Term Work 4

Password
dv
or
bca
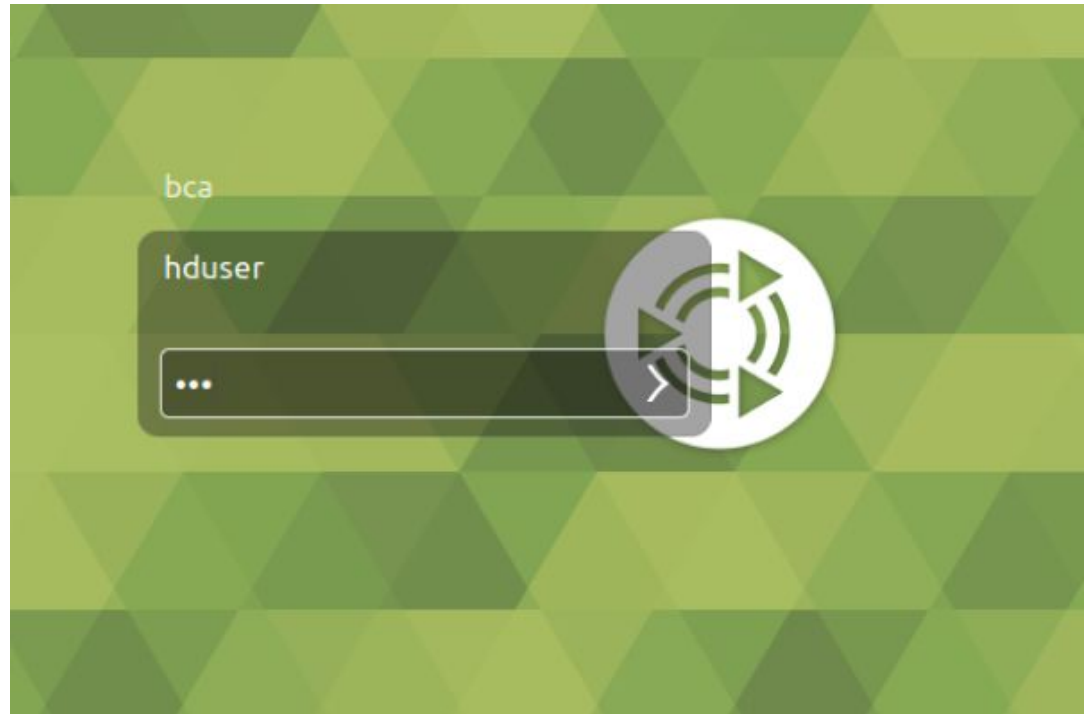
Right Click & select
Open in Terminal
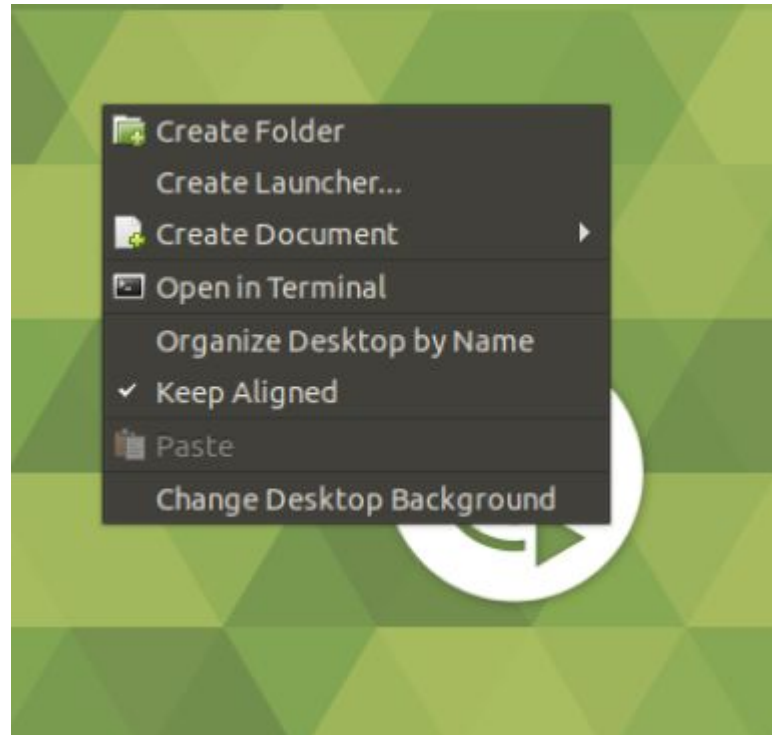
Type jps &

