# ASSIGNMENT -1

a) Create a directory /hadoop/hdfs/ in HDFS

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -mkdir -p /hadoop/hdfs/
24/07/02 19:02:36 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
hadoop@hadoop-VirtualBox:~$
```

b) Create a temp directory in Hadoop. Run HDFS command to delete
"temp" directory.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -mkdir /hadoop/hdfs/temp
24/07/02 19:04:33 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
hadoop@hadoop-VirtualBox:~$ hdfs dfs -rm -r /hadoop/hdfs/temp
24/07/02 19:05:16 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
24/07/02 19:05:19 INFO fs.TrashPolicyDefault: Namenode trash configuration: Deletion interval = 0 minutes, Emptier interval = 0 minut
es.
Deleted /hadoop/hdfs/temp
hadoop@hadoop-VirtualBox:~$
```

c) List all the files/directories for the given hdfs destination
path.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -ls /hadoop/
24/07/02 19:08:11 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java clas
ere applicable
Found 1 items
drwxr-xr-x   - hadoop supergroup          0 2024-07-02 19:05 /hadoop/hdfs
```

d) Command that will list the directories in /hadoop folder.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -ls -d /hadoop/*
24/07/02 19:10:10 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes
ere applicable
drwxr-xr-x   - hadoop supergroup          0 2024-07-02 19:05 /hadoop/hdfs
```

e) Command to list recursively all files in hadoop directory and
all subdirectories in hadoop directory

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -ls -R /hadoop/
24/07/02 19:11:38 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
drwxr-xr-x   - hadoop supergroup          0 2024-07-02 19:05 /hadoop/hdfs
hadoop@hadoop-VirtualBox:~$
```

f) List all the directory inside /hadoop/hdfs/ directory which
starts with "dir"

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -ls -d /hadoop/hdfs/dir*
24/07/02 19:37:36 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform..
ere applicable
ls: `/hadoop/hdfs/dir*': No such file or directory
hadoop@hadoop-VirtualBox:~$
```

g) Create a temp.txt file. Copies this file from local file
system to HDFS

```
hadoop@hadoop-VirtualBox:~$ nano temp.txt
hadoop@hadoop-VirtualBox:~$ hdfs dfs -put temp.txt/
24/07/02 19:48:59 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
put: `.': No such file or directory
hadoop@hadoop-VirtualBox:~$ hdfs dfs -put temp.txt /
24/07/02 19:49:38 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
```

h) Copies the file from HDFS to local file system.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -get /temp.txt
24/07/02 19:51:33 WARN util.NativeCodeLoader: Unable to load native-hadoop library for yo
ere applicable
get: `temp.txt': File exists
```

i) Command to copy from local directory with the source being restricted to a local file reference.

| /hadoop/hdfs | | | | | | | | Go! |
|---|---|---|---|---|---|---|---|---|
| **Permission** | **Owner** | **Group** | **Size** | **Last Modified** | **Replication** | **Block Size** | **Name** | |
| -rw-r--r-- | hadoop | supergroup | 19 B | 7/2/2024, 7:11:41 PM | 1 | 128 MB | asign.txt | |

j) Command to copies to local directory with the source being restricted to a local file reference.

| /hadoop/hdfs | | | | | | | | Go! |
|---|---|---|---|---|---|---|---|---|
| **Permission** | **Owner** | **Group** | **Size** | **Last Modified** | **Replication** | **Block Size** | **Name** | |
| -rw-r--r-- | hadoop | supergroup | 19 B | 7/2/2024, 7:11:41 PM | 1 | 128 MB | asign.txt | |

k) Command to move from local directory source to Hadoop directory.

| /hadoop | | | | | | | | Go! |
|---|---|---|---|---|---|---|---|---|
| **Permission** | **Owner** | **Group** | **Size** | **Last Modified** | **Replication** | **Block Size** | **Name** | |
| drwxr-xr-x | hadoop | supergroup | 0 B | 7/2/2024, 7:11:41 PM | 0 | 0 B | hdfs | |
| -rw-r--r-- | hadoop | supergroup | 34 B | 7/2/2024, 7:14:37 PM | 1 | 128 MB | temp.txt | |

l) Deletes the directory and any content under it recursively.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -rm -r /hadoop/hdfs/asign.txt
24/07/02 20:18:34 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
24/07/02 20:18:38 INFO fs.TrashPolicyDefault: Namenode trash configuration: Deletion interval = 0 minutes, Emptier interval = 0 minut
es.
Deleted /hadoop/hdfs/asign.txt
```

