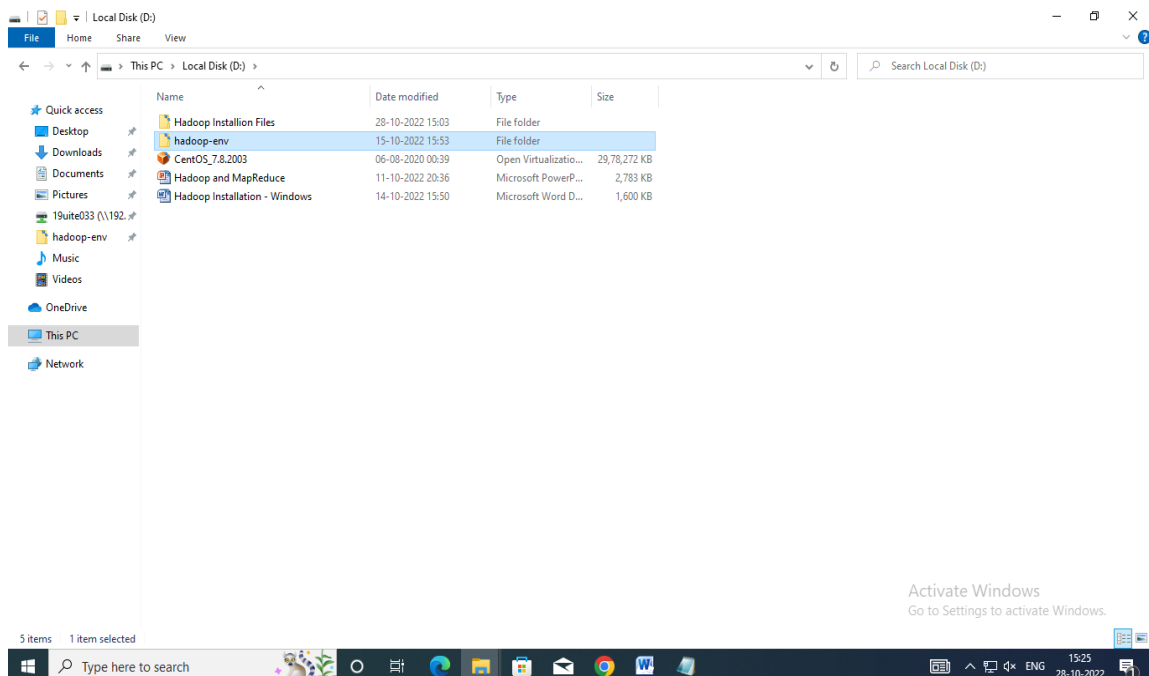
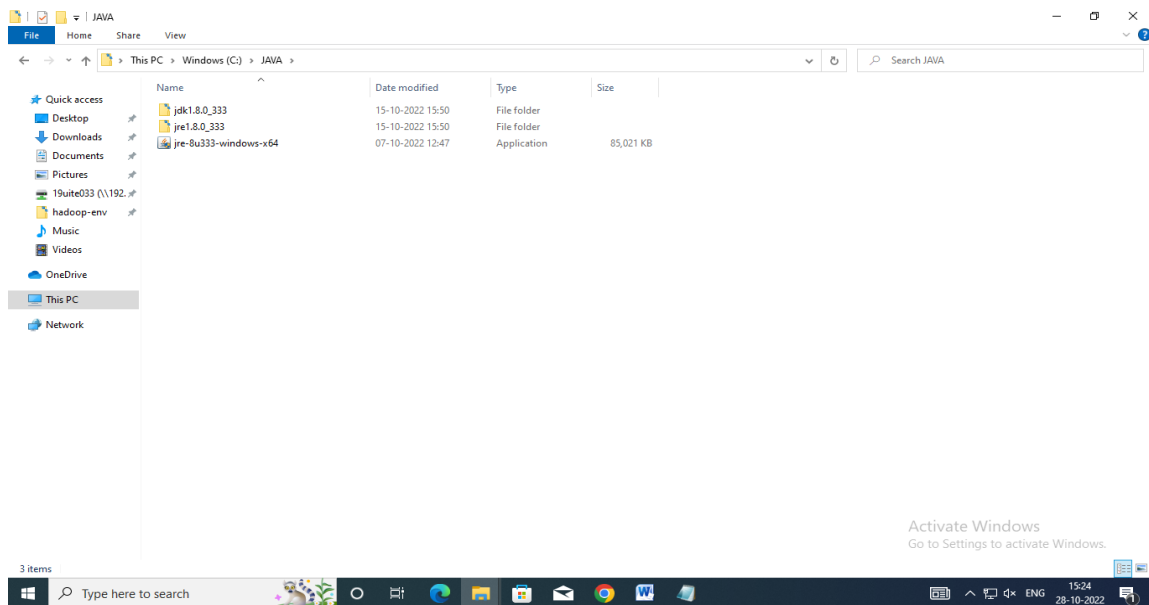


