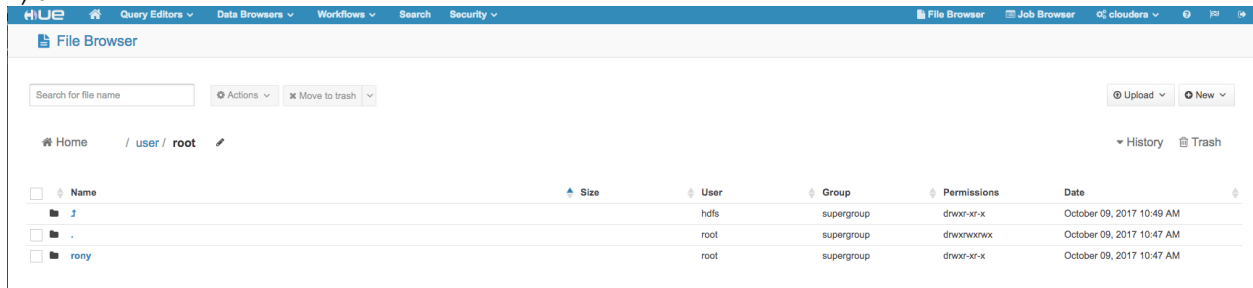2) a.

```
[root@quickstart home]# hdfs dfs -mkdir rony
[root@quickstart home]# hdfs dfs -ls
Found 1 items
drwxr-xr-x   - root supergroup          0 2017-10-09 17:47 rony
[root@quickstart home]# _
```

2) b.

	Name	Size	User	Group	Permissions	Date	
	♪		hdfs	supergroup	drwxr-xr-x	October 09, 2017 10:49 AM	
	.		root	supergroup	drwxrwxrwx	October 09, 2017 10:47 AM	
	rony		root	supergroup	drwxr-xr-x	October 09, 2017 10:47 AM	

2) c.
Run instructions:
hdfs dfs -put bigdataclassfolder/HW1/IrishPennyJournal.txt hw1

hadoop jar /opt/cloudera/parcels/CDH-5.6.1-1.cdh5.6.1.p0.3/lib/hadoop-mapreduce/hadoop-streaming.jar -file bigdataclassfolder/HW1/mapper.py -mapper bigdataclassfolder/HW1/mapper.py -file bigdataclassfolder/HW1/reducer.py -reducer bigdataclassfolder/HW1/reducer.py -input hw1/ -output hw_output

hdfs dfs -get hw_output .

```
                Launched reduce tasks=32
                Data-local map tasks=2
                Total time spent by all maps in occupied slots (ms)=21344
                Total time spent by all reduces in occupied slots (ms)=548088
                Total time spent by all map tasks (ms)=5336
                Total time spent by all reduce tasks (ms)=91348
                Total vcore-milliseconds taken by all map tasks=5336
                Total vcore-milliseconds taken by all reduce tasks=91348
                Total megabyte-milliseconds taken by all map tasks=21856256
                Total megabyte-milliseconds taken by all reduce tasks=561242112
        Map-Reduce Framework
                Map input records=1607
                Map output records=13394
                Map output bytes=170324
                Map output materialized bytes=128658
                Input split bytes=202
                Combine input records=0
                Combine output records=0
                Reduce input groups=9667
                Reduce shuffle bytes=128658
                Reduce input records=13394
                Reduce output records=9667
                Spilled Records=26788
                Shuffled Maps =64
                Failed Shuffles=0
                Merged Map outputs=64
                GC time elapsed (ms)=733
                CPU time spent (ms)=42310
                Physical memory (bytes) snapshot=13504847872
                Virtual memory (bytes) snapshot=85378191360
                Total committed heap usage (bytes)=54671704064
                Peak Map Physical memory (bytes)=692740096
                Peak Map Virtual memory (bytes)=2512748544
                Peak Reduce Physical memory (bytes)=392749056
                Peak Reduce Virtual memory (bytes)=2530275328
        Shuffle Errors
                BAD_ID=0
                CONNECTION=0
                IO_ERROR=0
                WRONG_LENGTH=0
                WRONG_MAP=0
                WRONG_REDUCE=0
        File Input Format Counters
                Bytes Read=108605
        File Output Format Counters
                Bytes Written=128415
17/10/11 15:01:38 INFO streaming.StreamJob: Output directory: hw_output
[rx294@login-1-1 ~]$ _
```

HUE   Query Editors ⌄   Data Browsers ⌄   Workflows ⌄   File Browser   Job Browser   rx294   ?

Job Browser

MR2

JOB ID

1504637662637_28560

TYPE

MR2

USER

rx294

STATUS

SUCCEEDED

LOGS

☰ Logs

MAPS

100%

REDUCES

100%

DURATION

12s

streamjob58430632889978628773.jar

Attempts   Tasks   **Metadata**   Counters

Text Filter

Name	Value
ID	1504637662637_28560
User	rx294
Maps	2 of 2
Reduces	32 of 32
Started	10/11/17 15:01:23
Ended	10/11/17 15:01:35
Duration	12519
Status	SUCCEEDED
dfs.balancer.address	0.0.0.0:0
dfs.balancer.block-move.timeout	0
dfs.balancer.keytab.enabled	false
dfs.balancer.max-no-move-interval	60000
dfs.block.access.key.update.interval	600
dfs.block.access.token.enable	false
dfs.block.access.token.lifetime	600
dfs.block.scanner.volume.bytes.per.second	1048576
dfs.blockreport.initialDelay	0
dfs.blockreport.intervalMsec	21600000
dfs.blockreport.split.threshold	1000000
dfs.blocksize	134217728