

EX NO: 9

INSTALLATION OF SINGLE NODE HADOOP CLUSTER

DATE: 14-10-2022

ROLL NUMBER: 19UITE047

The screenshot displays the Hadoop web interface in a browser. The top navigation bar includes links for Hadoop, Overview, Datanodes, Datanode Volume Failures, Snapshot, Startup Progress, and Utilities. The main content area is titled 'Overview 'localhost:9820' (active)'. It contains a table with metadata:

Started:	Fri Oct 28 16:33:56 +0530 2022
Version:	3.2.2, r7a3bc90b05f257c8ace2f76d74264906f07a932
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

Below the metadata is a 'Summary' section with the following text:

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>.

An 'Activate Windows' watermark is visible on the right side of the summary section.

The bottom part of the screenshot shows the 'DataNode on a4it63.KC.VNR:9866' page. It contains a table with node information:

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

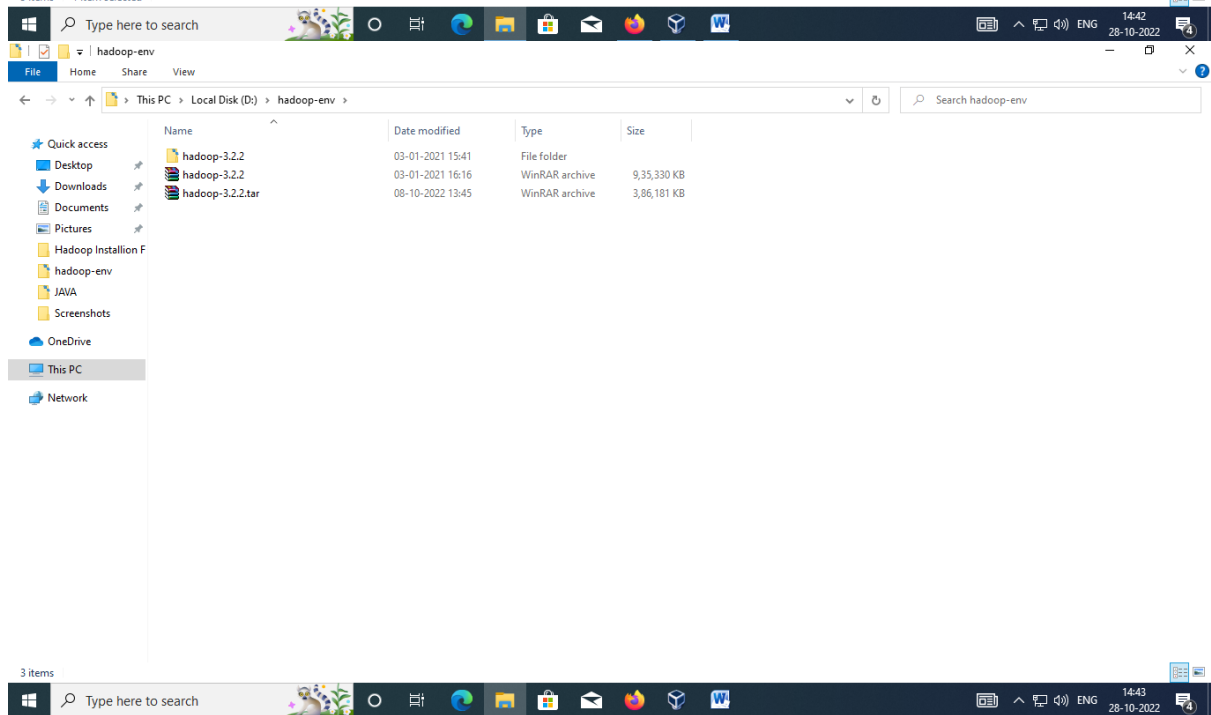
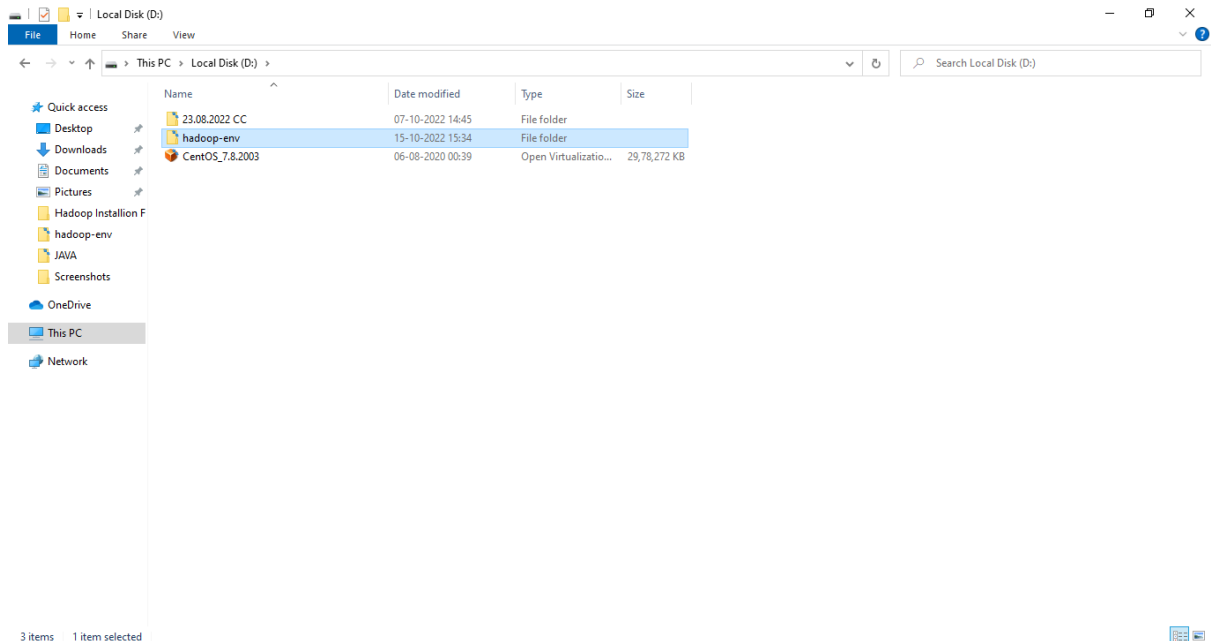
Below this is the 'Block Pools' section, which contains a table with the following data:

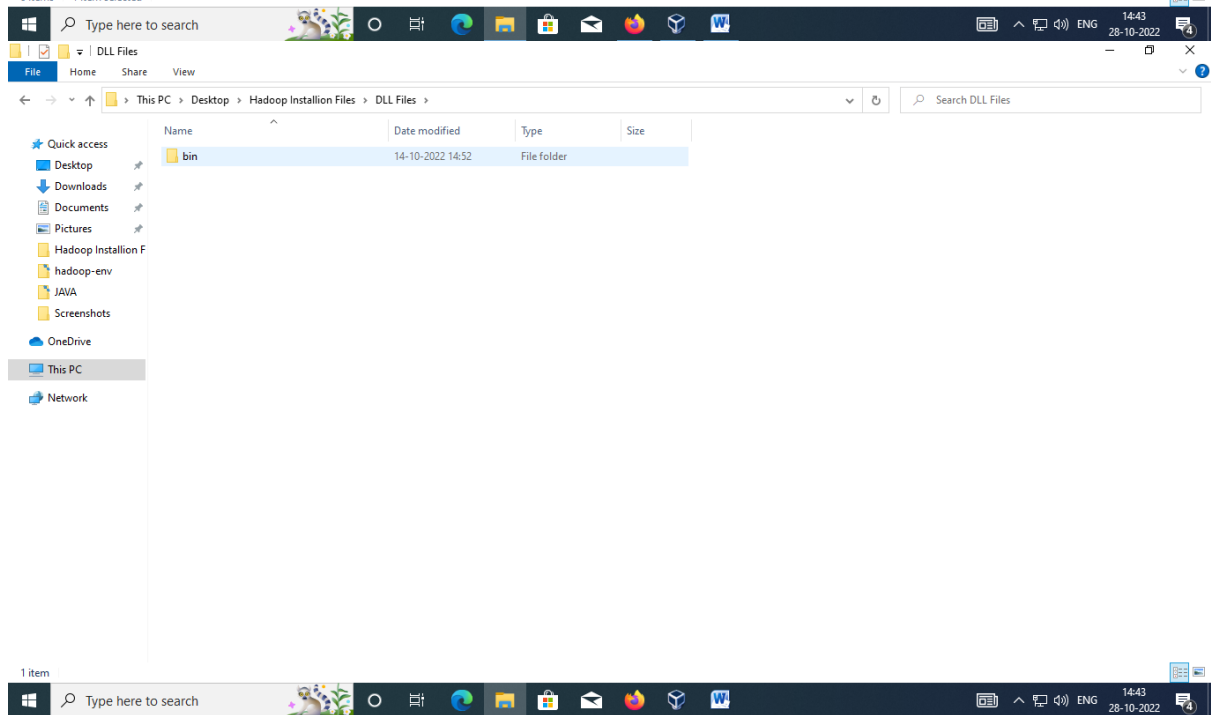
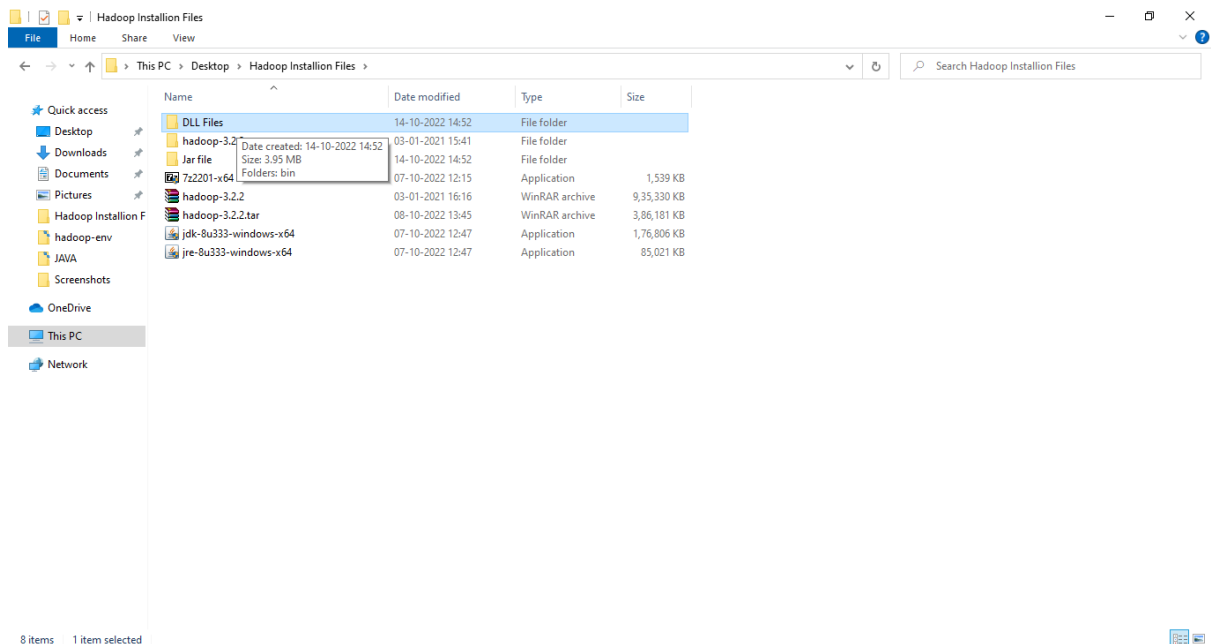
Namenode Address	Block Pool ID	Actor State	Last Heartbeat	Last Block Report	Last Block Report Size (Max Size)
localhost:9820	BP-228861544-192.168.56.1-1666954946052	RUNNING	1s	12 minutes	0 B (64 MB)