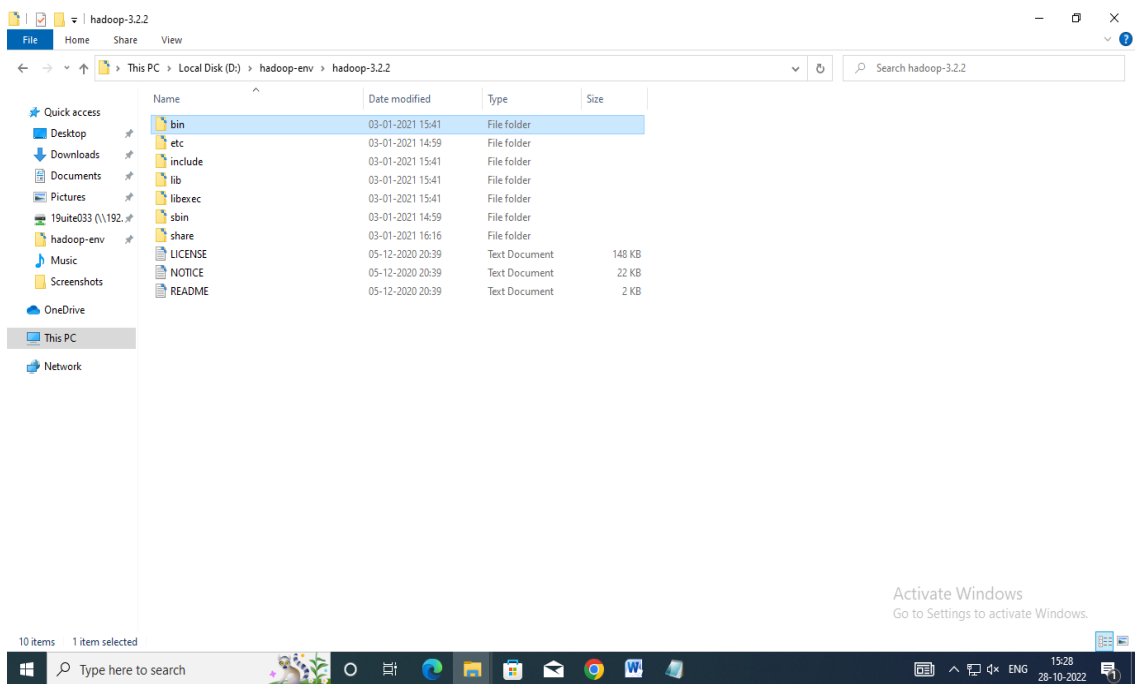
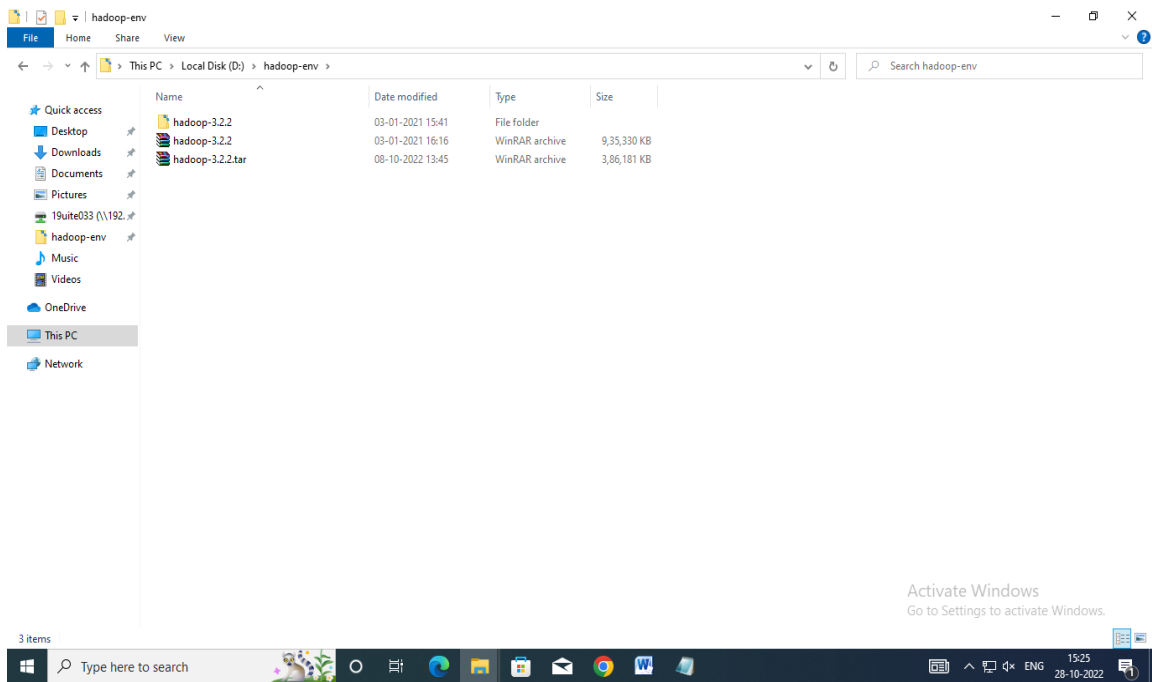
**Name:**T.Sangeetha Mari

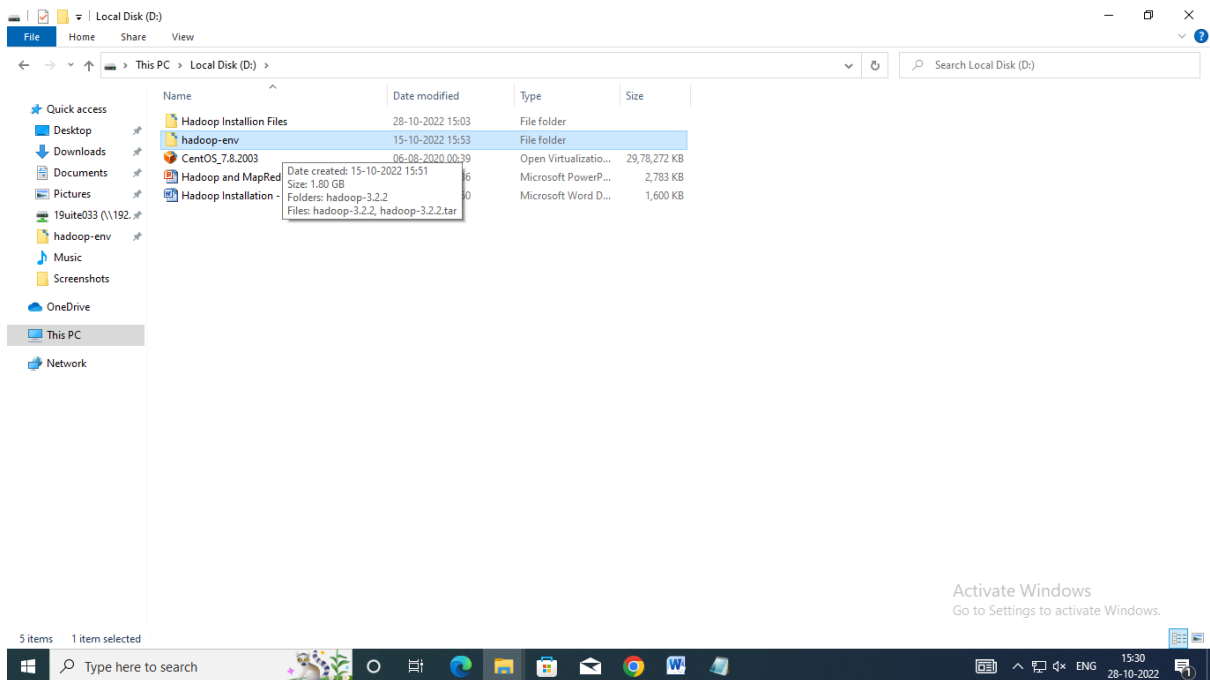
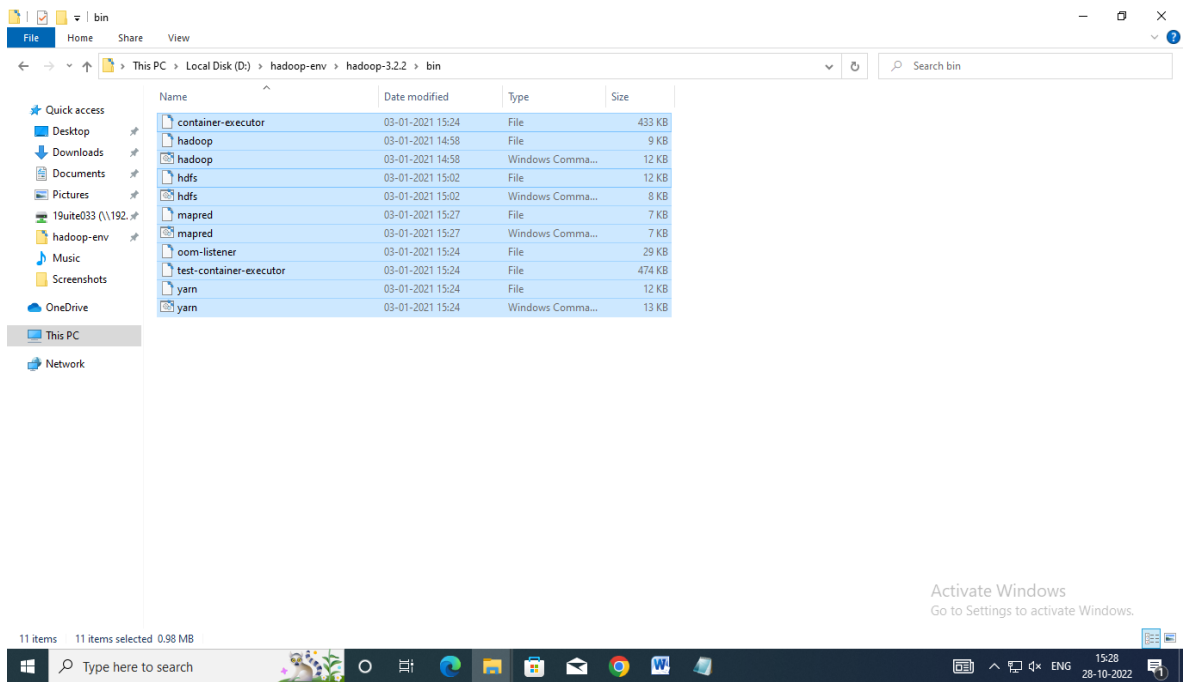
**Rollno:**19UITE033

