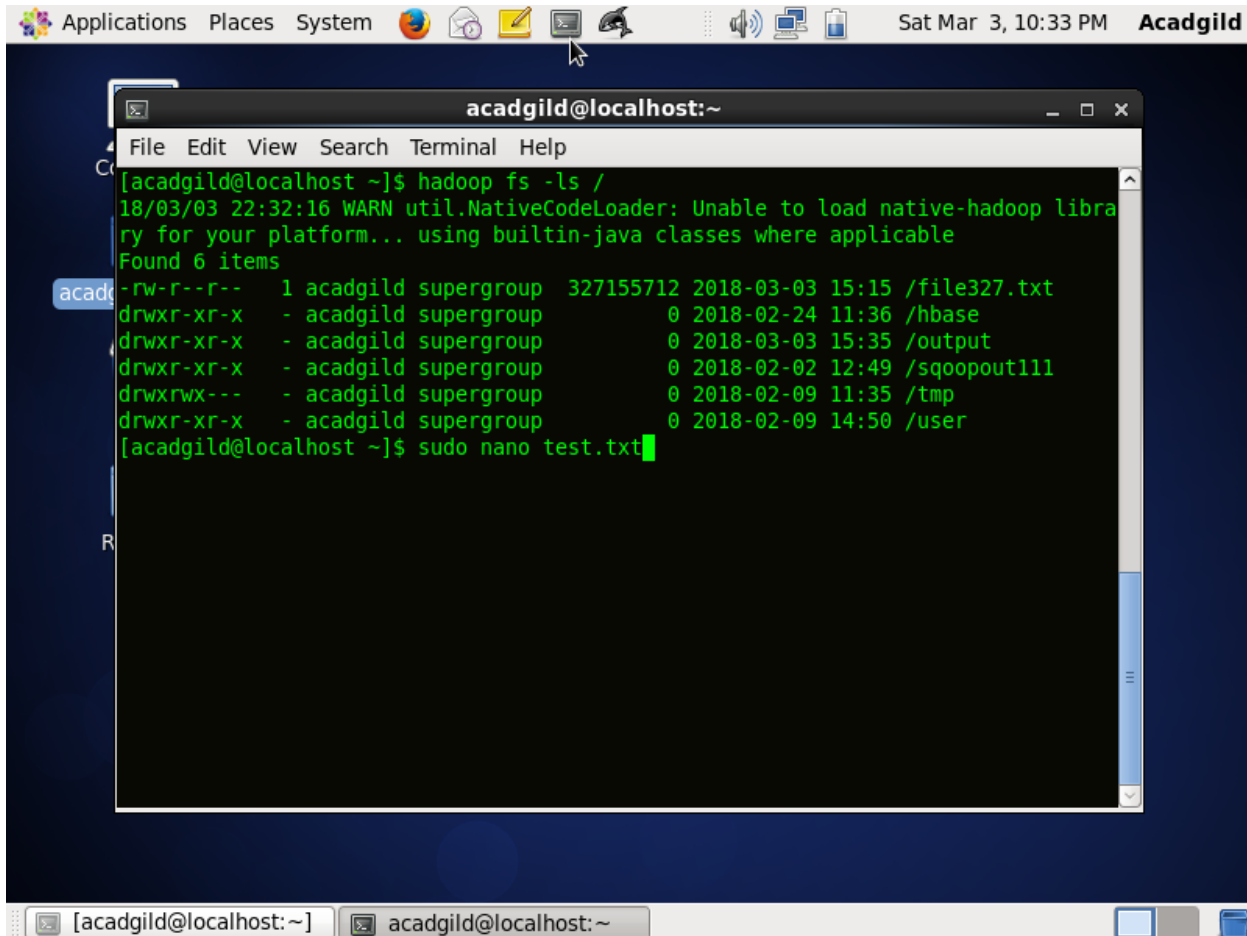
4) The screenshot below shows the output of `ls -l` command, which is displaying the contents of the `/home/Acadgild` directory.



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is `acadgild@localhost:~`. The terminal output shows the results of the `ls -l` command, listing the contents of the `/home/acadgild` directory. The output includes file permissions, owner, group, size, date, and filename for each item.