The 'Volume Information' section follows, containing a table with disk usage details:

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

At the bottom of the page, it says 'Hadoop, 2021.' and another 'Activate Windows' watermark is present.



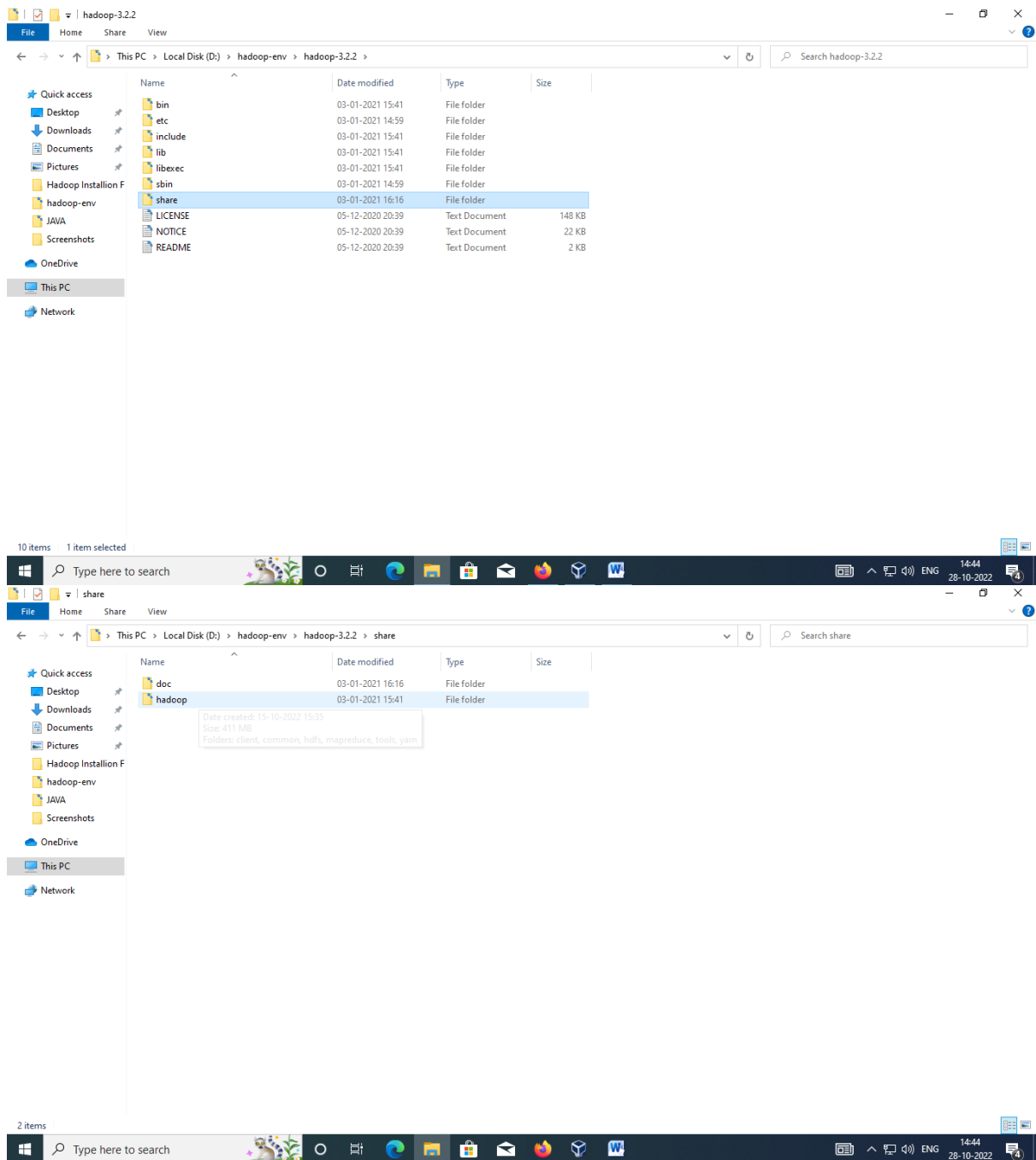