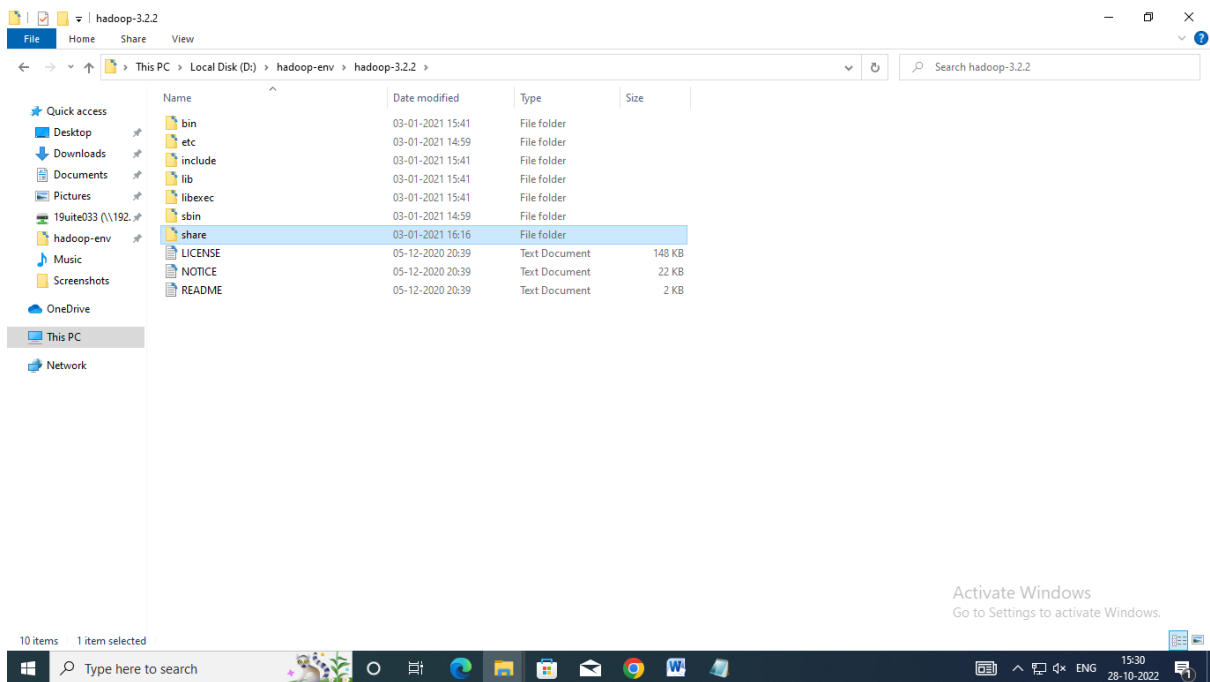
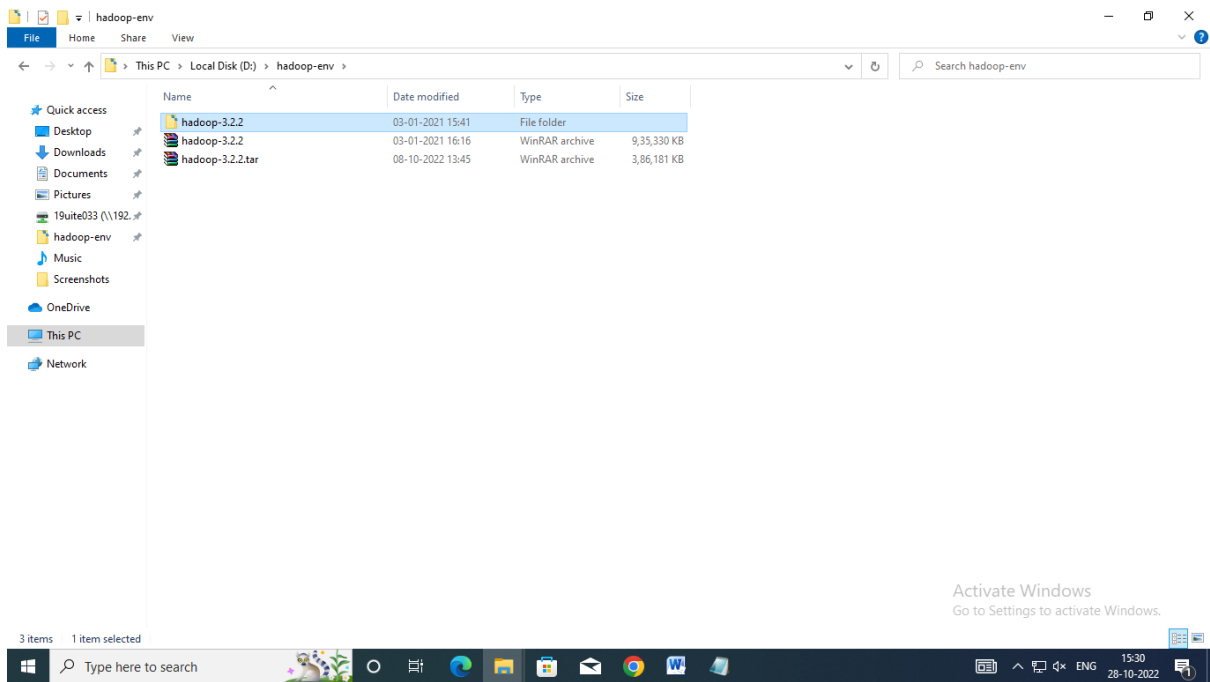
**EXNO.9:**Installation of Single Node Hadoop Cluster

