

Term Work 2

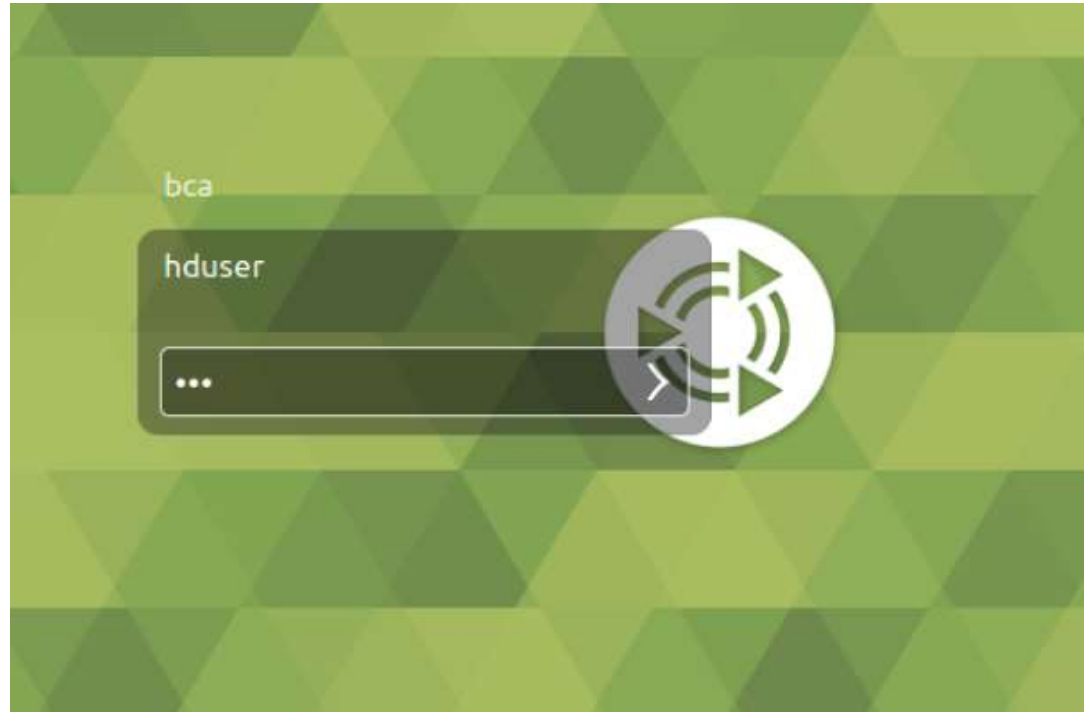


Password

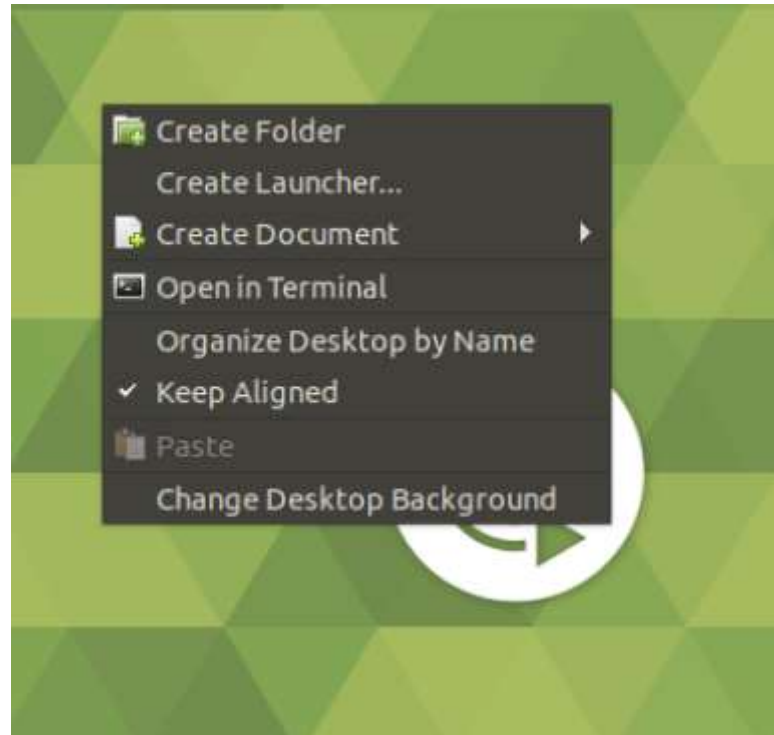
dv

or

bca



Right Click & select
Open in Terminal



Type jps &



```
• hduser@ubuntu: ~  
File Edit View Search Terminal Help  
hduser@ubuntu:~$ jps  
2472 Jps  
hduser@ubuntu:~$ █
```