```
[acadgild@localhost ~]$ pwd
/home/acadgild
[acadgild@localhost ~]$ ls -l
total 56
drwxr-xr-x. 3 acadgild acadgild 4096 Feb  2 12:51 Desktop
drwxr-xr-x. 2 acadgild acadgild 4096 Feb  2 12:52 Documents
drwxr-xr-x. 2 acadgild acadgild 4096 Mar  3 15:01 Downloads
drwxrwxr-x. 3 acadgild acadgild 4096 Dec 29 16:59 eclipse
drwxrwxr-x. 3 acadgild acadgild 4096 Jan 16 14:02 eclipse-workspace
drwxrwxr-x. 13 acadgild acadgild 4096 Feb  9 18:06 install
drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Music
drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Pictures
-rw-rw-r--. 1 acadgild acadgild 7845 Feb 24 16:43 pig_1519470665535.log
drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Public
drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Templates
-rw-rw-r--. 1 acadgild acadgild 35 Feb 27 22:54 test.txt
drwxr-xr-x. 2 acadgild acadgild 4096 Dec 27 17:03 Videos
[acadgild@localhost ~]$
```

5) To make a new text file, the command is **sudo nano <file-name>**, type the password and proceed. In this case, the file name is **test.txt**.



The screenshot shows a Linux desktop with a terminal window titled "acadgild@localhost:~". The terminal output for the command `hadoop fs -ls /` is as follows:

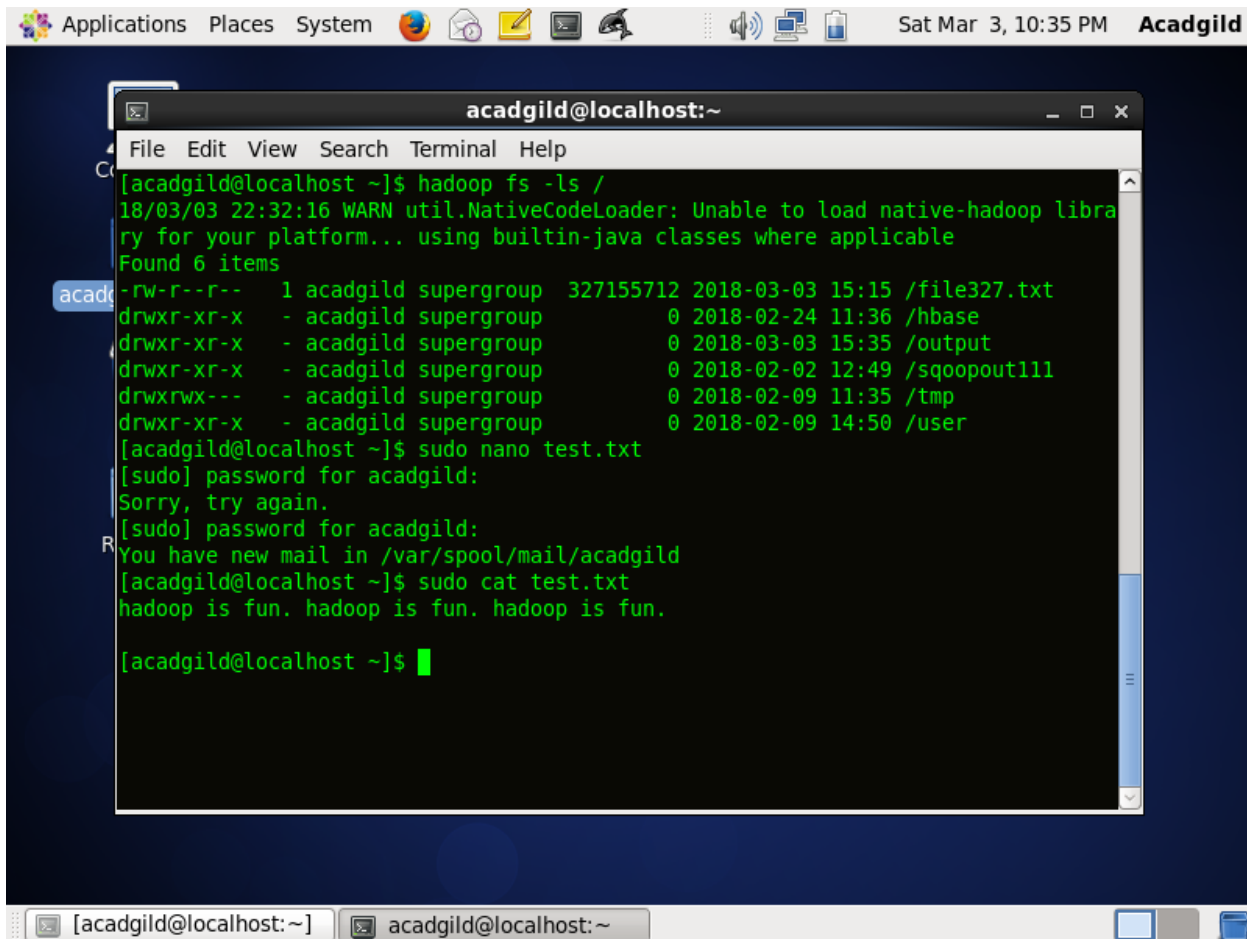
```
[acadgild@localhost ~]$ hadoop fs -ls /