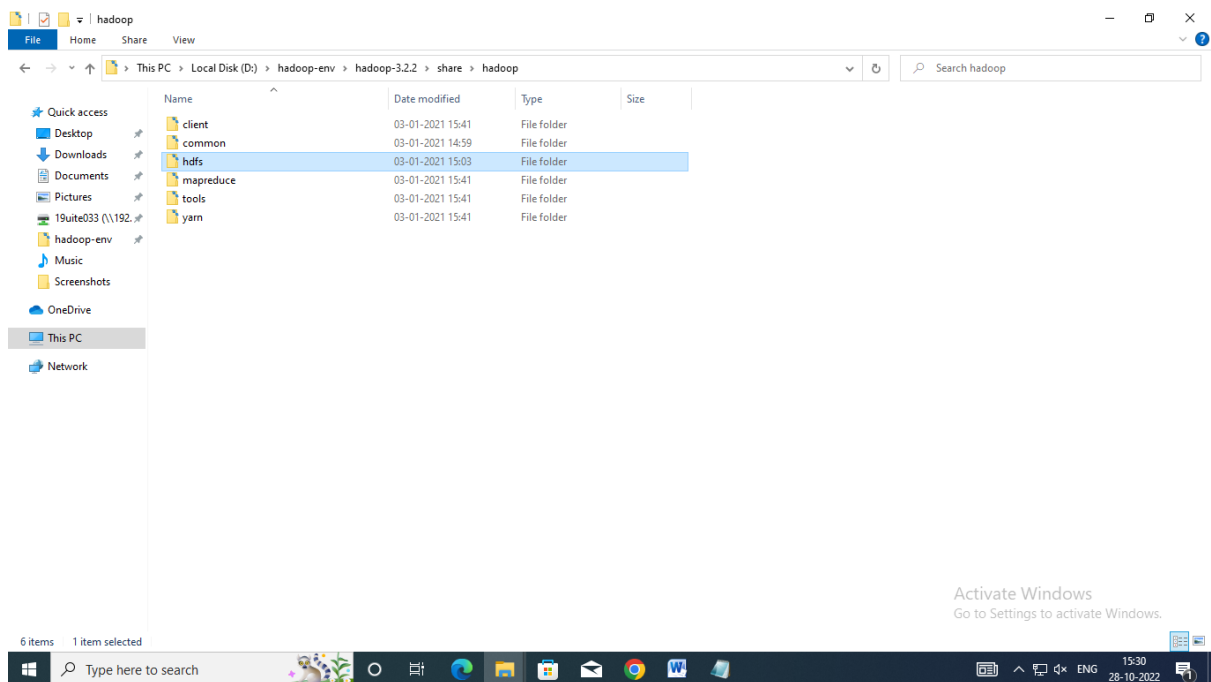
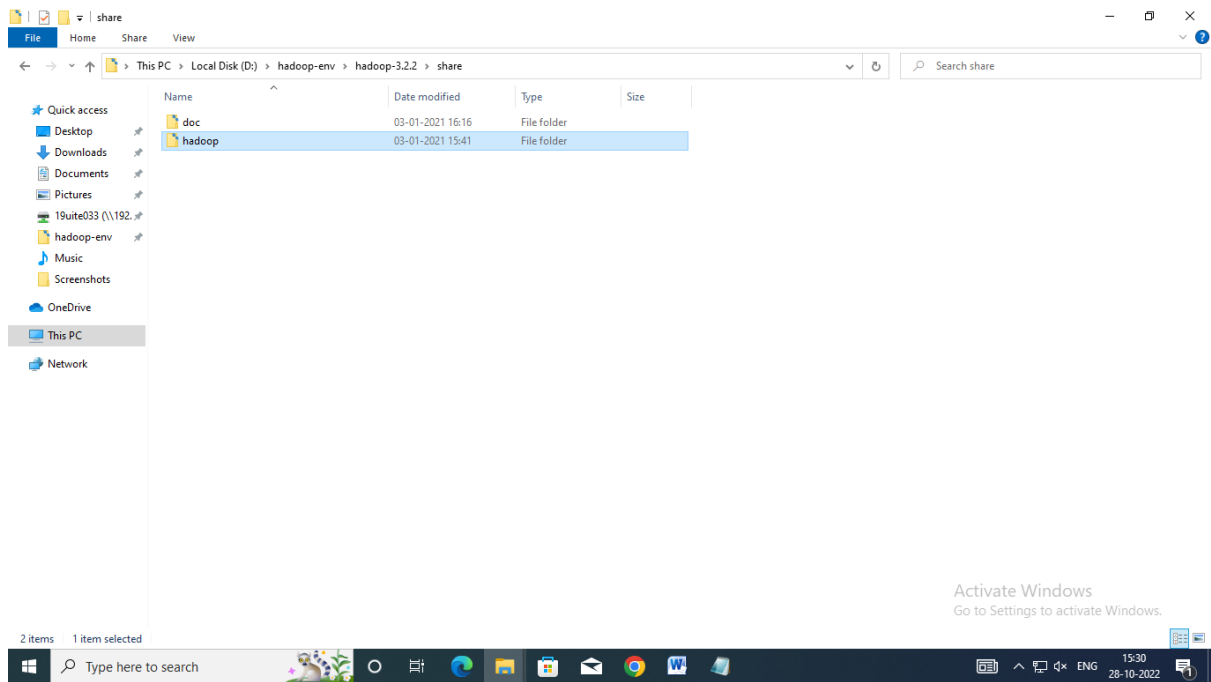
**Date:**14.10.2022