Type & press



Blue Colour - Directory

Password bca or dv

```
• hduser@ubuntu: ~/Documents
File Edit View Search Terminal Help
hduser@ubuntu:~$ cd Documents
hduser@ubuntu:~/Documents$ sudo mkdir termwork2
[sudo] password for hduser:
hduser@ubuntu:~/Documents$ ls
bgm20          mapper45.py    red.py         shop1.txt      word23.txt
bgm27          mapper.py      -reducer       termwork1      words.txt
flipkart.txt   map.py         reducer45.py   termwork2      word.txt
-mapper        -output        reducer.py     word13.txt
hduser@ubuntu:~/Documents$
```

Type `cd termwork2/`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents$ cd termwork2/
hduser@ubuntu:~/Documents/termwork2$
```

Type touch shopping.txt
& press



```
File Edit View Search Terminal Help  
hduser@ubuntu:~/Documents/termwork2$ touch shopping.txt
```

Type `sudo nano shopping.txt`
& press



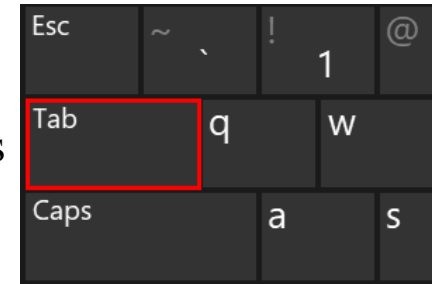
```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents$ cd termwork2/
hduser@ubuntu:~/Documents/termwork2$ sudo nano shopping.txt
```


Type the text
& press Ctrl x y & then press



Enter date & press
Enter time & press
Enter location & press
Enter product & press
Enter amount & press
Enter payment method press

ENTER



```
File Edit View Search Terminal Help
GNU nano 2.9.3 shopping.txt
1987-06-06      02:15  Hubballi      shirt  187  visa
1992-08-27      06:30  Belagavi     jeans  900  cash
```

Type `cat shopping.txt`
& press



This shows your typed text

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ cat shopping.txt
1987-06-06      02:15   Hubballi      Shirt    187      visa
1992-08-27      06:30   Belagavi     jeans    900      cash
hduser@ubuntu:~/Documents/termwork2$
```

Type `ls`
& press



This shows your file

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ ls
shopping.txt
hduser@ubuntu:~/Documents/termwork2$
```

Type touch mapper.py
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ touch mapper.py
```

Type `sudo nano mapper.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ sudo nano mapper.py
```

Type the code
& press Ctrl x y & then press



```
GNU nano 2.9.3 mapper.py
#!/usr/bin/env python
import string
import fileinput

for line in fileinput.input():
    data = line.strip().split("\t")
    if len(data) == 6:
        date, time, location, item, cost, payment = data
        print "{0}\t{1}".format(location, cost)
```

Type `cat mapper.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ cat mapper.py
#!/usr/bin/env python
import string
import fileinput

for line in fileinput.input():
    data = line.strip().split("\t")
    if len(data) == 6:
        date, time, location, item, cost, payment = data
        print "{0}\t{1}".format(location, cost)

hduser@ubuntu:~/Documents/termwork2$
```

Type `ls`
& press



This shows your files

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ ls
mapper.py  shopping.txt
hduser@ubuntu:~/Documents/termwork2$
```


Type `cat shopping.txt | python mapper.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ cat shopping.txt | python mapper.py
Hubballi          187
Belagavi          900
hduser@ubuntu:~/Documents/termwork2$
```

Type `touch reducer.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ touch reducer.py
```

Type `sudo nano reducer.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ sudo nano reducer.py
```