Type & press

Blue Colour - Directory

Password bca or dv

```
File Edit View Search Terminal Help
hduser@ubuntu:~$ cd Documents
hduser@ubuntu:~/Documents$ sudo mkdir termwork4
[sudo] password for hduser:
hduser@ubuntu:~/Documents$ ls
bgm20            -mapper        red90.py       shop1.txt     termwork4
bgm27            mapper45.py    red.py         shop90.txt    word13.txt
flipkart.txt     mapper.py      -reducer       termwork1     word23.txt
map90.py         map.py         reducer45.py   termwork2     words.txt
map90.txt        -output        reducer.py     termwork3     word.txt
hduser@ubuntu:~/Documents$
```

Type cd termwork4/

& press

File Edit View Search Terminal Help
hduser@ubuntu:~/Documents$ cd termwork4
hduser@ubuntu:~/Documents/termwork4$ █

Type sudo nano opinion.csv

& press

File Edit View Search Terminal Help

hduser@ubuntu:~/Documents/termwork4$ sudo nano opinion.csv

Type the text

& press Ctrl x y & then press


```
File Edit View Search Terminal Help
  GNU nano 2.9.3                                opinion.csv

1,M,25000,2,Agree
2,F,50000,1,DisAgree
3,M,75000,0,Neutral
4,F,80000,2,Agree
5,F,10000,1,DisAgree
6,F,20000,3,Neutral
7,M,17000,0,DisAgree
8,F,15000,0,DisAgree
9,M,60000,1,Agree
10,F,45000,1,Agree
11,F,46000,3,DisAgree
12,F,50000,3,Neutral
```

Type cat opinion.csv
& press

This shows your typed text


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ cat opinion.csv
1,M,25000,2,Agree
2,F,50000,1,DisAgree
3,M,75000,0,Neutral
4,F,80000,2,Agree
5,F,10000,1,DisAgree
6,F,20000,3,Neutral
7,M,17000,0,DisAgree
8,F,15000,0,DisAgree
9,M,60000,1,Agree
10,F,45000,1,Agree
11,F,46000,3,DisAgree
12,F,50000,3,Neutral
hduser@ubuntu:~/Documents/termwork4$
```

Type ls
& press

This shows your file


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ ls
opinion.csv
hduser@ubuntu:~/Documents/termwork4$ 
```

Type sudo nano mapper.py
& press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ sudo nano mapper.py
```

Type the code
& press Ctrl x y & then press


```
File  Edit  View  Search  Terminal  Help
 GNU nano 2.9.3                                    mapper.py

#!/usr/bin/python
import sys
for line in sys.stdin:
    line = line.strip()
    line = line.split(",")
    if len(line) >=2:
        id = line[0]
        opinion = line[4]
        print '%s\t%s' % (id, opinion)
```

Type cat mapper.py

& press


```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork4$ cat mapper.py
#!/usr/bin/python
import sys
for line in sys.stdin:
    line = line.strip()
    line = line.split(",")
    if len(line) >=2:
        id = line[0]
        opinion = line[4]
        print '%s\t%s' % (id, opinion)

hduser@ubuntu:~/Documents/termwork4$
```

Type ls
& press

This shows your files

Type cat opinion.csv | python mapper.py

& press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ cat opinion.csv | python mapper.py
1       Agree
2       DisAgree
3       Neutral
4       Agree
5       DisAgree
6       Neutral
7       DisAgree
8       DisAgree
9       Agree
10      Agree
11      DisAgree
12      Neutral
hduser@ubuntu:~/Documents/termwork4$
```