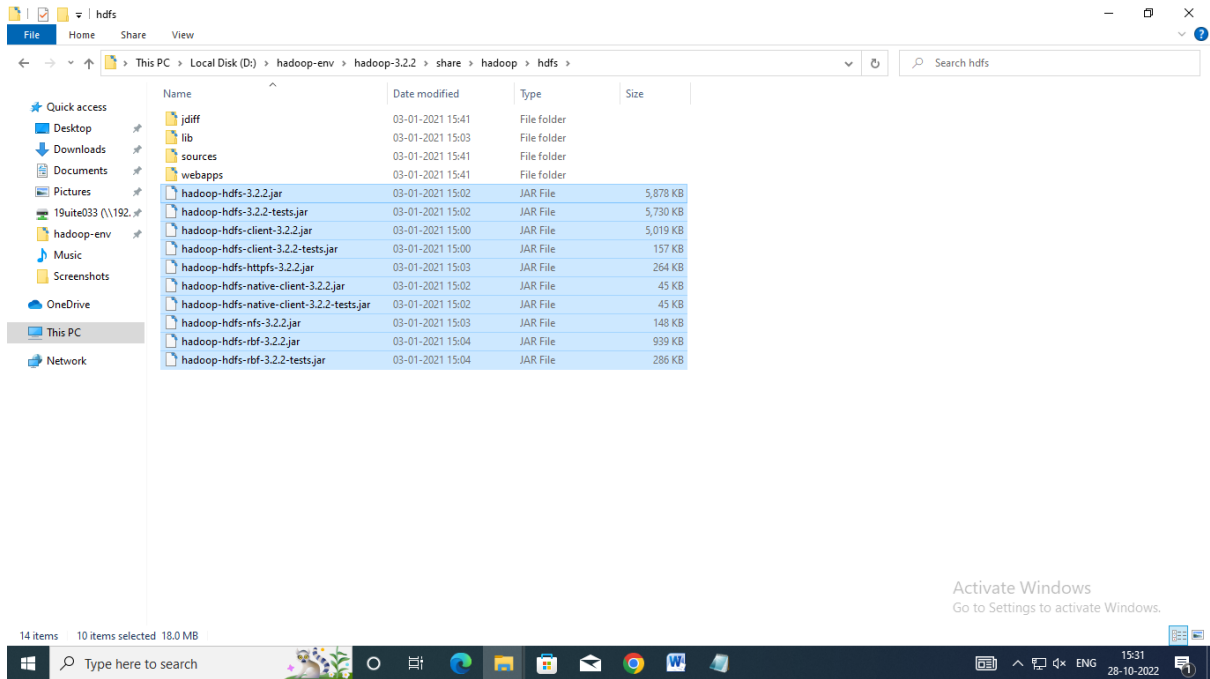




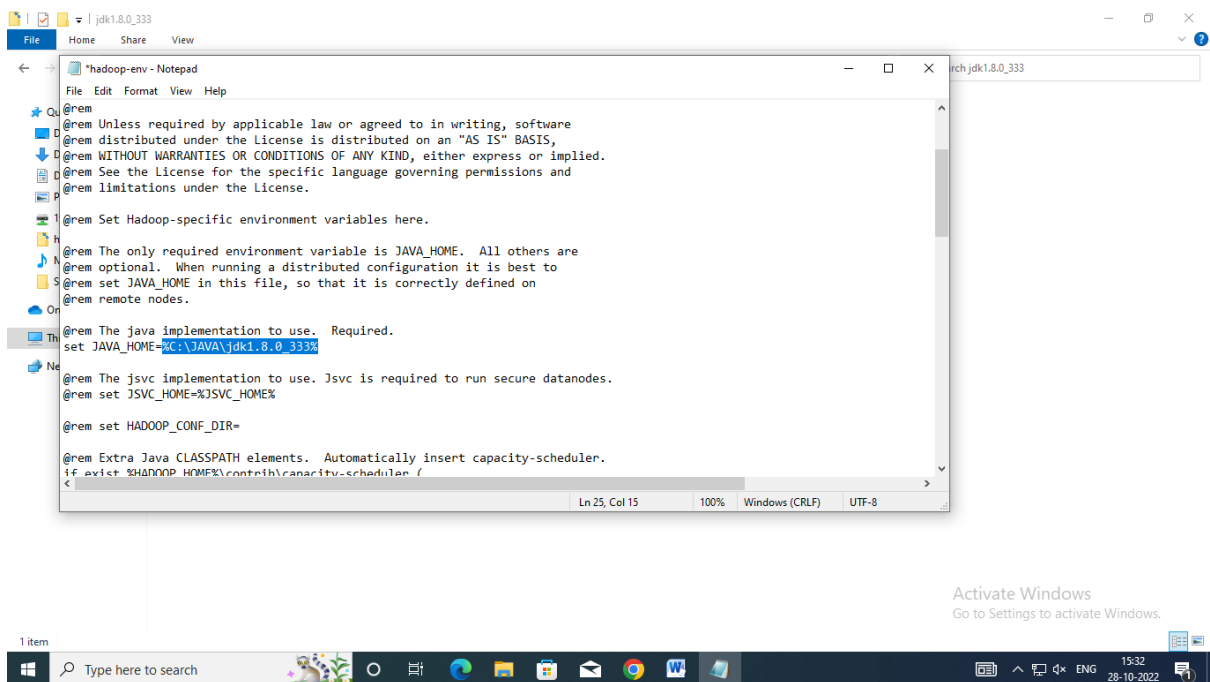




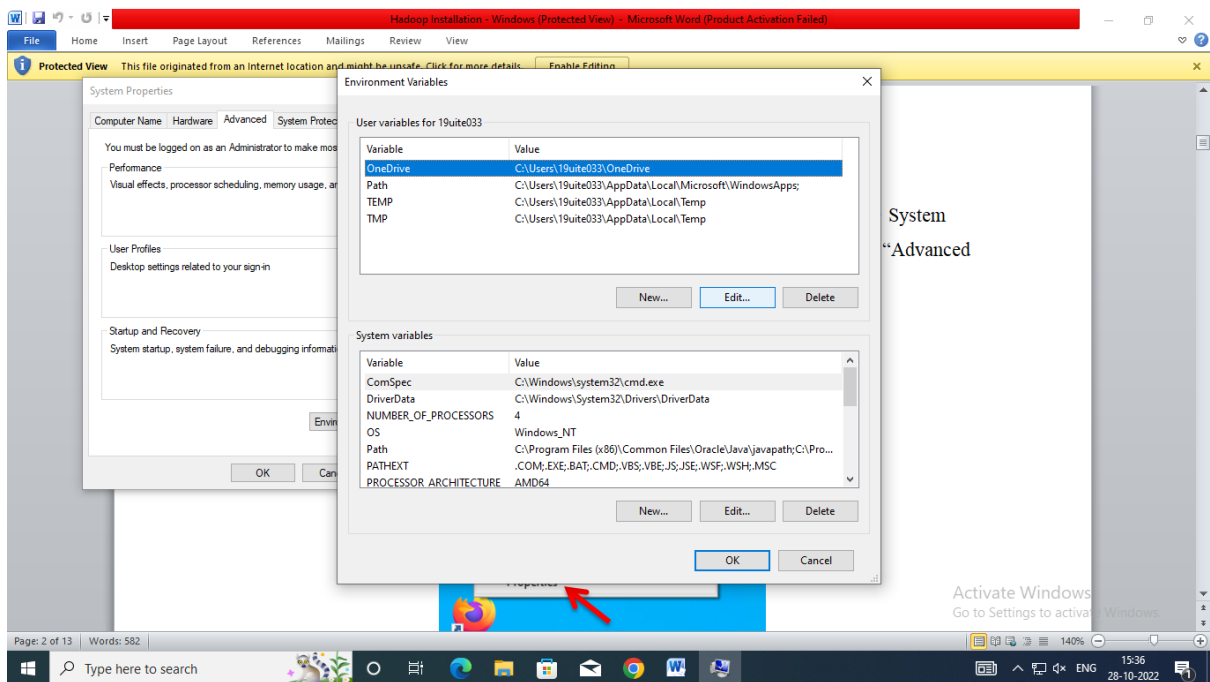
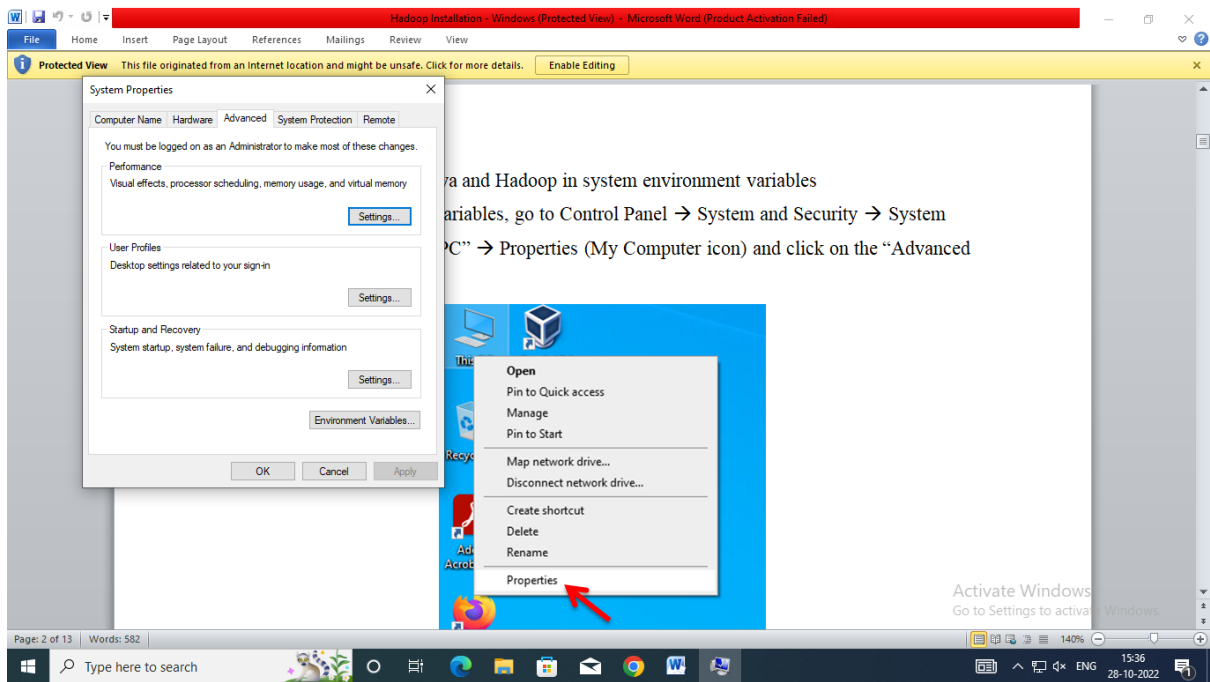