18/03/03 22:32:16 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 6 items
-rw-r--r--  1 acadgild supergroup  327155712 2018-03-03 15:15 /file327.txt
drwxr-xr-x  - acadgild supergroup           0 2018-02-24 11:36 /hbase
drwxr-xr-x  - acadgild supergroup           0 2018-03-03 15:35 /output
drwxr-xr-x  - acadgild supergroup           0 2018-02-02 12:49 /sqoopout111
drwxrwx---  - acadgild supergroup           0 2018-02-09 11:35 /tmp
drwxr-xr-x  - acadgild supergroup           0 2018-02-09 14:50 /user
[acadgild@localhost ~]$ sudo nano test.txt
```

The terminal window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The desktop background is dark blue, and the top panel shows various system icons and the date "Sat Mar 3, 10:33 PM". The bottom panel shows two terminal window tabs, both titled "acadgild@localhost:~".

6) Nano text editor will open up. Press **ctrl+o** to save file with desired name and **ctrl+x** to exit the editor.

```
acadgild@localhost:~  
File Edit View Search Terminal Help  
GNU nano 2.0.9 File: test.txt  
hadoop is fun. hadoop is fun. hadoop is fun.  
[ Wrote 2 lines ]  
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos  
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

7) The command **sudo cat <file-name>** will show the content of the file. Here one can see that the output is **hadoop is fun. hadoop is fun. hadoop is fun.**