Type the code
& press Ctrl x y & then press



```
#!/usr/bin/python
import fileinput

transactions_count = 0
sales_total = 0

for line in fileinput.input():
    data = line.strip().split("\t")
    if len(data) != 2:
        # Something has gone wrong. Skip this line.
        continue

    current_key, current_value = data

    transactions_count += 1
    sales_total += float(current_value)

print transactions_count, "\t", sales_total
```

Type `cat reducer.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ cat reducer.py
#!/usr/bin/python
import fileinput

transactions_count = 0
sales_total = 0

for line in fileinput.input():
    data = line.strip().split("\t")

    if len(data) != 2:
        # Something has gone wrong. Skip this line.
        continue

    current_key, current_value = data

    transactions_count += 1
    sales_total += float(current_value)

print transactions_count, "\t", sales_total
hduser@ubuntu:~/Documents/termwork2$
```

Type `ls`
& press



This shows your files

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ ls
mapper.py reducer.py shopping.txt
hduser@ubuntu:~/Documents/termwork2$
```

Type `cat shopping.txt | python mapper.py | python reducer.py`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ cat shopping.txt | python mapper.py | python reducer.py
2      1087.0
hduser@ubuntu:~/Documents/termwork2$
```

Type `jps`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ jps
2387 Jps
hduser@ubuntu:~/Documents/termwork2$
```


Type start-all.sh
& press



Provide password 4 times (it will ask)

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh
WARNING: An illegal reflective access operation has occurred
```

Type `jps`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ jps
3109 NodeManager
3335 Jps
2936 ResourceManager
2747 SecondaryNameNode
2510 DataNode
hduser@ubuntu:~/Documents/termwork2$
```

Type `hdfs dfs -mkdir /tw2`
& press



If it goes into safe mode then type
`hdfs dfsadmin -safemode leave`
After this type
`hdfs dfs -mkdir /tw2`

This creates a directory in cluster

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ hdfs dfs -mkdir /tw2
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.
util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.
7.1.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.
security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflect
ive access operations
WARNING: All illegal access operations will be denied in a future release
24/07/10 00:29:21 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
hduser@ubuntu:~/Documents/termwork2$
```

Type `hdfs dfs -ls /`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ hdfs dfs -ls /
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.
util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.
7.1.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.
security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflect
ive access operations
WARNING: All illegal access operations will be denied in a future release
24/07/10 00:30:41 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Found 19 items
drwxr-xr-x - hduser supergroup 0 2024-07-09 04:50 /90
drwxr-xr-x - hduser supergroup 0 2024-06-25 03:02 /TERM2
drwxr-xr-x - hduser supergroup 0 2024-07-02 22:35 /TERM3
drwxr-xr-x - hduser supergroup 0 2024-06-18 03:16 /TW1
drwxr-xr-x - hduser supergroup 0 2024-06-24 03:16 /TW2
drwxr-xr-x - hduser supergroup 0 2024-07-01 03:10 /TW3
drwxr-xr-x - hduser supergroup 0 2024-06-06 03:38 /bcom
drwxr-xr-x - hduser supergroup 0 2024-06-13 04:01 /bom
```


Type `hdfs dfs -copyFromLocal`
`/home/hduser/Documents/termwork2/shopping.txt /tw2`
& press



```
hduser@ubuntu:~/Documents/termwork2$ hdfs dfs -copyFromLocal /home/hduser/Documents/termwork2/shopping.txt /tw2
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.1.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations
WARNING: All illegal access operations will be denied in a future release
24/07/10 00:33:03 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
hduser@ubuntu:~/Documents/termwork2$
```

Type `hdfs dfs -ls /tw2`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ hdfs dfs -ls /tw2
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.
util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.
7.1.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.
security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflect
ive access operations
WARNING: All illegal access operations will be denied in a future release
24/07/10 00:34:26 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Found 1 items
-rw-r--r--    1 hduser supergroup          82 2024-07-10 00:33 /tw2/shopping.txt
hduser@ubuntu:~/Documents/termwork2$
```

Type `sudo chmod 777 mapper.py reducer.py`
& press



Provide password dv or bca

```
hduser@ubuntu:~/Documents/termwork2$ sudo chmod 777 mapper.py reducer.py
[sudo] password for hduser:
hduser@ubuntu:~/Documents/termwork2$
```

Type `ls -l`
& press