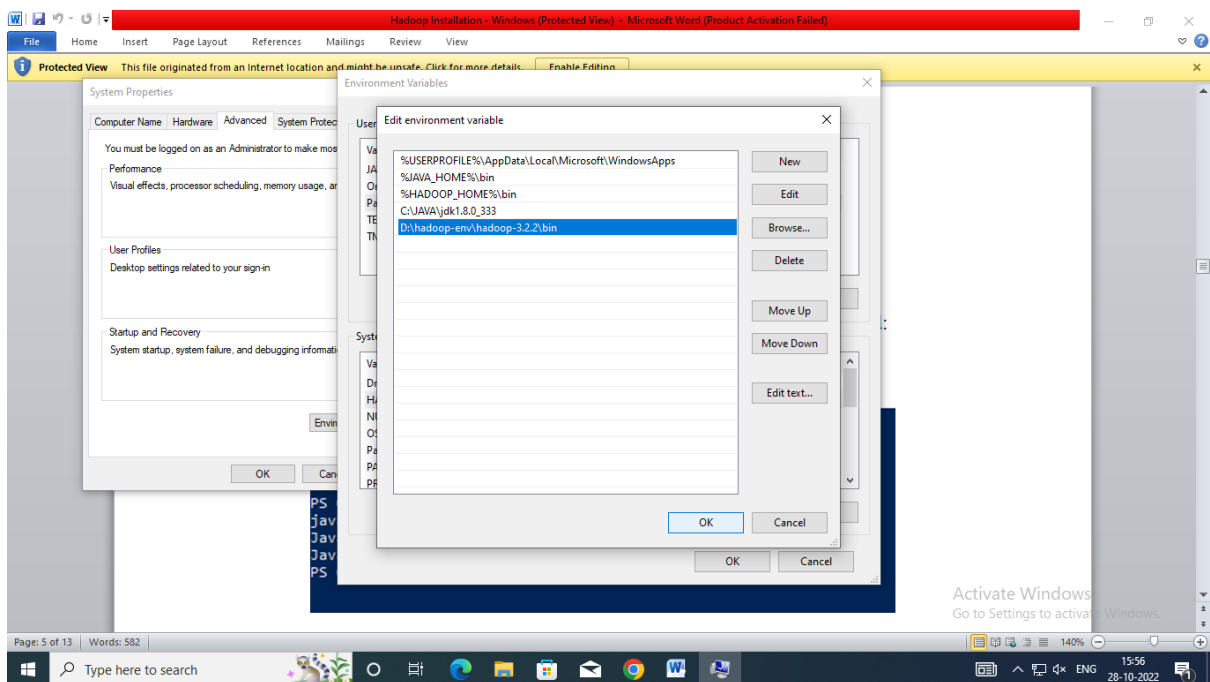
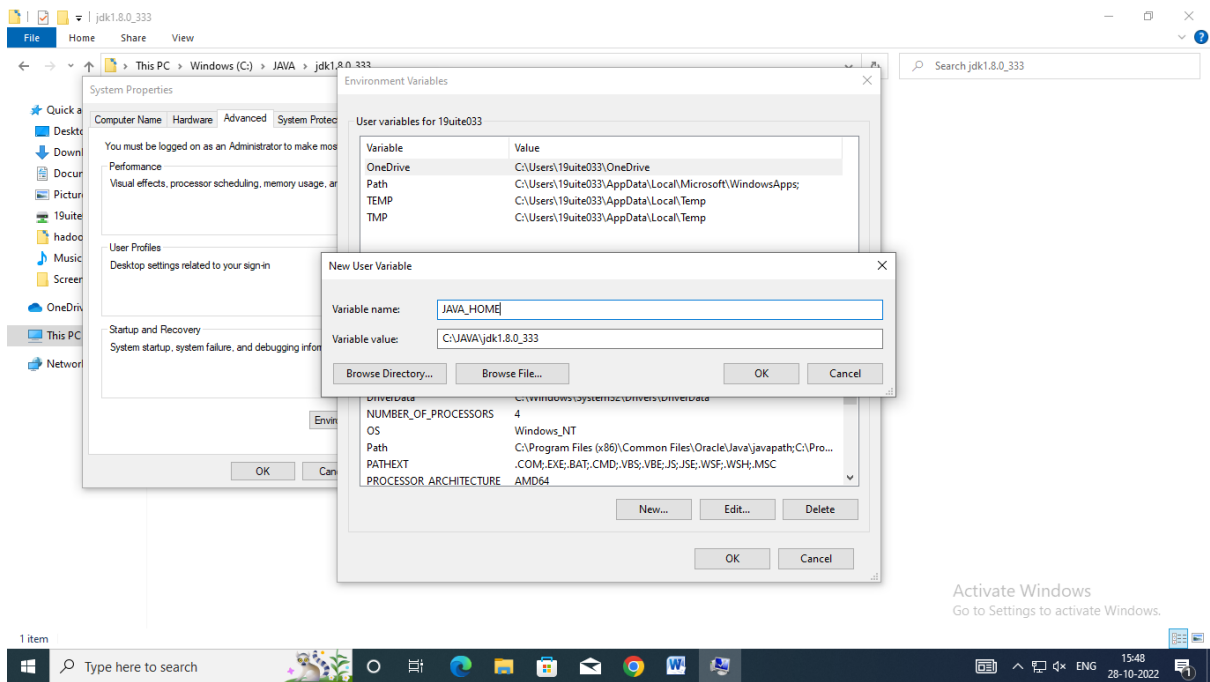


Activate Windows  
Go to Settings to activate Windows.



Activate Windows  
Go to Settings to activate Windows.







```
Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

Z:\>hadoop -version
java version "1.8.0_333"
Java(TM) SE Runtime Environment (build 1.8.0_333-b02)
Java HotSpot(TM) 64-Bit Server VM (build 25.333-b02, mixed mode)

Z:\>
```

Activate Windows  
Go to Settings to activate Windows.

Hadoop Installation - Windows - Microsoft Word (Product Activation Failed)

File Edit Format View Help

Paste

WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.  
See the license for the specific language governing permissions and  
limitations under the license. See accompanying LICENSE file.  
-->

<!-- Put site-specific property overrides in this file. -->

```
<configuration>
<property>
<name>dfs.replication</name>
<value>1</value>
</property>
<property>
<name>dfs.namenode.name.dir</name>
<value>file:///D:/hadoop-env/hadoop-3.2.2/data/dfs/namenode</value>
</property>
<property>
<name>dfs.datanode.data.dir</name>
<value>file:///D:/hadoop-env/hadoop-3.2.2/data/dfs/datanode</value>
</property>
</configuration>
```

Ln 32, Col 1 100% Unix (LF) UTF-8

<name>dfs.namenode.name.dir</name>  
<value>file:///D:/hadoop-env/hadoop-3.2.2/data/dfs/namenode</value>  
</property>  
<property>