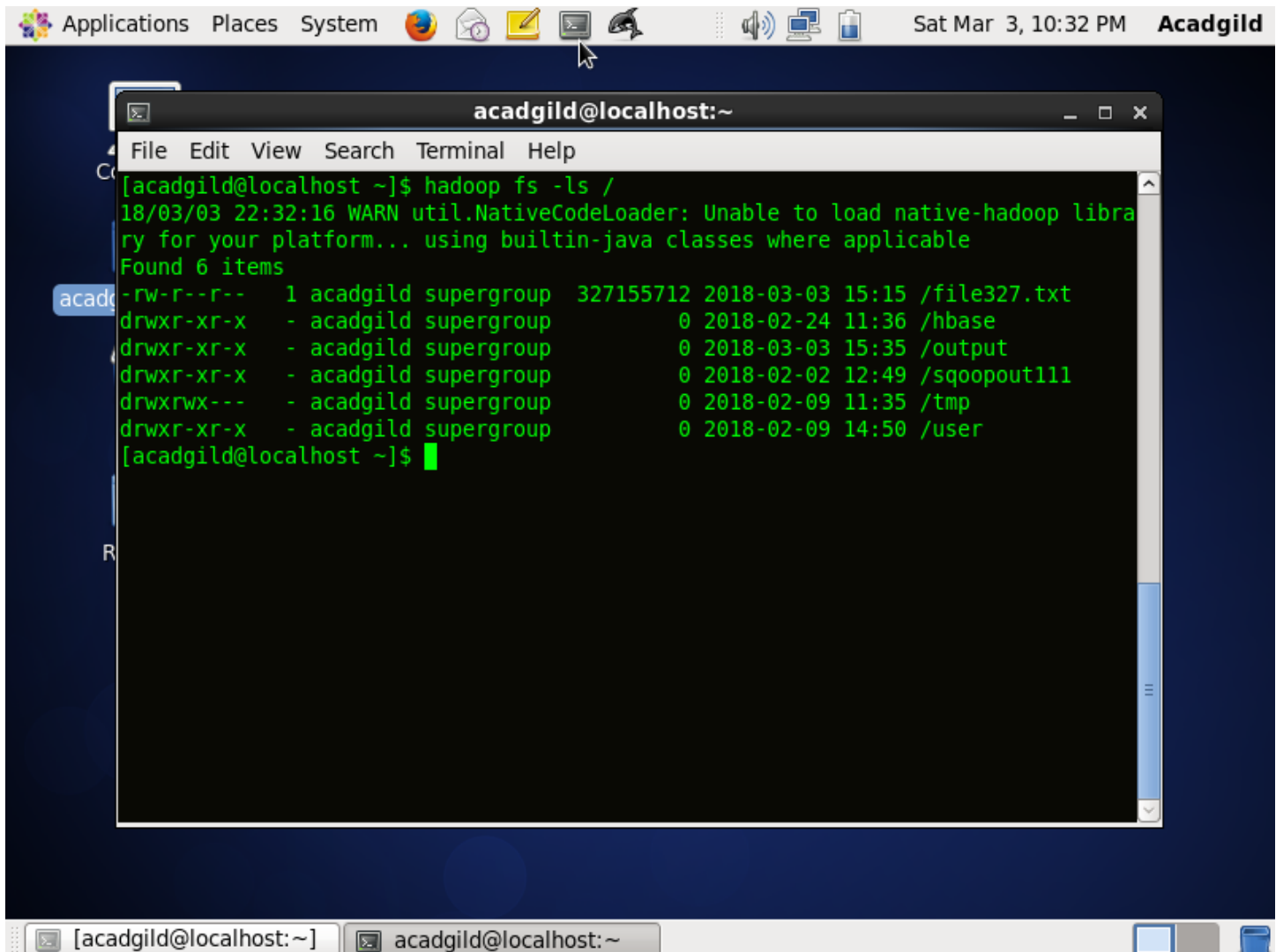
The screenshot shows a Linux desktop environment with a terminal window titled "acadgild@localhost:~". The terminal displays the following commands and output:

```
[acadgild@localhost ~]$ hadoop fs -ls /
18/03/03 22:32:16 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 6 items
-rw-r--r--  1 acadgild supergroup  327155712 2018-03-03 15:15 /file327.txt
drwxr-xr-x  - acadgild supergroup           0 2018-02-24 11:36 /hbase
drwxr-xr-x  - acadgild supergroup           0 2018-03-03 15:35 /output
drwxr-xr-x  - acadgild supergroup           0 2018-02-02 12:49 /sqoopout111
drwxrwx---  - acadgild supergroup           0 2018-02-09 11:35 /tmp
drwxr-xr-x  - acadgild supergroup           0 2018-02-09 14:50 /user
[acadgild@localhost ~]$ sudo nano test.txt
[sudo] password for acadgild:
Sorry, try again.
[sudo] password for acadgild:
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ sudo cat test.txt
hadoop is fun. hadoop is fun. hadoop is fun.

[acadgild@localhost ~]$
```

The terminal window is part of a desktop environment with a top bar showing "Applications", "Places", "System", and the date "Sat Mar 3, 10:35 PM". The user "Acadgild" is logged in. The terminal window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help".