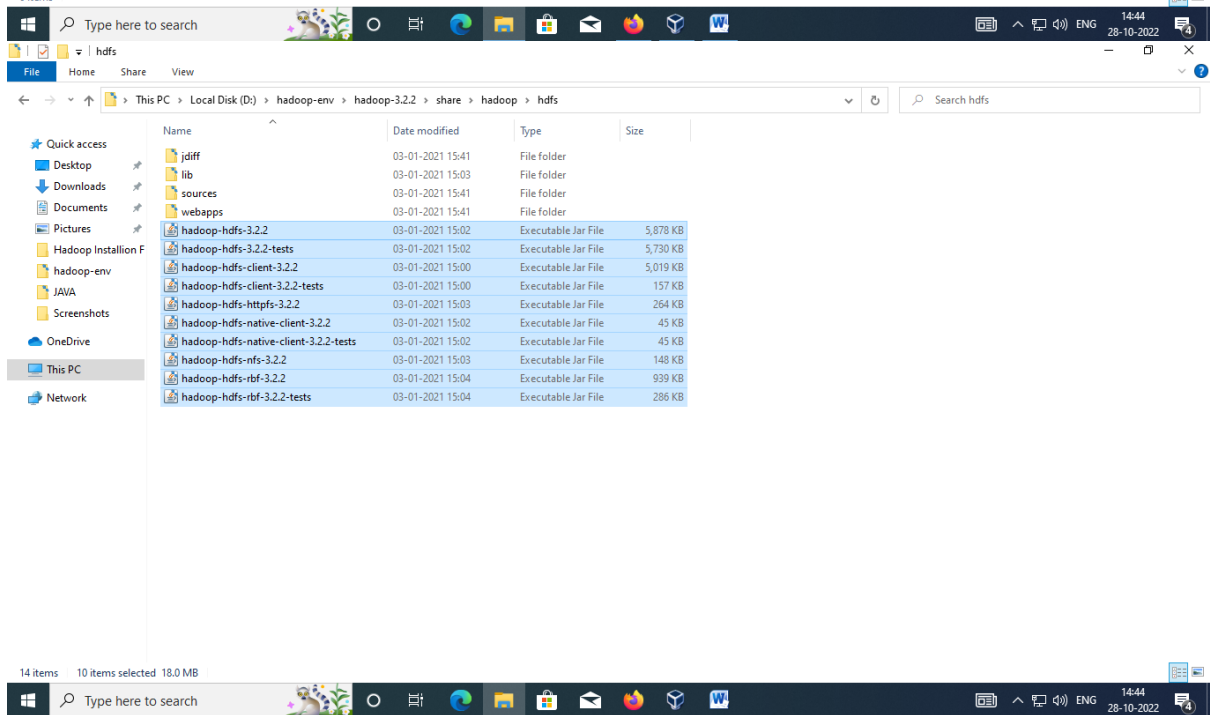
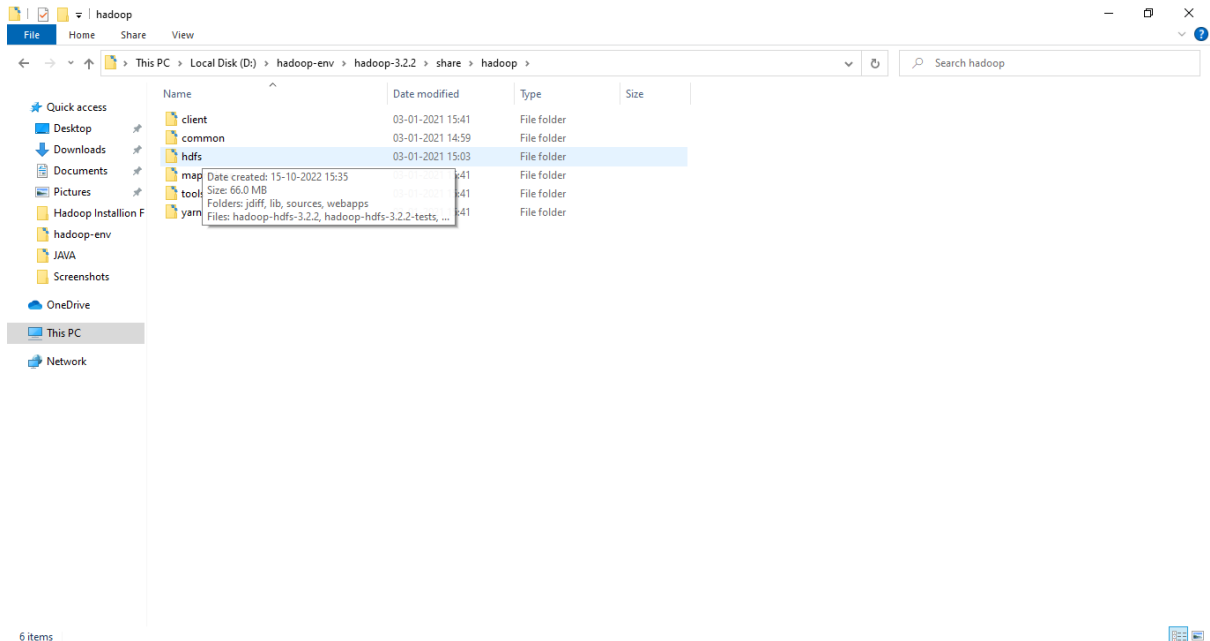
File Explorer window showing the contents of the `bin` directory within the `Hadoop Installation Files > DLL Files` path. The window displays 15 items selected, totaling 3.95 MB.