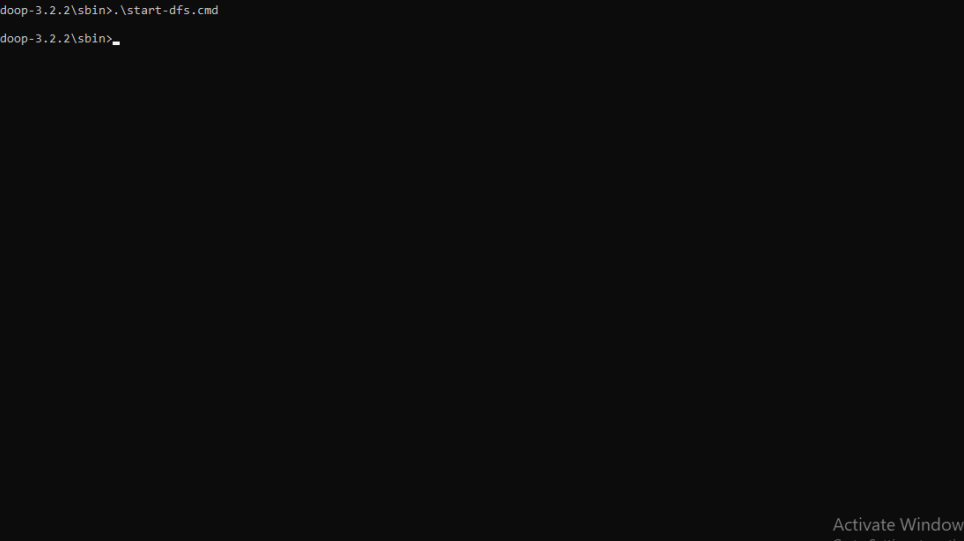
Activate Windows  
Go to Settings to activate Windows.

Page: 6 of 13 Words: 12/574 English (U.S.) 140% 16:49 28-10-2022

```
> Command Prompt
```

```
2022-10-28 16:53:23,256 INFO blockmanagement.BlockManager: redundancyRecheckInterval = 300ms  
2022-10-28 16:53:23,257 INFO blockmanagement.BlockManager: encryptDataTransfer = false  
2022-10-28 16:53:23,257 INFO blockmanagement.BlockManager: maxNumBlocksToLog = 1000  
2022-10-28 16:53:23,392 INFO namenode.FSDirectory: GLOBAL serial map: bits=29 maxEntries=536870911  
2022-10-28 16:53:23,392 INFO namenode.FSDirectory: USER serial map: bits=24 maxEntries=16777215  
2022-10-28 16:53:23,395 INFO namenode.FSDirectory: GROUP serial map: bits=24 maxEntries=16777215  
2022-10-28 16:53:23,397 INFO namenode.FSDirectory: XATTR serial map: bits=24 maxEntries=16777215  
2022-10-28 16:53:23,432 INFO util.GSet: Computing capacity for map INodeMap  
2022-10-28 16:53:23,432 INFO util.GSet: VM type = 64-bit  
2022-10-28 16:53:23,435 INFO util.GSet: 1.0% max memory 889 MB = 8.9 MB  
2022-10-28 16:53:23,437 INFO util.GSet: capacity = 2^20 = 1048576 entries  
2022-10-28 16:53:23,461 INFO namenode.FSDirectory: ACLs enabled? false  
2022-10-28 16:53:23,462 INFO namenode.FSDirectory: POSIX ACL inheritance enabled? true  
2022-10-28 16:53:23,462 INFO namenode.FSDirectory: Xattrs enabled? true  
2022-10-28 16:53:23,464 INFO namenode.NameNode: Caching file names occurring more than 10 times  
t: true, maxSnapshotLimit: 65536  
INFO snapshot.SnapshotManager: Loaded config captureOpenFiles: false, skipCaptureAccessTimeOnlyChange: false, snapshotDiffAllowSnapRootDescendan  
2022-10-28 16:53:23,483 INFO snapshot.SnapshotManager: Skiplist is disabled  
2022-10-28 16:53:23,493 INFO util.GSet: Computing capacity for map cachedBlocks  
2022-10-28 16:53:23,494 INFO util.GSet: VM type = 64-bit  
2022-10-28 16:53:23,494 INFO util.GSet: 0.25% max memory 889 MB = 2.2 MB  
2022-10-28 16:53:23,495 INFO util.GSet: capacity = 2^18 = 262144 entries  
2022-10-28 16:53:23,523 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.window.num.buckets = 10  
2022-10-28 16:53:23,523 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.num.conf:dfs-namenode.top.num.conf:dfs-namenode.top.windows.minutes = 1,5,25  
2022-10-28 16:53:23,526 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.windows.minutes = 1,5,25  
2022-10-28 16:53:23,537 INFO namenode.FSNamesystem: Retry cache on namenode is enabled  
2022-10-28 16:53:23,539 INFO namenode.FSNamesystem: Retry cache will use 0.03 of total heap and retry cache entry expiry time is 600000 millis  
2022-10-28 16:53:23,553 INFO util.GSet: Computing capacity for map NameNodeRetryCache  
2022-10-28 16:53:23,554 INFO util.GSet: VM type = 64-bit  
2022-10-28 16:53:23,555 INFO util.GSet: 0.029999999329447746% max memory 889 MB = 273.1 KB  
2022-10-28 16:53:23,557 INFO util.GSet: capacity = 2^15 = 32768 entries  
2022-10-28 16:53:28,201 INFO namenode.FSImage: Allocated new BlockEdit BP-1263573330-192.168.56.1-1666956208173  
2022-10-28 16:53:28,212 ERROR namenode.NameNode: Failed to start namenode.  
  
java.lang.RuntimeException: java.io.FileNotFoundException: Could not locate Hadoop executable: D:\hadoop-env\hadoop-3.2.2\bin\winutils.exe -see https://wiki.apache.org/  
hadoop/windowsProblems  
    at org.apache.hadoop.util.Shell.getWinUtilsPath(Shell.java:736)  
    at org.apache.hadoop.util.Shell.setGetPermissionCommand(Shell.java:271)  
    at org.apache.hadoop.fs.FileUtil.execSetPermission(FileUtil.java:1346)  
    at org.apache.hadoop.fs.FileSystem.setPermission(FileSystem.java:1299)  
    at org.apache.hadoop.hdfs.common.StorageStorageActions.createDirectory(Storage.java:456)  
    at org.apache.hadoop.hdfs.server.namenode.NNStorage.format(NNStorage.java:591)  
    at org.apache.hadoop.hdfs.server.namenode.NNStorage.format(NNStorage.java:613)  
    at org.apache.hadoop.hdfs.server.namenode.FSImage.format(FSImage.java:188)  
    at org.apache.hadoop.hdfs.server.namenode.NameNode.format(NameNode.java:1230)
```

Activate Windows  
Go to Settings to activate Windows.