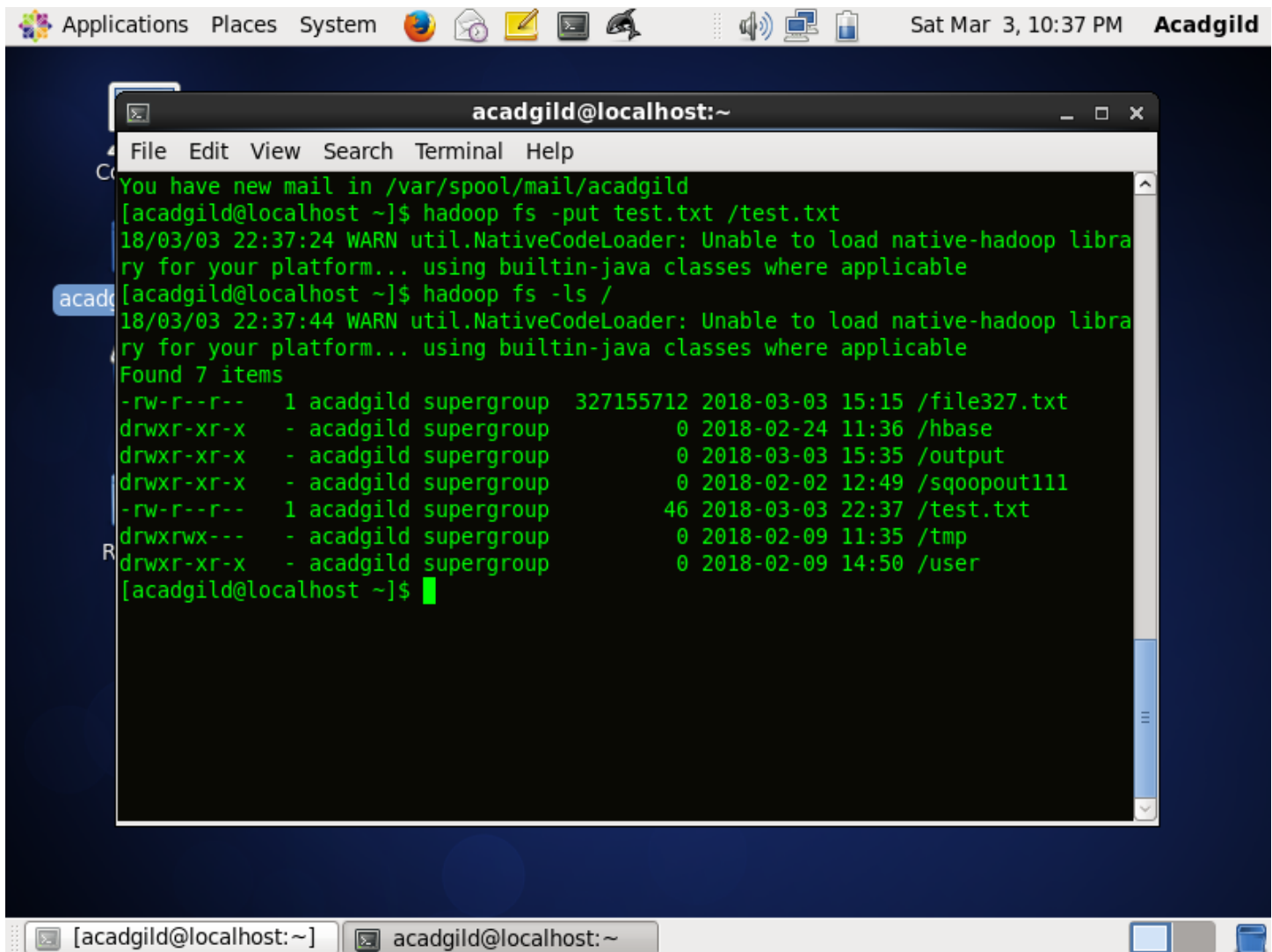
8) To view the contents of HDFS directory the command is **hadoop fs -ls /**



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window has a title bar that reads "acadgild@localhost:~". The terminal output shows the command "hadoop fs -ls /" being executed. The output includes a warning message about the native-hadoop library and a list of 6 items in the HDFS root directory. The items are listed with their permissions, owner, group, size, modification time, and path.