Type sudo nano reducer.py
& press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ sudo nano reducer.py
```

Type the code
& press Ctrl x y & then press


```
File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.3                                    reducer.py

#!/usr/bin/env python
import sys
opiniondic = {}
count=0
for line in sys.stdin:
    line = line.strip()
    pid, opinion = line.split('\t')
    if opinion in opiniondic:
        opiniondic[opinion].append(count+1)
    else:
        opiniondic[opinion] = []
        opiniondic[opinion].append(count+1)
for opinion in opiniondic.keys():
    count=len(opiniondic[opinion])
    print '%s\t%s'% (opinion,count)
```

Type cat reducer.py

& press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ cat reducer.py
#!/usr/bin/env python
import sys
opiniondic = {}
count=0
for line in sys.stdin:
    line = line.strip()
    pid, opinion = line.split('\t')
    if opinion in opiniondic:
        opiniondic[opinion].append(count+1)
    else:
        opiniondic[opinion] = []
        opiniondic[opinion].append(count+1)
for opinion in opiniondic.keys():
   count=len(opiniondic[opinion])
   print '%s\t%s'% (opinion,count)
hduser@ubuntu:~/Documents/termwork4$
```

Type ls
& press

This shows your files

```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ ls
mapper.py   opinion.csv   reducer.py
hduser@ubuntu:~/Documents/termwork4$
```

Type cat opinion.csv | python mapper.py | python reducer.py & press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ cat opinion.csv | python mapper.py | python reduce
r.py
Neutral 3
DisAgree        5
Agree   4
hduser@ubuntu:~/Documents/termwork4$
```

Type jps
& press

File Edit View Search Terminal Help

hduser@ubuntu:~/Documents/termwork4$ jps
2903 Jps
hduser@ubuntu:~/Documents/termwork4$

Type start-all.sh
& press

Provide password 4 times (it will ask)

File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork4$ start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh

Type jps
& press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ jps
3973 NodeManager
3799 ResourceManager
3608 SecondaryNameNode
3321 DataNode
4137 Jps
3150 NameNode
hduser@ubuntu:~/Documents/termwork4$
```

Type hdfs dfs -mkdir /tw4
& press

If it goes into safe mode then type
hdfs dfsadmin –safemode leave
After this type
hdfs dfs –mkdir /tw4

This creates a directory in cluster


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ hdfs dfs -mkdir /tw4
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Ke
rberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.1.jar) to me
thod sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.securit
y.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective acc
ess operations
WARNING: All illegal access operations will be denied in a future release
24/07/25 02:40:39 WARN util.NativeCodeLoader: Unable to load native-hadoop library for
your platform... using builtin-java classes where applicable
hduser@ubuntu:~/Documents/termwork4$ █
```

Type hdfs dfs -ls /

& press


```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork4$ hdfs dfs -ls /
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Ke
rberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.1.jar) to me
thod sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.securit
y.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective acc
ess operations
WARNING: All illegal access operations will be denied in a future release
24/07/25 02:41:58 WARN util.NativeCodeLoader: Unable to load native-hadoop library for
your platform... using builtin-java classes where applicable
Found 25 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 2024-07-23 02:38 /TERMW5
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
```

Type hdfs dfs –copyFromLocal
/home/hduser/Documents/termwork4/opinion.csv /tw4

& press


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ hdfs dfs -copyFromLocal /home/hduser/Documents/ter
mwork4/opinion.csv /tw4
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Ke
rberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.1.jar) to me
thod sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.securit
y.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective acc
ess operations
WARNING: All illegal access operations will be denied in a future release
24/07/25 02:44:31 WARN util.NativeCodeLoader: Unable to load native-hadoop library for
your platform... using builtin-java classes where applicable
hduser@ubuntu:~/Documents/termwork4$
```