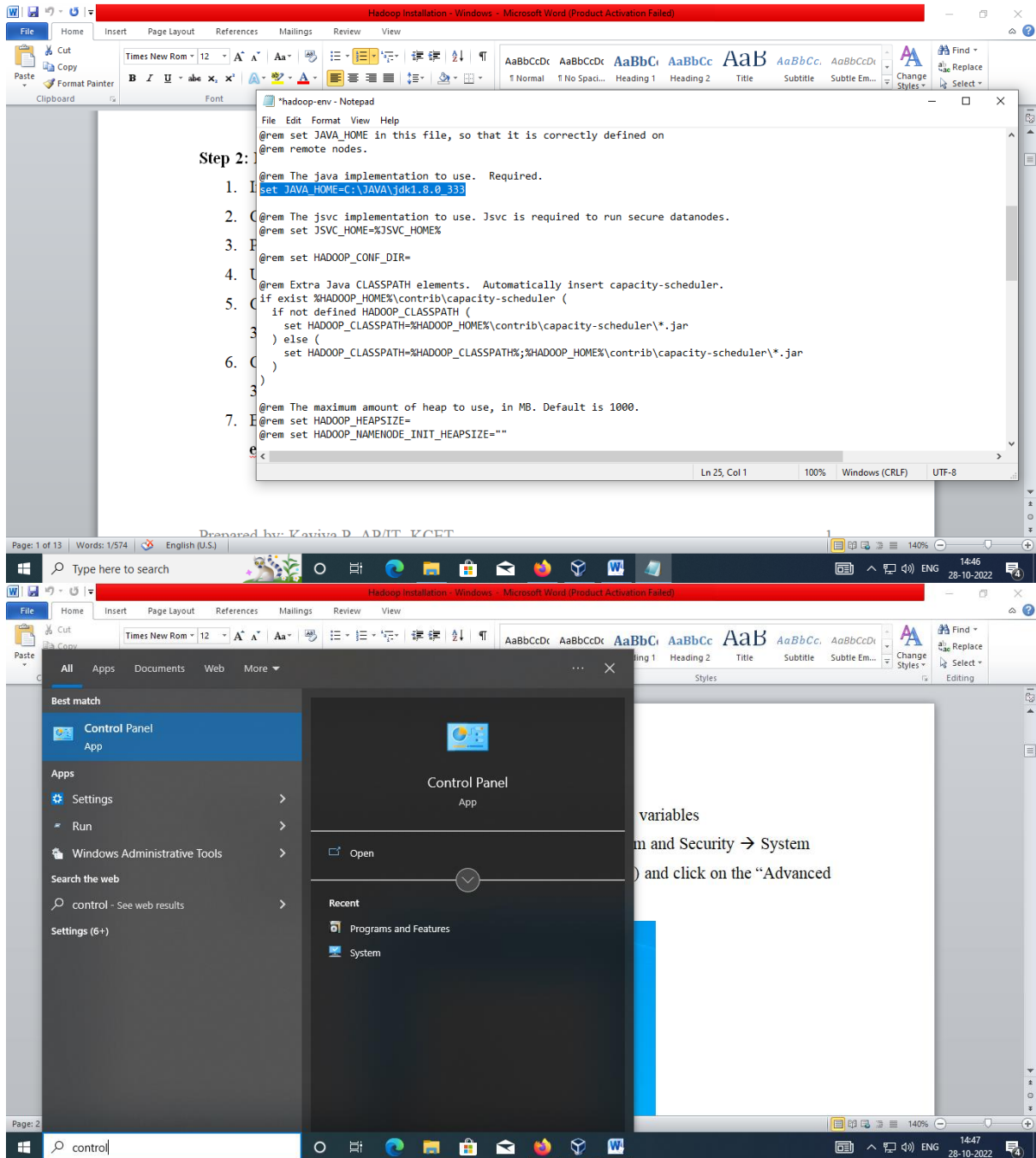
Name	Date modified	Type	Size
hadoop	29-09-2021 01:12	File	9 KB
hadoop	29-09-2021 01:12	Windows Comma...	11 KB
hadoop.dll	29-09-2021 01:12	Application exten...	94 KB
hadoop.exp	29-09-2021 01:12	EXP File	25 KB
hadoop.lib	29-09-2021 01:12	LIB File	41 KB
hadoop.pdb	29-09-2021 01:12	PDB File	820 KB
hdfs	29-09-2021 01:12	File	12 KB
hdfs	29-09-2021 01:12	Windows Comma...	8 KB
libwinutils.lib	29-09-2021 01:12	LIB File	1,561 KB
mapred	29-09-2021 01:12	File	7 KB
mapred	29-09-2021 01:12	Windows Comma...	6 KB
winutils	29-09-2021 01:12	Application	116 KB
winutils.pdb	29-09-2021 01:12	PDB File	1,324 KB
yarn	29-09-2021 01:12	File	12 KB
yarn	29-09-2021 01:12	Windows Comma...	13 KB