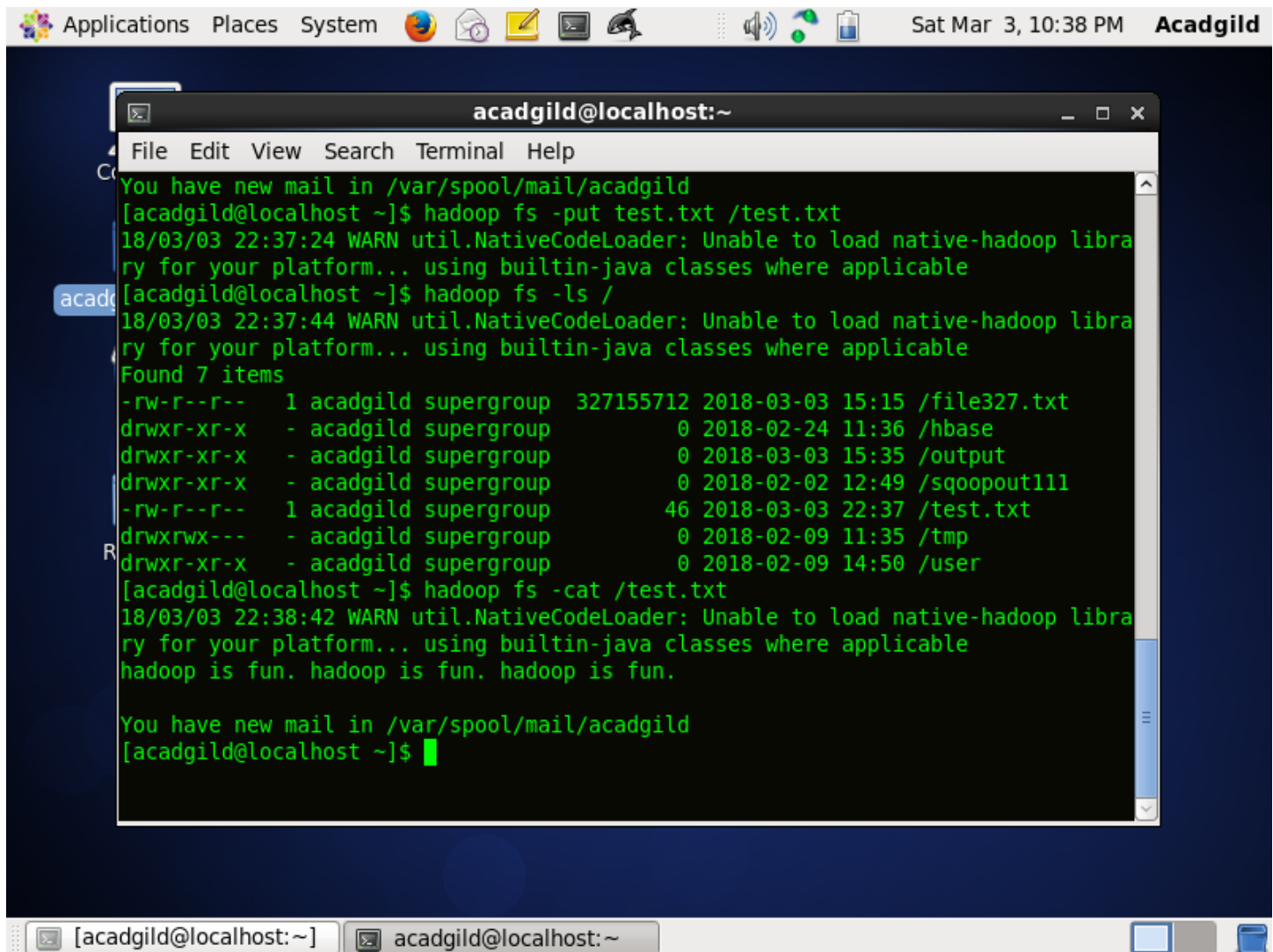
```
[acadgild@localhost ~]$ hadoop fs -ls /
18/03/03 22:32:16 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 6 items
-rw-r--r--  1 acadgild supergroup  327155712 2018-03-03 15:15 /file327.txt
drwxr-xr-x  - acadgild supergroup           0 2018-02-24 11:36 /hbase
drwxr-xr-x  - acadgild supergroup           0 2018-03-03 15:35 /output
drwxr-xr-x  - acadgild supergroup           0 2018-02-02 12:49 /sqoopout111
drwxrwx---  - acadgild supergroup           0 2018-02-09 11:35 /tmp
drwxr-xr-x  - acadgild supergroup           0 2018-02-09 14:50 /user
[acadgild@localhost ~]$
```


9) To move a file from current working directory to HDFS type **hadoop fs -put test.txt /<file-name>**. One can specify the file name which will be used for that file when it is put into HDFS.