```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ ls -l
total 12
-rwxrwxrwx 1 root root 250 Jul  9 04:02 mapper.py
-rwxrwxrwx 1 root root 395 Jul  9 04:06 reducer.py
-rw-r--r-- 1 root root  82 Jul  9 03:57 shopping.txt
hduser@ubuntu:~/Documents/termwork2$
```


Type

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork2$ hadoop jar /home/hduser/Downloads/hadoop-streaming-2.7.3.jar \
> -input /tw2/shopping.txt \
> -output /tw2/output \
> -mapper /home/hduser/Documents/termwork2/mapper.py \
> -reducer /home/hduser/Documents/termwork2/reducer.py
```

& press



Everything working fine, it will show the output directory
& press



```
IO_ERROR=0
WRONG_LENGTH=0
WRONG_MAP=0
WRONG_REDUCE=0
File Input Format Counters
  Bytes Read=123
File Output Format Counters
  Bytes Written=10
24/07/10 00:40:15 INFO streaming.StreamJob: Output directory: /tw2/output
hduser@ubuntu:~/Documents/termwork2$
```

Type `hdfs dfs -cat /tw2/output/part-00000`
& press



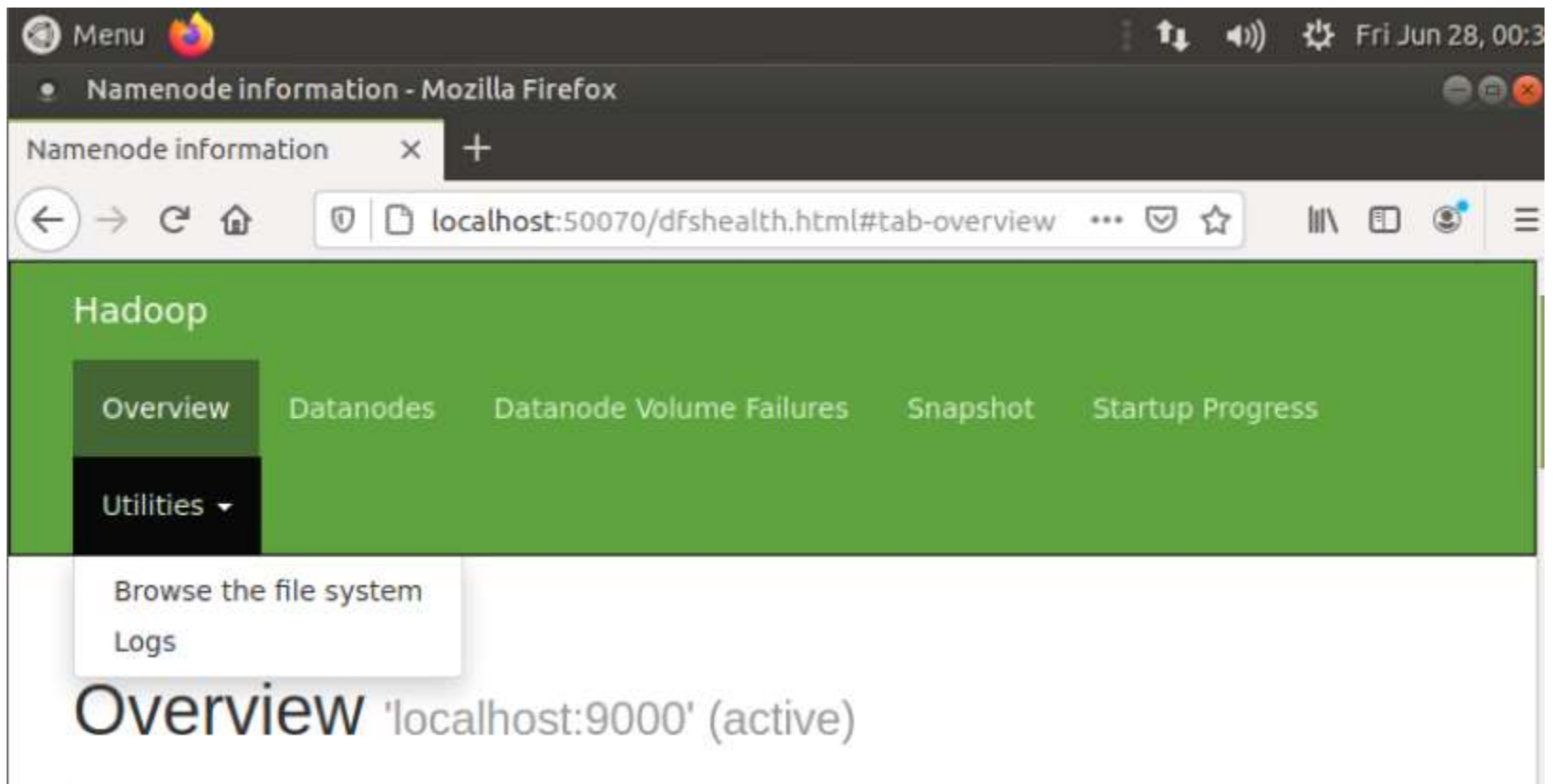
This shows the final output

```
hduser@ubuntu:~/Documents/termwork2$ hdfs dfs -cat /tw2/output/part-00000
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.
util.KerberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.
7.1.jar) to method sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.
security.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflect
ive access operations
WARNING: All illegal access operations will be denied in a future release
24/07/10 00:42:16 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
2      1087.0
hduser@ubuntu:~/Documents/termwork2$ █
```