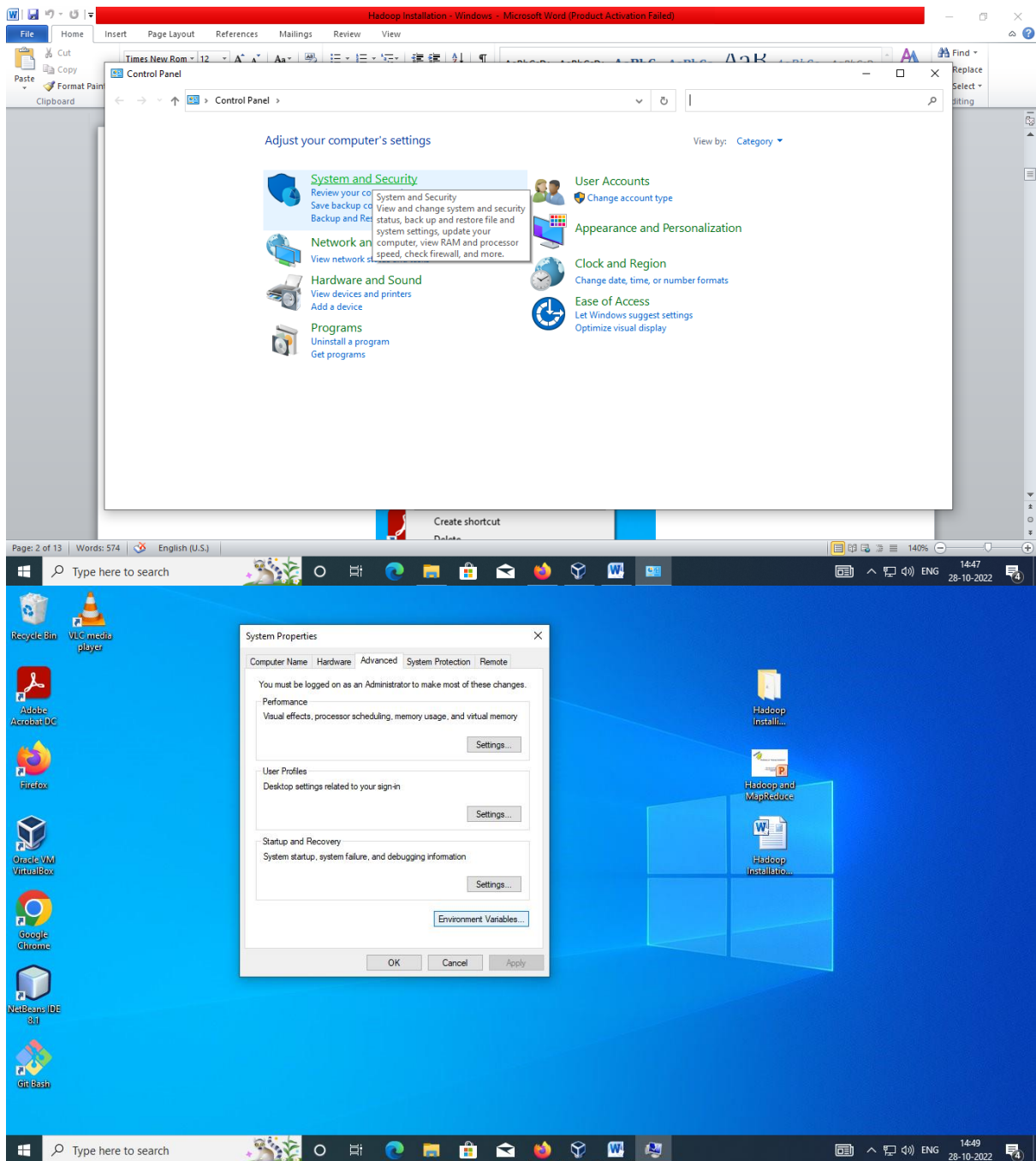
File Explorer window showing the contents of the `bin` directory within the `Local Disk (D:) > hadoop-env > hadoop-3.2.2` path. The window displays 11 items selected, totaling 0.98 MB.