Type hdfs dfs -ls /tw4
& press


```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork4$ hdfs dfs -ls /tw4
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Ke
rberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.1.jar) to me
thod sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.securit
y.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective acc
ess operations
WARNING: All illegal access operations will be denied in a future release
24/07/25 02:45:32 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 hduser supergroup        240 2024-07-25 02:44 /tw4/opinion.csv
hduser@ubuntu:~/Documents/termwork4$
```

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

Provide password dv or bca

```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork4$ sudo chmod 777 mapper.py reducer.py
[sudo] password for hduser:
hduser@ubuntu:~/Documents/termwork4$ ▮
```

Type ls -l
& press


```
File Edit View Search Terminal Help
hduser@ubuntu:~/Documents/termwork4$ ls -l
total 12
-rwxrwxrwx 1 root root 212 Jul 25 02:27 mapper.py
-rw-r--r-- 1 root root 240 Jul 25 02:22 opinion.csv
-rwxrwxrwx 1 root root 404 Jul 25 02:33 reducer.py
hduser@ubuntu:~/Documents/termwork4$ 
```

Type

& press

Everything working fine, it will show the output directory

& press


```
         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=360
         File Output Format Counters
                 Bytes Written=29
24/07/25 02:52:33 INFO streaming.StreamJob: Output directory: /tw4/output
hduser@ubuntu:~/Documents/termwork4$
```

Type hdfs dfs –cat /tw4/output/part-00000
& press

This shows the final output


```
File  Edit  View  Search  Terminal  Help
hduser@ubuntu:~/Documents/termwork4$ hdfs dfs -cat /tw4/output/part-00000
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Ke
rberosUtil (file:/usr/local/hadoop/share/hadoop/common/lib/hadoop-auth-2.7.1.jar) to me
thod sun.security.krb5.Config.getInstance()
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.securit
y.authentication.util.KerberosUtil
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective acc
ess operations
WARNING: All illegal access operations will be denied in a future release
24/07/25 02:54:50 WARN util.NativeCodeLoader: Unable to load native-hadoop library for
your platform... using builtin-java classes where applicable
Neutral 3
DisAgree        5
Agree   4
hduser@ubuntu:~/Documents/termwork4$
```