Now open firefox and type localhost:50070/
& press




Click utilities & click Browse the file system



Click tw2

drwxr-xr-x	hduser	supergroup	0 B	7/9/2024, 4:50:45 AM	0	0 B	90
drwxr-xr-x	hduser	supergroup	0 B	6/25/2024, 3:02:27 AM	0	0 B	TERM2
drwxr-xr-x	hduser	supergroup	0 B	7/2/2024, 10:35:30 PM	0	0 B	TERM3
drwxr-xr-x	hduser	supergroup	0 B	6/18/2024, 3:16:15 AM	0	0 B	TW1
drwxr-xr-x	hduser	supergroup	0 B	6/24/2024, 3:16:43 AM	0	0 B	TW2

Click output

Menu  Wed Jul 10, 00

Browsing HDFS - Mozilla Firefox

Browsing HDFS x +

localhost:50070/explorer.html#/TW2

Browse Directory

/TW2 Go!

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
drwxr-xr-x	hduser	supergroup	0 B	6/24/2024, 3:17:22 AM	0	0 B	output
-rw-r--r--	hduser	supergroup	257 B	6/24/2024, 3:01:25 AM	1	128 MB	tw2text.txt

Click part-00000



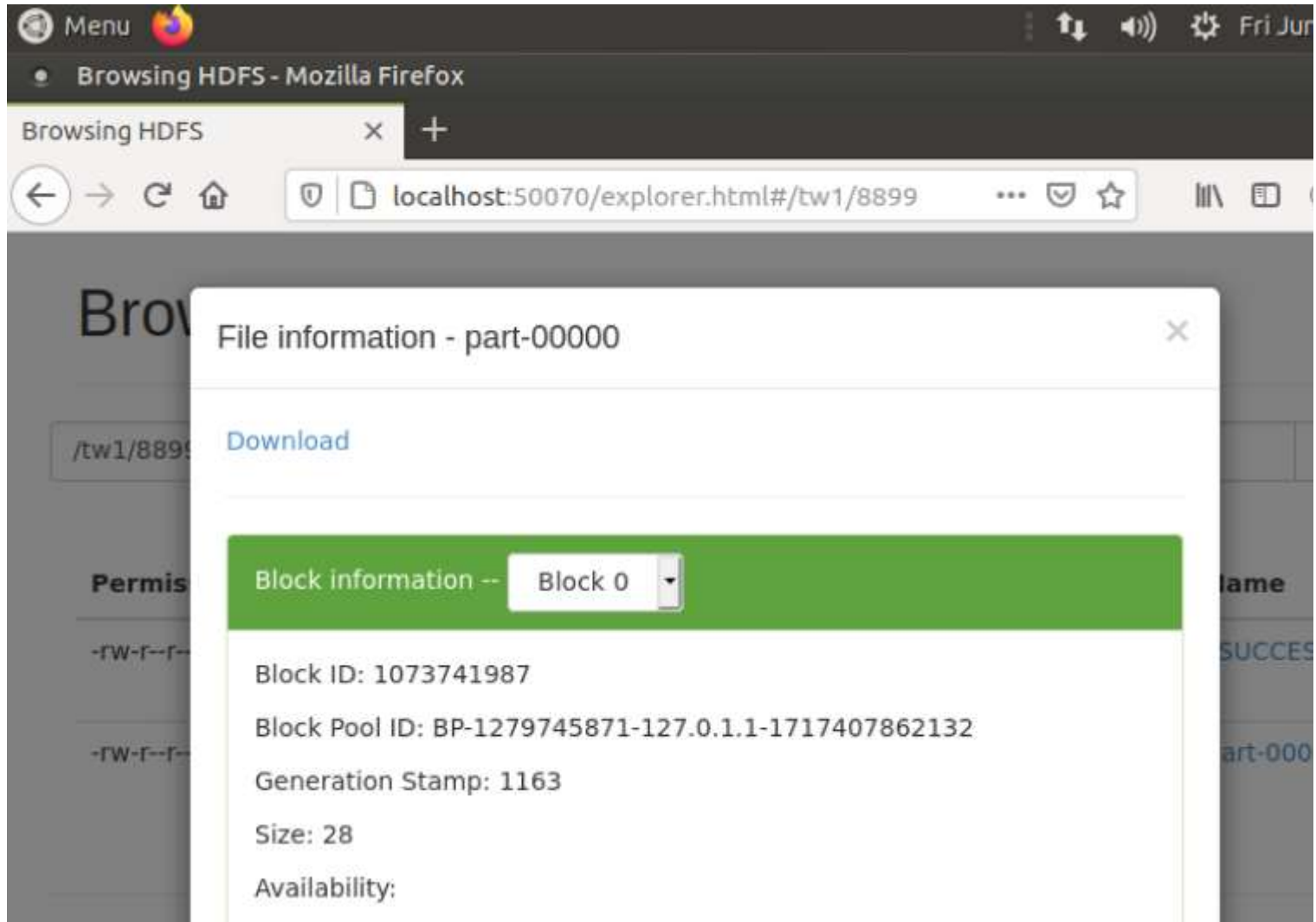
Browse Directory

/tw1/8899

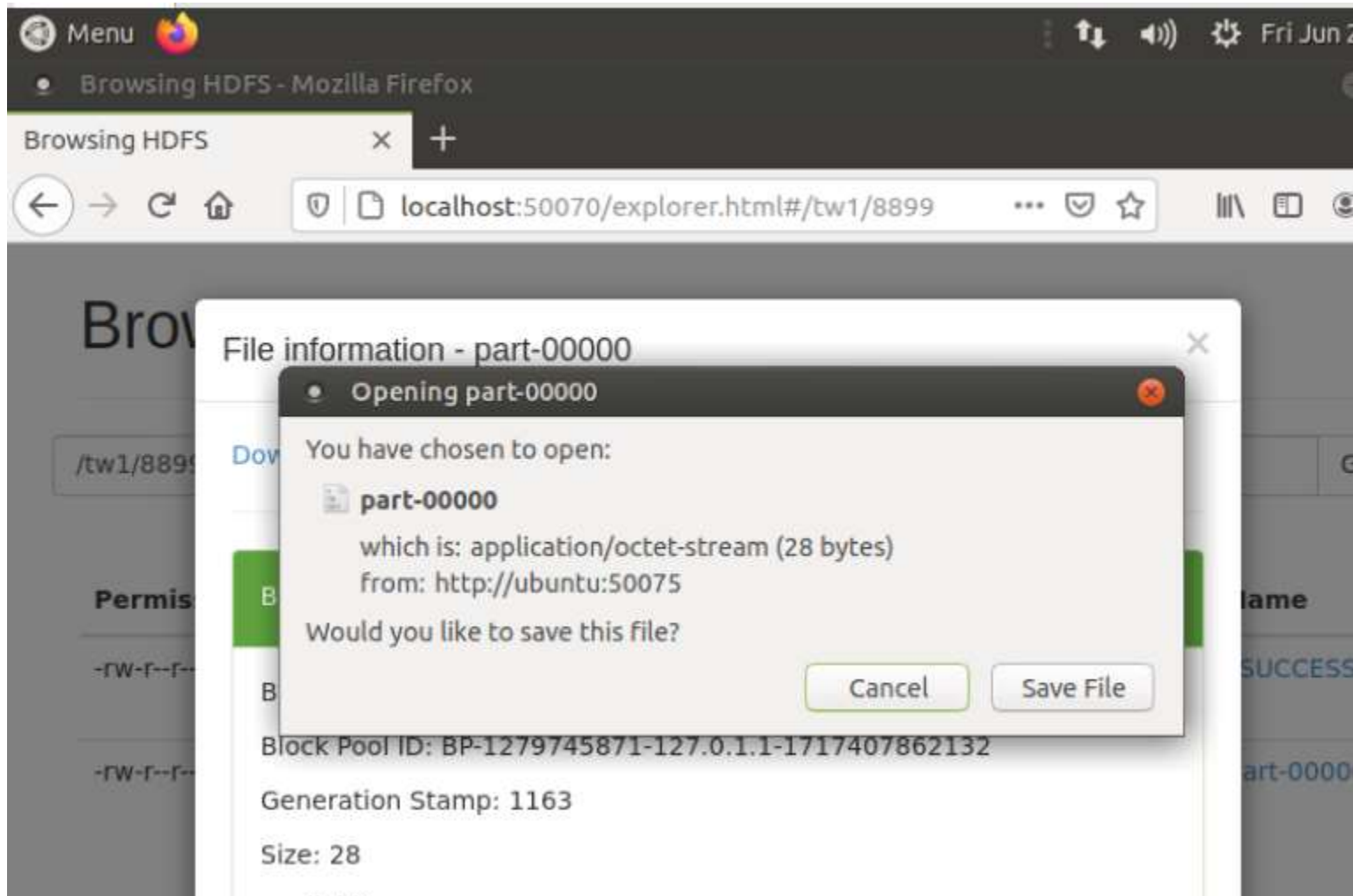
Go!