The screenshot shows a Windows command prompt window titled "C:\Windows\System32\cmd.exe". The window displays the following text:

```
Microsoft Windows [Version 10.0.19044.1889]  
(c) Microsoft Corporation. All rights reserved.  
  
D:\hadoop-env\hadoop-3.2.2\sbin>. \start-dfs.cmd  
  
D:\hadoop-env\hadoop-3.2.2\sbin>_
```

The taskbar at the bottom of the screen shows the Windows Start button, a search bar with the text "Type here to search", and several application icons including File Explorer, Microsoft Edge, Google Chrome, and the Windows Store. The system tray on the right indicates the time is 16:56 on 28-10-2022, and the language is set to ENG.

```
Apache Hadoop Distribution
2022-10-28 16:56:13,684 INFO namenode.FSNamesystem: Retry cache will use 0.03 of total heap and retry cache entry expiry time is 600000 millis
2022-10-28 16:56:13,689 INFO util.GSet: Computing capacity for map NameNodeRetryCache
2022-10-28 16:56:13,689 INFO util.GSet: VM type = 64-bit
2022-10-28 16:56:13,690 INFO util.GSet: 0.029999999329447746% max memory 889 MB = 273.1 KB
2022-10-28 16:56:13,691 INFO util.GSet: capacity = 2^15 = 32768 entries
2022-10-28 16:56:13,807 ERROR namenode.NameNode: Failed to start namenode.
java.lang.UnsatisfiedLinkError: org.apache.hadoop.io.nativeio.NativeIO$Windows.access0(Ljava/lang/String;I)Z
    at org.apache.hadoop.io.nativeio.NativeIO$Windows.access0(Native Method)
    at org.apache.hadoop.io.nativeio.NativeIO$Windows.access0(NativeIO.java:793)
    at org.apache.hadoop.fs.FileUtil.canWrite(FileUtil.java:1254)
    at org.apache.hadoop.hdfs.server.common.Storage$StorageDirectory.analyzeStorage(Storage.java:690)
    at org.apache.hadoop.hdfs.server.common.Storage$StorageDirectory.analyzeStorage(Storage.java:642)
    at org.apache.hadoop.hdfs.server.namenode.FSImage.recoverStorageDirs(FSImage.java:386)
    at org.apache.hadoop.hdfs.server.namenode.FSImage.recoverTransitionRead(FSImage.java:242)
    at org.apache.hadoop.hdfs.server.namenode.FSNamesystem.loadFSImage(FSNamesystem.java:1135)
    at org.apache.hadoop.hdfs.server.namenode.FSNamesystem.loadFromDisk(FSNamesystem.java:750)
    at org.apache.hadoop.hdfs.server.namenode.NameNode.loadNamesystem(NameNode.java:658)
    at org.apache.hadoop.hdfs.server.namenode.NameNode.initialize(NameNode.java:734)
    at org.apache.hadoop.hdfs.server.namenode.NameNode.<init>(NameNode.java:977)
    at org.apache.hadoop.hdfs.server.namenode.NameNode.<init>(NameNode.java:950)
    at org.apache.hadoop.hdfs.server.namenode.NameNode.createNameNode(NameNode.java:1716)
    at org.apache.hadoop.hdfs.server.namenode.NameNode.main(NameNode.java:1783)
2022-10-28 16:56:13,810 INFO util.ExitUtil: Exiting with status 1: java.lang.UnsatisfiedLinkError: org.apache.hadoop.io.nativeio.NativeIO$Windows.access0(Ljava/lang/String;I)Z
2022-10-28 16:56:13,814 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at a41t65/192.168.56.1
*****/

D:\hadoop-env\hadoop-3.2.2\sbin>
```

```
Apache Hadoop Distribution
    at com.google.common.util.concurrent.InterruptibleTask.run(InterruptibleTask.java:57)
    at com.google.common.util.concurrent.TrustedListenableFutureTask.run(TrustedListenableFutureTask.java:78)
    at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1149)
    at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
    at java.lang.Thread.run(Thread.java:750)
Caused by: java.io.FileNotFoundException: Could not locate Hadoop executable: D:\hadoop-env\hadoop-3.2.2\bin\winutils.exe -see https://wiki.apache.org/hadoop/WindowsProblems
    at org.apache.hadoop.util.Shell.getQualifiedBinInner(Shell.java:619)
    at org.apache.hadoop.util.Shell.getQualifiedBin(Shell.java:592)
    at org.apache.hadoop.util.Shell.<clinit>(Shell.java:689)
    at org.apache.hadoop.util.StringUtils.<clinit>(StringUtils.java:78)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.secureMain(DataNode.java:2906)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.main(DataNode.java:2931)
2022-10-28 16:56:11,218 ERROR datanode.DataNode: Exception in secureMain
org.apache.hadoop.util.DiskChecker$DiskErrorException: Too many failed volumes - current valid volumes: 0, volumes configured: 1, volumes failed: 1, volume failures tolerated: 0
    at org.apache.hadoop.hdfs.server.datanode.checker.StorageLocationChecker.check(StorageLocationChecker.java:231)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.makeInstance(DataNode.java:2806)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.instantiateDataNode(DataNode.java:2721)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.createDataNode(DataNode.java:2763)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.secureMain(DataNode.java:2907)
    at org.apache.hadoop.hdfs.server.datanode.DataNode.main(DataNode.java:2931)
2022-10-28 16:56:11,221 INFO util.ExitUtil: Exiting with status 1: org.apache.hadoop.util.DiskChecker$DiskErrorException: Too many failed volumes - current valid volume
s: 0, volumes configured: 1, volumes failed: 1, volume failures tolerated: 0
2022-10-28 16:56:11,227 INFO datanode.DataNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down DataNode at a41t65/192.168.56.1
*****/

D:\hadoop-env\hadoop-3.2.2\sbin>
```



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19044.1889]
(c) Microsoft Corporation. All rights reserved.

D:\hadoop-env\hadoop-3.2.2\sbin>. \start-dfs.cmd

D:\hadoop-env\hadoop-3.2.2\sbin>./yarn.cmd
'.' is not recognized as an internal or external command,
operable program or batch file.

D:\hadoop-env\hadoop-3.2.2\sbin>. \start-yarn.cmd
starting yarn daemons

D:\hadoop-env\hadoop-3.2.2\sbin>jps
4248 DataNode
5324 NameNode
5856 NodeManager
8880 Jps
5404 ResourceManager

D:\hadoop-env\hadoop-3.2.2\sbin>_
```

Namenode information

DataNode Information

DataNode Information

+

localhost:9864/datanode.html

### DataNode on a4it63.KC.VNR:9866

Cluster ID:	CID-56dd64cb-4a32-40ed-8de3-58a531365b9d
Version:	3.2.2, r7a3bc90b05f257c8ace2f76d74264906f07a932

### Block Pools

Namenode Address	Block Pool ID	Actor State	Last Heartbeat	Last Block Report	Last Block Report Size (Max Size)
localhost:9820	BP-228861544-192.168.56.1-1666954946052	RUNNING	1s	12 minutes	0 B (64 MB)

### Volume Information

Directory	Storage Type	Capacity Used	Capacity Left	Capacity Reserved	Reserved Space for Replicas	Blocks
D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode	DISK	321 B	224.26 GB	0 B	0 B	0

Hadoop, 2021.

Namenode information

localhost:9870/dfshealth.html#tab-overview

Hadoop

Overview

Datanodes

Datanode Volume Failures

Snapshot

Startup Progress

Utilities

# Overview

'localhost:9820' (active)

Started:	Fri Oct 28 16:33:56 +0530 2022
Version:	3.2.2, r7a3bc90b05f257c8ace2f76d74264906f0f7a932
Compiled:	Sun Jan 03 14:56:00 +0530 2021 by hexiaoqiao from branch-3.2.2
Cluster ID:	CID-56dd64cb-4a32-40ed-8de3-58a531365b9d
Block Pool ID:	BP-228861544-192.168.56.1-1666954946052

## Summary

Security is off.  
Safemode is off.  
1 files and directories, 0 blocks (0 replicated blocks, 0 erasure coded block groups) = 1 total filesystem object(s).  
Heap Memory used 84.78 MB of 188 MB Heap Memory. Max Heap Memory is 889 MB.  
Non Heap Memory used 49.36 MB of 50.59 MB Committed Non Heap Memory. Max Non Heap Memory is <unbounded>.

Activate Windows

Go to Settings to activate Windows.

Type here to search

16:39

28-10-2022

ENG