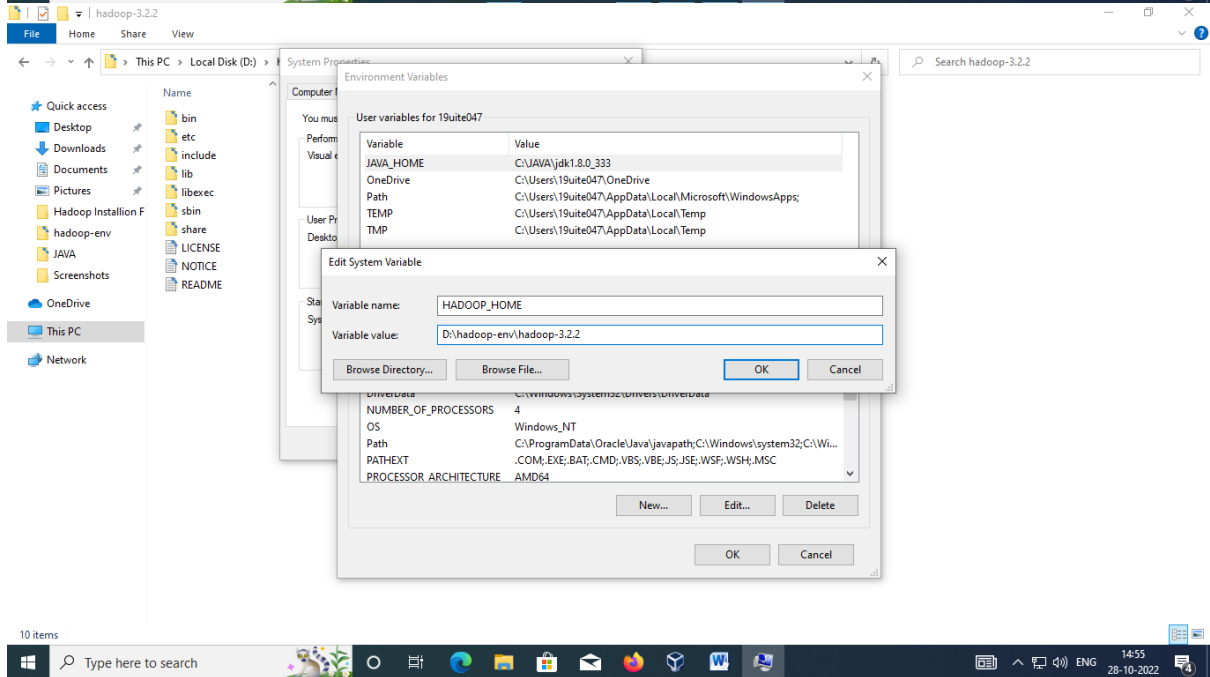
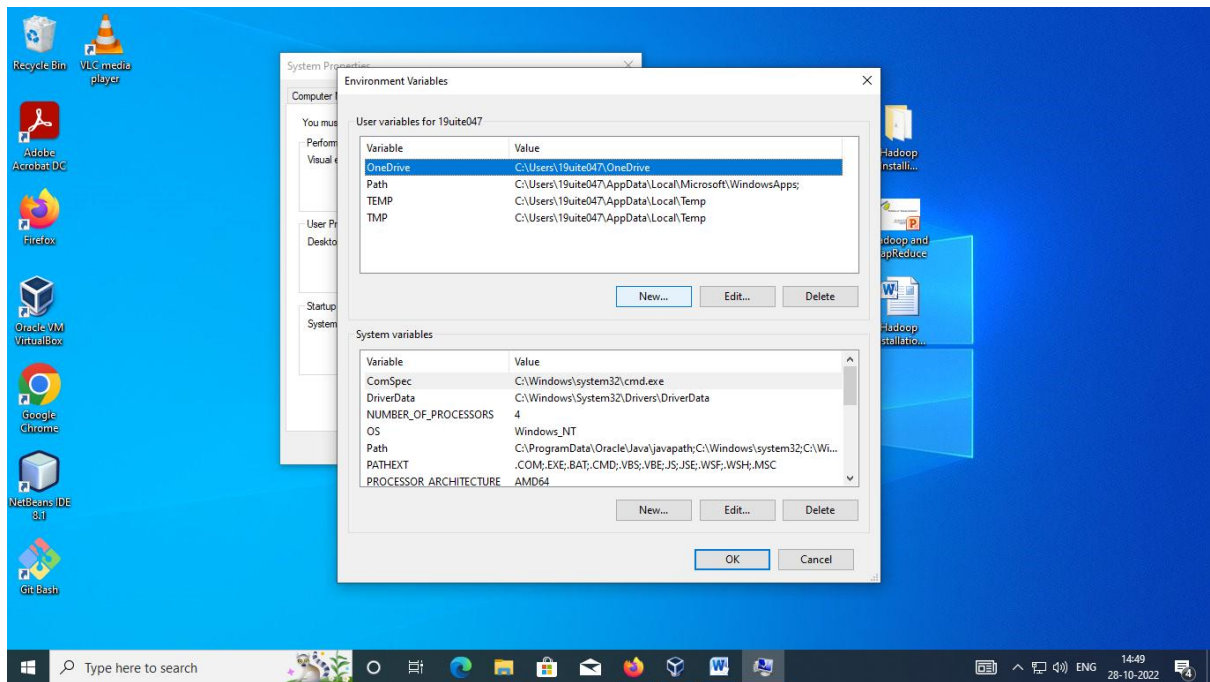
Name	Date modified	Type	Size
container-executor	03-01-2021 15:24	File	433 KB
hadoop	03-01-2021 14:58	File	9 KB
hadoop	03-01-2021 14:58	Windows Comma...	12 KB
hdfs	03-01-2021 15:02	File	12 KB
hdfs	03-01-2021 15:02	Windows Comma...	8 KB
mapred	03-01-2021 15:27	File	7 KB
mapred	03-01-2021 15:27	Windows Comma...	7 KB
oom-listener	03-01-2021 15:24	File	29 KB
test-container-executor	03-01-2021 15:24	File	474 KB
yarn	03-01-2021 15:24	File	12 KB
yarn	03-01-2021 15:24	Windows Comma...	13 KB