Now open firefox and type localhost:50070/

& press
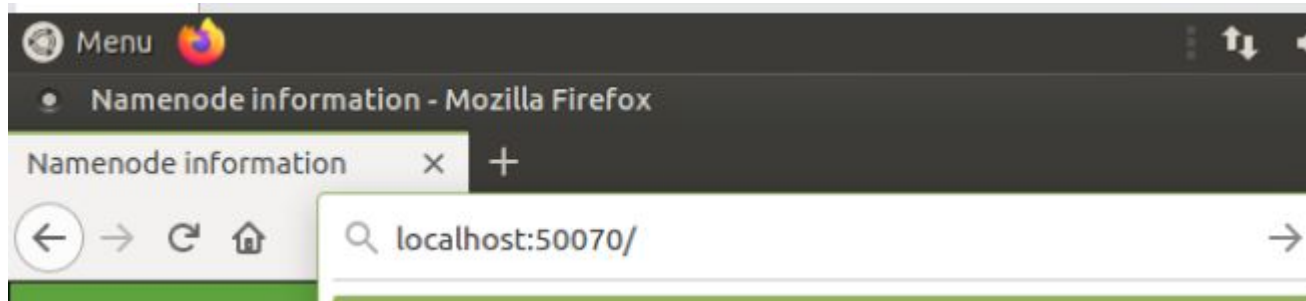
Click utilities & click Browse the file system
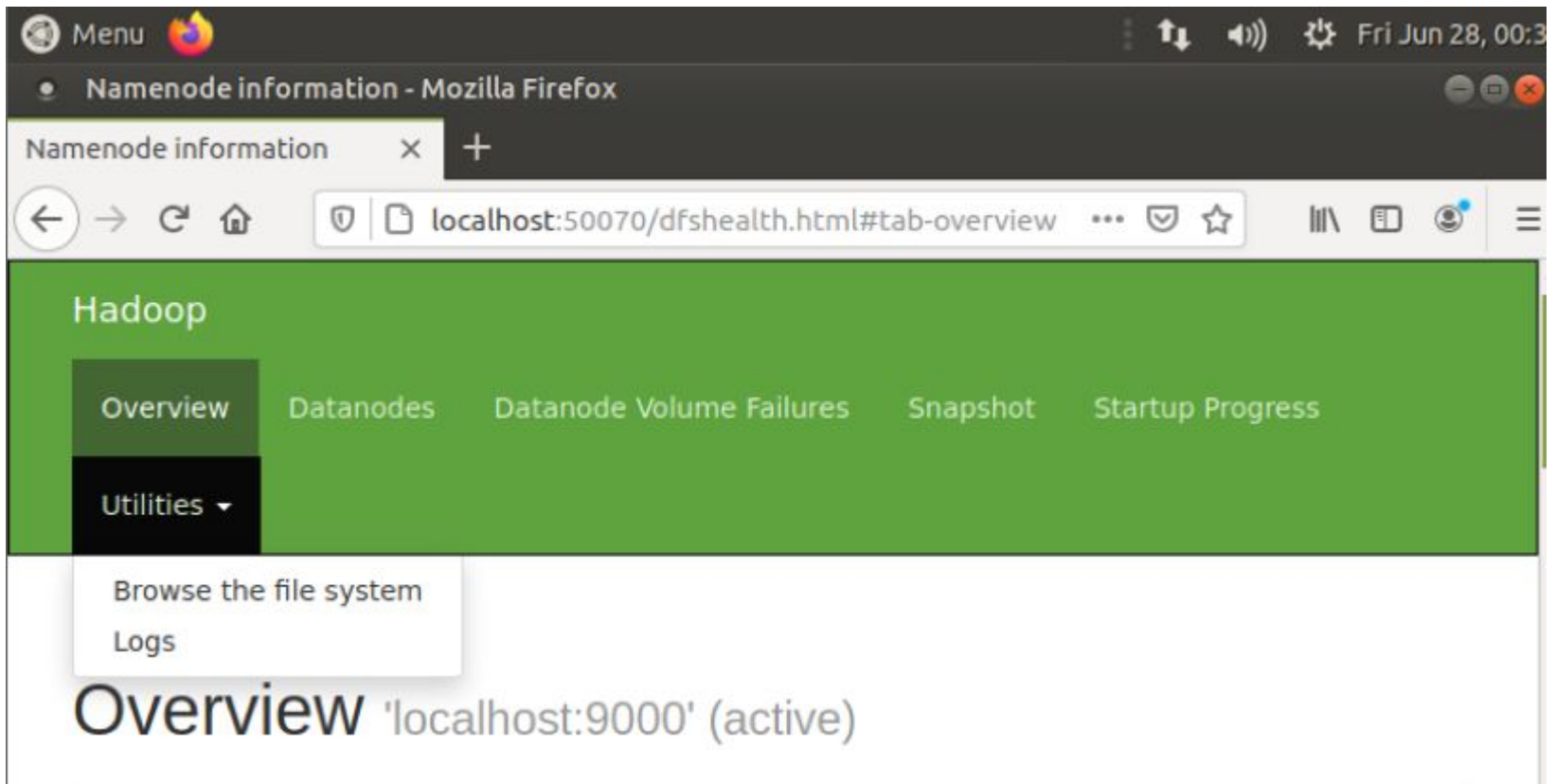
Click tw4

