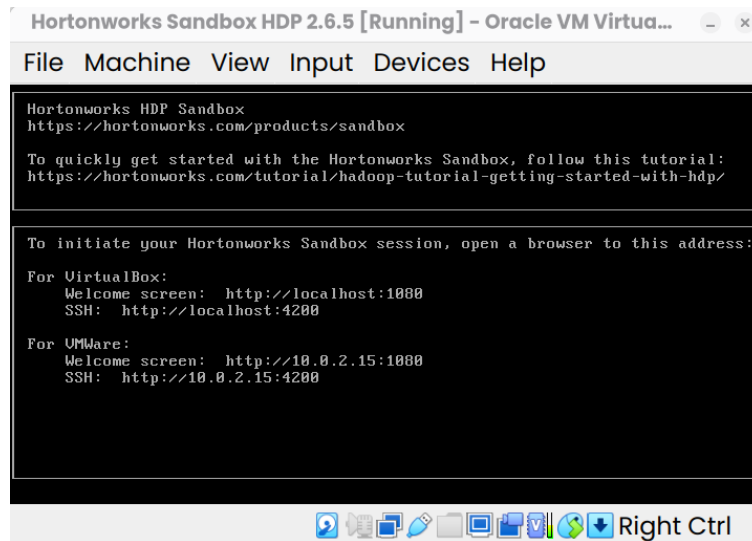# Practical-03

Aim: Study various operations of HortonWorks Sandbox on Virtual Machine.
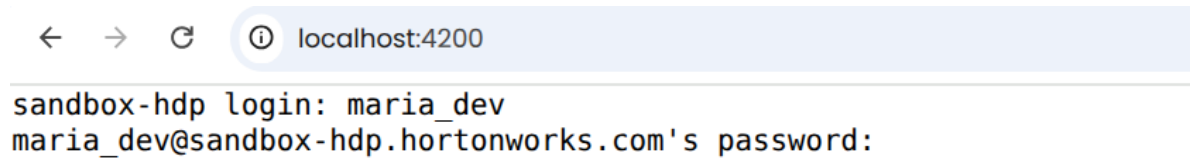
Procedure:

1. Start the HortonWorks it shows the IP address of machine.

9. Navigate to http://localhost:4200

10. Use the username and password: maria_dev to login.

11. Execute the following commands one-by-one:

□ **hadoop fs -ls**
The command **hadoop fs -ls** is used to **list files and directories stored in Hadoop Distributed File System (HDFS)** or other supported file systems (like local FS, S3, etc., depending on configuration).

It also shows the metadata:

- File permissions
- Replication factor

- Owner & group
- File size (in bytes)
- Last modification date & time
- Path

☐ **hadoop fs -mkdir ml-100k**

The **hadoop fs -mkdir** command is used to **create new directories in Hadoop Distributed File System (HDFS)** (or any other file system supported by Hadoop, like S3, local FS, etc.,

```
[maria_dev@sandbox-hdp ~]$ hadoop fs -ls
[maria_dev@sandbox-hdp ~]$ hadoop fs -mkdir ml-100k
[maria_dev@sandbox-hdp ~]$ hadoop fs -ls
Found 1 items
drwxr-xr-x   - maria_dev hdfs          0 2025-08-26 04:51 ml-100k
```

depending on your configuration)

We will give the command for creating a directory for a movielens dataset

☐ **wget http://media.sundog-soft.com/hadoop/ml-100k/u.data**

The above command is used to copy the data from web server to the Hadoop file system

☐ **ls**

Give the command ls to see whether the data is downloaded
Once it is downloaded, you will see the name as u.data

☐ **ls -la**

In **Linux**, ls -la lists **all files including hidden ones** (those starting with .), with detailed information (long format).