m) List the files and show Format file sizes in a human-readable
fashion.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -ls -h /hadoop/
24/07/02 20:23:11 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
Found 2 items
drwxr-xr-x   - hadoop supergroup          0 2024-07-02 20:18 /hadoop/hdfs
-rw-r--r--   1 hadoop supergroup         34 2024-07-02 20:14 /hadoop/temp.txt
```

n) Take a source file and outputs the file in text format on the
terminal.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -text /hadoop/temp.txt
24/07/02 20:30:17 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
this is temp file,containing data
```

o) Display the content of the HDFS file test on your
/user/hadoop2 directory.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -cat /hadoop/test.txt
24/07/02 20:37:48 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
how ara you
```

p) Append the content of a local file test1 to a hdfs file test2.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -appendToFile test1.txt /hadoop/test.txt
24/07/02 20:40:56 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
```

q) Show the capacity, free and used space of the filesystem
```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -df -h /
24/07/02 20:42:36 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
Filesystem              Size   Used  Available  Use%
hdfs://localhost:9000  19.6 G  240 K    10.9 G    0%
```

r) Shows the capacity, free and used space of the filesystem.Add parameter Formats the sizes of
files in a human-readable
fashion.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -du -h /hadoop/
24/07/02 20:44:47 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
0   /hadoop/hdfs
34  /hadoop/temp.txt
54  /hadoop/test.txt
```

s) Show the amount of space, in bytes, used by the files that
match the specified file pattern.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -du -s /hadoop/test.txt
24/07/02 20:49:44 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
54  /hadoop/test.txt
```

t) Show the amount of space, in bytes, used by the files that
match the specified file pattern. Formats the sizes of files
in a human-readable fashion.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -du -s -h /hadoop/test.txt
24/07/02 20:50:48 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
54  /hadoop/test.txt
```

u) Check the health of the Hadoop file system.

```
hadoop@hadoop-VirtualBox:~$ hdfs fsck
Usage: hdfs fsck <path> [-list-corruptfileblocks | [-move | -delete | -openforwrite] [-files [-blocks [-locations | -racks]]]] [-incl
udeSnapshots] [-storagepolicies] [-blockId <blk_Id>]
        <path>  start checking from this path
        -move   move corrupted files to /lost+found
        -delete delete corrupted files
        -files  print out files being checked
        -openforwrite   print out files opened for write
        -includeSnapshots       include snapshot data if the given path indicates a snapshottable directory or there are snapshottabl
e directories under it
        -list-corruptfileblocks print out list of missing blocks and files they belong to
        -blocks print out block report
        -locations      print out locations for every block
        -racks  print out network topology for data-node locations
        -storagepolicies        print out storage policy summary for the blocks
        -blockId        print out which file this blockId belongs to, locations (nodes, racks) of this block, and other diagnostics i
nfo (under replicated, corrupted or not, etc)

Please Note:
        1. By default fsck ignores files opened for write, use -openforwrite to report such files. They are usually  tagged CORRUPT o
r HEALTHY depending on their block allocation status
        2. Option -includeSnapshots should not be used for comparing stats, should be used only for HEALTH check, as this may contain
 duplicates if the same file present in both original fs tree and inside snapshots.
```

v) Command to turn off the safemode of Name Node.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfsadmin -safemode leave
24/07/02 20:54:23 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
Safe mode is OFF
```

w) HDFS command to format NameNode.

    hdfs namenode -format

x) Create a file named hdfstest.txt and change it number of
replications to 3.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -setrep 3 /hadoop/hdfstest.txt
24/07/02 21:06:13 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
Replication 3 set: /hadoop/hdfstest.txt
```

y) Write command to display number of replicas for hdfstest.txt
file.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -stat %r /hadoop/hdfstest.txt
24/07/02 21:07:46 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
3
```

z) Write command to Display the status of file "hdfstest.txt"
like block size, filesize in bytes.

```
hadoop@hadoop-VirtualBox:~$ hdfs dfs -stat "%b %o %r %n %y %u %g" /hadoop/hdfstest.txt
24/07/02 21:09:53 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes wh
ere applicable
19 134217728 3 hdfstest.txt 2024-07-02 18:01:25 hadoop supergroup
```

aa) Write HDFS command to change file permission from
rw – r – r to rwx-rw-x for hdfstest.txt.

Hdfs dfs -chmod 777 /hadoop/hdfstest.txt