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
-rw-r--r--	hduser	supergroup	0 B	6/28/2024, 12:30:52 AM	1	128 MB	_SUCCESS
-rw-r--r--	hduser	supergroup	28 B	6/28/2024, 12:30:51 AM	1	128 MB	part-00000

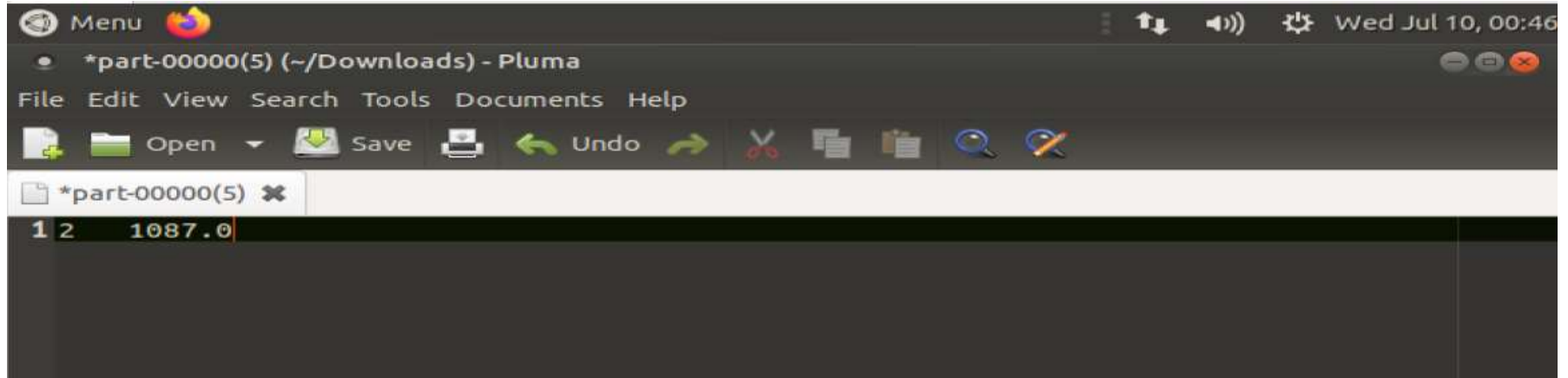
Click Download



Click savefile



Go to download and open the file part-00000 to view the output



<https://repo1.maven.org/maven2/org/apache/hadoop/hadoop-streaming/2.7.3/>