

Подготовка файла для загрузки

```
Cmder
λ ls
bin/          config/  LICENSE  my_rsa  opt/      'Version 1.3.17.1082'
Cmder.exe*   icons/  LICENSEO my_rsa.pub vendor/

D:\Cmder
λ cat licenseo
Ostapshutenko

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SOFTWARE.

D:\Cmder
λ |
```

На всякий случай проверил есть ли файл

```
D:\Cmder
λ scp -i my_rsa student1_15@manager.novalocal:LICENSEO lic2
LICENSEO 100% 1085 35.6KB/s 00:00
```

Копировал файл в систему

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -put LICENSEO .
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 1 items
-rw-r--r-- 2 student1_15 student1_15 1085 2021-02-09 13:19 LICENSEO
[student1_15@bigdataanalytics-head-0 ~]$ |
```

Копировал файл

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -cp ./LICENSEO ./LIC2
21/02/09 13:25:44 WARN hdfs.DataStreamer: Slow waitForAckedSeqno took 31159ms (threshold=30000ms). File being written: /
user/student1_15/LIC2_COPYING_, block: BP-2034205697-10.0.0.8-1605765014172:blk_1074455871_715787, Write pipeline datan
odes: [DatanodeInfoWithStorage[10.0.0.9:50010,DS-cfcfb8e-df78-48b2-977a-cc9bb7aa9546,DISK], DatanodeInfoWithStorage[10.
0.0.18:50010,DS-267aa5cb-5f32-4dd0-98c5-7f2828ca9bda,DISK]].
[student1_15@bigdataanalytics-head-0 ~]$
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 2 items
-rw-r--r-- 2 student1_15 student1_15 1085 2021-02-09 13:25 LIC2
-rw-r--r-- 2 student1_15 student1_15 1085 2021-02-09 13:19 LICENSEO
```

Удалил файл

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -rm LIC2
21/02/09 13:27:54 INFO fs.TrashPolicyDefault: Moved: 'hdfs://bigdataanalytics-head-0.novalocal:8020/user/student1_15/LIC
2' to trash at: hdfs://bigdataanalytics-head-0.novalocal:8020/user/student1_15/.Trash/Current/user/student1_15/LIC2
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 2 items
drwx----- - student1_15 student1_15 0 2021-02-09 13:27 .Trash
-rw-r--r-- 2 student1_15 student1_15 1085 2021-02-09 13:19 LICENSEO
```

Создал папку

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -mkdir midir
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 3 items
drwx----- - student1_15 student1_15          0 2021-02-09 13:27 .Trash
-rw-r--r--  2 student1_15 student1_15        1085 2021-02-09 13:19 LICENSEO
drwxr-xr-x - student1_15 student1_15          0 2021-02-09 13:32 midir
[student1_15@bigdataanalytics-head-0 ~]$
```

Перенес файл в папку

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -mv LICENSEO ./midir/LICENSEO
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 2 items
drwx----- - student1_15 student1_15          0 2021-02-09 13:27 .Trash
drwxr-xr-x - student1_15 student1_15          0 2021-02-09 13:43 midir
```

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls -r ./midir
Found 1 items
-rw-r--r--  2 student1_15 student1_15        1085 2021-02-09 13:19 midir/LICENSEO
[student1_15@bigdataanalytics-head-0 ~]$
```

Копирование папки

Происходит в несколько этапов так как нет одной команды для копирования

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls -r ./midir
Found 1 items
-rw-r--r--  2 student1_15 student1_15        1085 2021-02-09 13:19 midir/LICENSEO
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -mkdir ./mydir
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 3 items
drwx----- - student1_15 student1_15          0 2021-02-09 13:27 .Trash
drwxr-xr-x - student1_15 student1_15          0 2021-02-09 13:43 midir
drwxr-xr-x - student1_15 student1_15          0 2021-02-09 14:02 mydir
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -cp ./midir/* ./mydir/
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls -r ./mydir
Found 1 items
-rw-r--r--  2 student1_15 student1_15        1085 2021-02-09 14:05 mydir/LICENSEO
[student1_15@bigdataanalytics-head-0 ~]$
```

Удаление папки происходит в два этапа сначала файлы внутри а потом директория

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -rm ./midir/*
21/02/09 14:15:17 INFO fs.TrashPolicyDefault: Moved: 'hdfs://bigdataanalytics-head-0.novalocal:8020/user/student1_15/midir/LICENSEO' to trash at: hdfs://bigdataanalytics-head-0.novalocal:8020/user/student1_15/.Trash/Current/user/student1_15/midir/LICENSEO
```