☐ **hadoop fs -copyFromLocal u.data ml-100k/u.data**

The file will get copied from local file system to the Hadoop named as u.data

☐ **hadoop fs -ls**

The **hadoop fs -ls** command is used to **list files and directories in Hadoop Distributed File System (HDFS)** or in any other file system supported by Hadoop (like local FS, S3, etc., depending on configuration)

```
[maria_dev@sandbox-hdp ~]$ wget http://media.sundog-soft.com/hadoop/ml-100k/u.data
--2025-08-26 04:53:21--  http://media.sundog-soft.com/hadoop/ml-100k/u.data
Resolving media.sundog-soft.com (media.sundog-soft.com)... 16.182.70.145, 52.217.194.49, 16.15.219.171, ...
Connecting to media.sundog-soft.com (media.sundog-soft.com)|16.182.70.145|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2079229 (2.0M) [application/octet-stream]
Saving to: 'u.data'

100%[================================================================================>] 2,079,229    409KB/s   in 5.0s

2025-08-26 04:53:27 (409 KB/s) - 'u.data' saved [2079229/2079229]

[maria_dev@sandbox-hdp ~]$ ls
u.data
[maria_dev@sandbox-hdp ~]$ ls -la
total 2056
drwx------ 1 maria_dev maria_dev    4096 Aug 26 04:53 .
drwxr-xr-x 1 root      root         4096 Jun 18  2018 ..
-rw-r--r-- 1 maria_dev maria_dev      18 Sep  6  2017 .bash_logout
-rw-r--r-- 1 maria_dev maria_dev     193 Sep  6  2017 .bash_profile
-rw-r--r-- 1 maria_dev maria_dev     619 Jun 18  2018 .bashrc
-rw-rw-r-- 1 maria_dev maria_dev 2079229 Nov 11  2016 u.data
```

☐ hadoop fs -rm ml-100k/u.data

📌 Purpose

- To **remove (delete) files** from HDFS.
- Works similar to Linux rm, but operates on HDFS.

☐ hadoop fs -rmdir ml-100k

The **hadoop fs -rmdir** command is used to **remove (delete) empty directories from HDFS**.

📌 Purpose

- To delete **empty directories** in Hadoop Distributed File System (HDFS).
- It is similar to the Linux rmdir command.
- ⚠️ Unlike -rm -r, it **cannot delete directories that contain files or subdirectories**.

☐ hadoop fs -ls

The commands checks where the directory is removed from the hadoop

```
[maria_dev@sandbox-hdp ~]$ ls -la
total 2056
drwx------ 1 maria_dev maria_dev    4096 Aug 26 04:53 .
drwxr-xr-x 1 root       root        4096 Jun 18  2018 ..
-rw-r--r-- 1 maria_dev maria_dev      18 Sep  6  2017 .bash_logout
-rw-r--r-- 1 maria_dev maria_dev     193 Sep  6  2017 .bash_profile
-rw-r--r-- 1 maria_dev maria_dev     619 Jun 18  2018 .bashrc
-rw-rw-r-- 1 maria_dev maria_dev 2079229 Nov 11  2016 u.data
[maria_dev@sandbox-hdp ~]$ hadoop fs  -copyFromLocal u.data ml-100k/u.data
[maria_dev@sandbox-hdp ~]$ hadoop fs -ls
Found 1 items
drwxr-xr-x  - maria_dev hdfs          0 2025-08-26 04:54 ml-100k
[maria_dev@sandbox-hdp ~]$ hadoop fs -ls ml-100k
Found 1 items
-rw-r--r--  1 maria_dev hdfs    2079229 2025-08-26 04:54 ml-100k/u.data
[maria_dev@sandbox-hdp ~]$ hadoop fs -rm ml-100k/u.data
25/08/26 04:55:22 INFO fs.TrashPolicyDefault: Moved: 'hdfs://sandbox-hdp.hortonworks.com:8020/user/maria_dev/ml-100k/u.data' to trash at: hdfs:,
ndbox-hdp.hortonworks.com:8020/user/maria_dev/.Trash/Current/user/maria_dev/ml-100k/u.data
[maria_dev@sandbox-hdp ~]$ hadoop fs -rmdir ml-100k
[maria_dev@sandbox-hdp ~]$ hadoop fs -ls
Found 1 items
drwx------  - maria_dev hdfs          0 2025-08-26 04:55 .Trash
```