drwx------	hduser	supergroup	0 B	6/8/2024, 4:29:46 AM	0	0 B	tmp
drwxr-xr-x	hduser	supergroup	0 B	6/28/2024, 12:30:12 AM	0	0 B	tw1
drwxr-xr-x	hduser	supergroup	0 B	7/10/2024, 12:39:46 AM	0	0 B	tw2
drwxr-xr-x	hduser	supergroup	0 B	7/12/2024, 1:05:10 AM	0	0 B	tw3
drwxr-xr-x	hduser	supergroup	0 B	7/25/2024, 2:51:50 AM	0	0 B	tw4
drwxr-xr-x	hduser	supergroup	0 B	6/10/2024, 3:39:45 AM	0	0 B	word_countswara

Click output
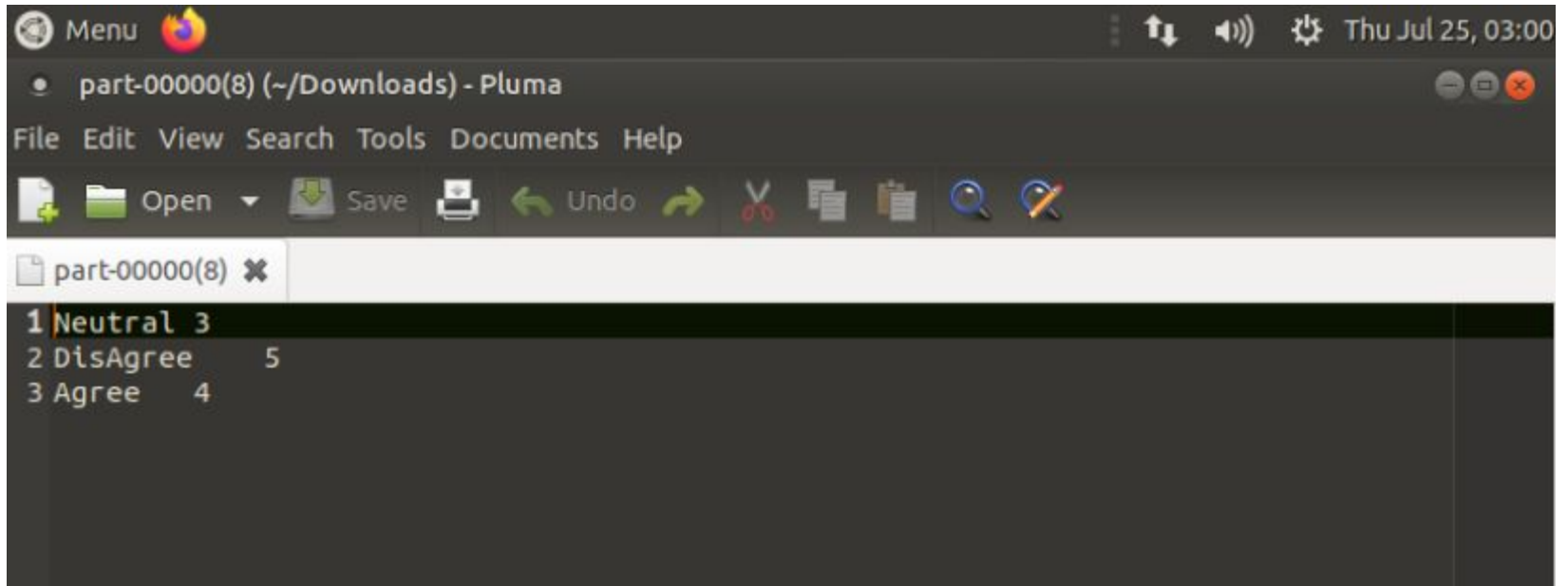