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -rmdir ./midir
[student1_15@bigdataanalytics-head-0 ~]$ hdfs dfs -ls
Found 2 items
drwx----- - student1_15 student1_15          0 2021-02-09 13:27 .Trash
drwxr-xr-x - student1_15 student1_15          0 2021-02-09 14:05 mydir
[student1_15@bigdataanalytics-head-0 ~]$
```

Основная мета информация

```
[student1_15@bigdataanalytics-head-0 ~]$ hdfs fsck . -files -blocks -locations
Connecting to namenode via http://bigdataanalytics-head-0.novalocal:50070/fsck?ugi=student1_15&files=1&blocks=1&locations=1&path=%2Fuser%2Fstudent1_15
FSCK started by student1_15 (auth:SIMPLE) from /10.0.0.8 for path /user/student1_15 at Tue Feb 09 14:38:55 UTC 2021
/user/student1_15 <dir>
/user/student1_15/.Trash <dir>
/user/student1_15/.Trash/Current <dir>
/user/student1_15/.Trash/Current/user <dir>
/user/student1_15/.Trash/Current/user/student1_15 <dir>
/user/student1_15/.Trash/Current/user/student1_15/LIC2 1085 bytes, replicated: replication=2, 1 block(s): OK
0. BP-2034205697-10.0.0.8-1605765014172:blk_1074455871_715787 len=1085 Live_repl=2 [DatanodeInfoWithStorage[10.0.0.18:50010,DS-267aa5cb-5f32-4dd0-98c5-7f2828ca9bda,DISK], DatanodeInfoWithStorage[10.0.0.9:50010,DS-cfcfbd8e-df78-48b2-977a-cc9bb7aa9546,DISK]]

/user/student1_15/.Trash/Current/user/student1_15/midir <dir>
/user/student1_15/.Trash/Current/user/student1_15/midir/LICENSE0 1085 bytes, replicated: replication=2, 1 block(s): OK
0. BP-2034205697-10.0.0.8-1605765014172:blk_1074455870_715786 len=1085 Live_repl=2 [DatanodeInfoWithStorage[10.0.0.18:50010,DS-267aa5cb-5f32-4dd0-98c5-7f2828ca9bda,DISK], DatanodeInfoWithStorage[10.0.0.12:50010,DS-7d4579f0-3ef5-4676-823e-8e4d60d2e4b8,DISK]]

/user/student1_15/mydir <dir>
/user/student1_15/mydir/LICENSE0 1085 bytes, replicated: replication=2, 1 block(s): OK
0. BP-2034205697-10.0.0.8-1605765014172:blk_1074455903_715819 len=1085 Live_repl=2 [DatanodeInfoWithStorage[10.0.0.17:50010,DS-00ef9314-bb87-49c4-9cfa-8c8fb6ff33cc,DISK], DatanodeInfoWithStorage[10.0.0.18:50010,DS-267aa5cb-5f32-4dd0-98c5-7f2828ca9bda,DISK]]

Status: HEALTHY
Number of data-nodes: 4
Number of racks: 1
Total dirs: 7
Total symlinks: 0

Replicated Blocks:
Total size: 3255 B
Total files: 3
Total blocks (validated): 3 (avg. block size 1085 B)
Minimally replicated blocks: 3 (100.0 %)
Over-replicated blocks: 0 (0.0 %)
Under-replicated blocks: 0 (0.0 %)
Mis-replicated blocks: 0 (0.0 %)
Default replication factor: 2
Average block replication: 2.0
Missing blocks: 0
Corrupt blocks: 0
Missing replicas: 0 (0.0 %)

Erasure Coded Block Groups:
Total size: 0 B
Total files: 0
Total block groups (validated): 0
Minimally erasure-coded block groups: 0
Over-erasure-coded block groups: 0
Under-erasure-coded block groups: 0
Unsatisfactory placement block groups: 0
Average block group size: 0.0
Missing block groups: 0
Corrupt block groups: 0
Missing internal blocks: 0
FSCK ended at Tue Feb 09 14:38:55 UTC 2021 in 2 milliseconds

The filesystem under path '/user/student1_15' is HEALTHY
```