```
acadm@localhost:~$ hadoop fs -put test.txt /test.txt
18/03/03 22:37:24 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
acadm@localhost:~$ hadoop fs -ls /
18/03/03 22:37:44 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 7 items
-rw-r--r--  1 acadgild supergroup  327155712 2018-03-03 15:15 /file327.txt
drwxr-xr-x  - acadgild supergroup           0 2018-02-24 11:36 /hbase
drwxr-xr-x  - acadgild supergroup           0 2018-03-03 15:35 /output
drwxr-xr-x  - acadgild supergroup           0 2018-02-02 12:49 /sqoopout111
-rw-r--r--  1 acadgild supergroup           46 2018-03-03 22:37 /test.txt
drwxrwx---  - acadgild supergroup           0 2018-02-09 11:35 /tmp
drwxr-xr-x  - acadgild supergroup           0 2018-02-09 14:50 /user
acadm@localhost:~$
```

10) Type **hadoop fs -cat /<file-name>** to view the contents of that file from HDFS.



The screenshot shows a Linux desktop environment with a terminal window titled "acadgild@localhost:~". The terminal displays the following commands and output:

```
acadgild@localhost ~]$ hadoop fs -put test.txt /test.txt
18/03/03 22:37:24 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
acadgild@localhost ~]$ hadoop fs -ls /
18/03/03 22:37:44 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Found 7 items
-rw-r--r--  1 acadgild supergroup  327155712 2018-03-03 15:15 /file327.txt
drwxr-xr-x  - acadgild supergroup           0 2018-02-24 11:36 /hbase
drwxr-xr-x  - acadgild supergroup           0 2018-03-03 15:35 /output
drwxr-xr-x  - acadgild supergroup           0 2018-02-02 12:49 /sqoopout111
-rw-r--r--  1 acadgild supergroup          46 2018-03-03 22:37 /test.txt
drwxrwx---  - acadgild supergroup           0 2018-02-09 11:35 /tmp
drwxr-xr-x  - acadgild supergroup           0 2018-02-09 14:50 /user
acadgild@localhost ~]$ hadoop fs -cat /test.txt
18/03/03 22:38:42 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
hadoop is fun. hadoop is fun. hadoop is fun.
acadgild@localhost ~]$
```

The terminal window also shows system messages: "You have new mail in /var/spool/mail/acadgild". The desktop background is dark blue, and the top panel shows the date "Sat Mar 3, 10:38 PM" and the username "Acadgild".

11) To view the status and details of HDFS, go to the browser and type **localhost:50070**

Overview 'localhost:8020' (active)

Started:	Sat Mar 03 22:20:32 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

Summary

Summary

Security is off.
Safemode is off.
70 files and directories, 21 blocks = 91 total filesystem object(s).
Heap Memory used 35.72 MB of 49.47 MB Heap Memory. Max Heap Memory is 966.69 MB.
Non Heap Memory used 40.46 MB of 41.19 MB Committed Non Heap Memory. Max Non Heap Memory is -1 B.

Configured Capacity:	17.11 GB
DFS Used:	314.91 MB
Non DFS Used:	12.13 GB
DFS Remaining:	4.67 GB
DFS Used%:	1.8%