Click part-00000

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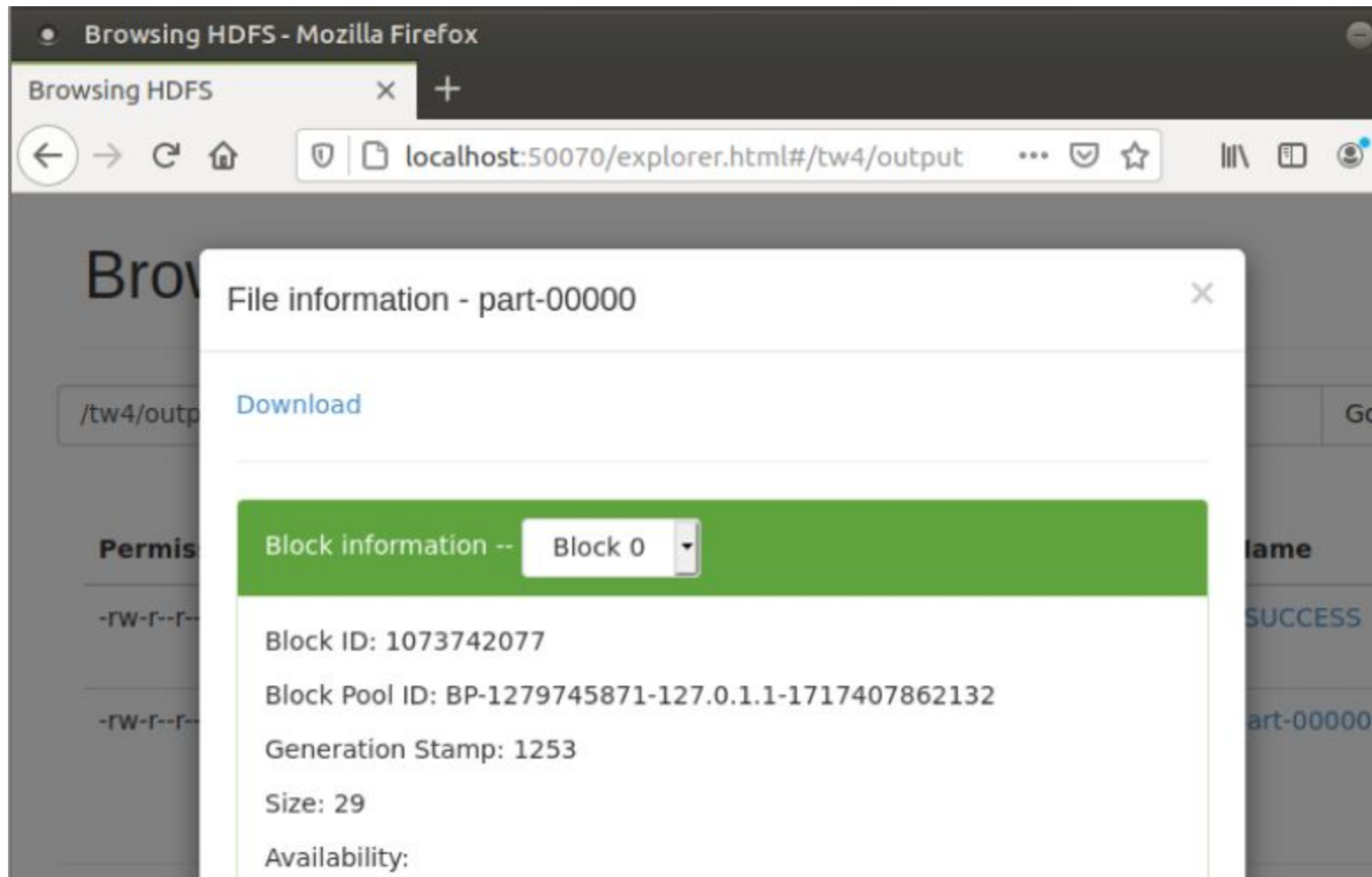
Click savefile
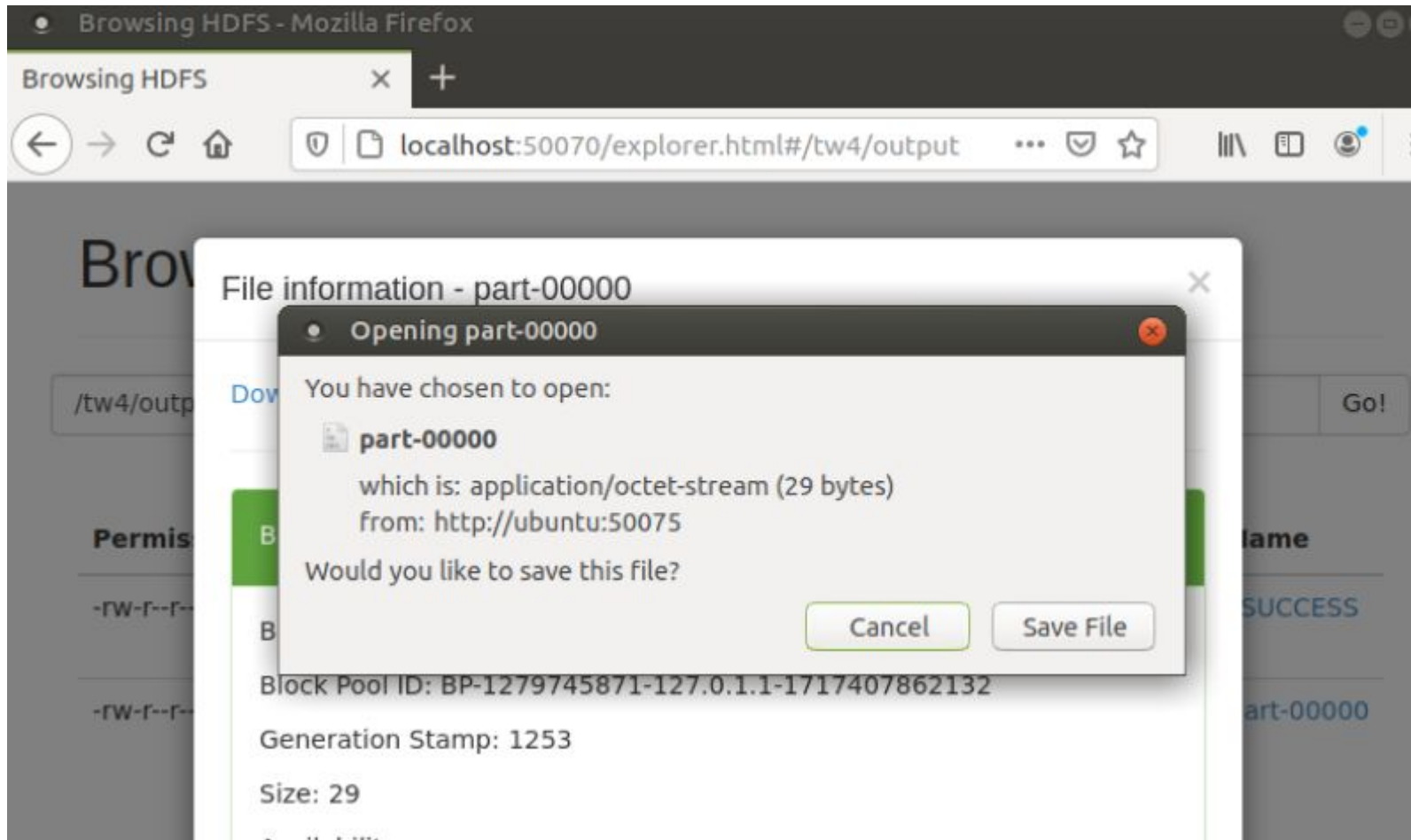
Go to download and open the file part-00000 to view the output