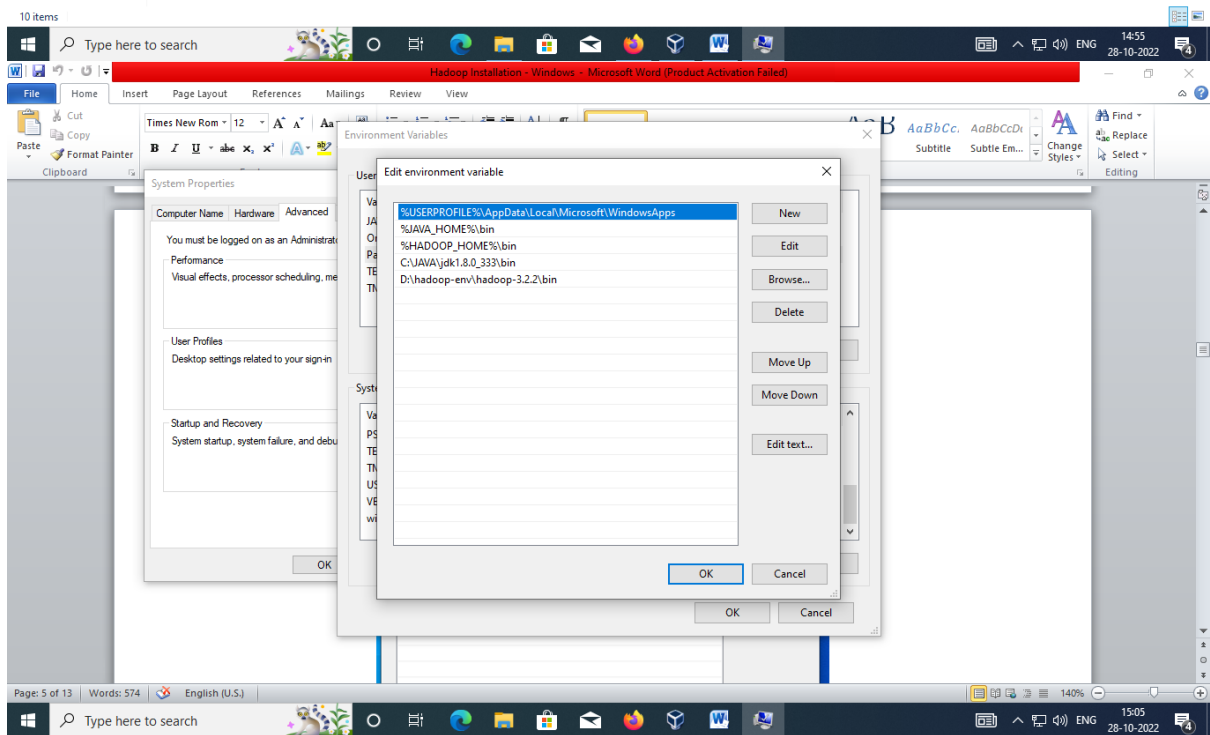
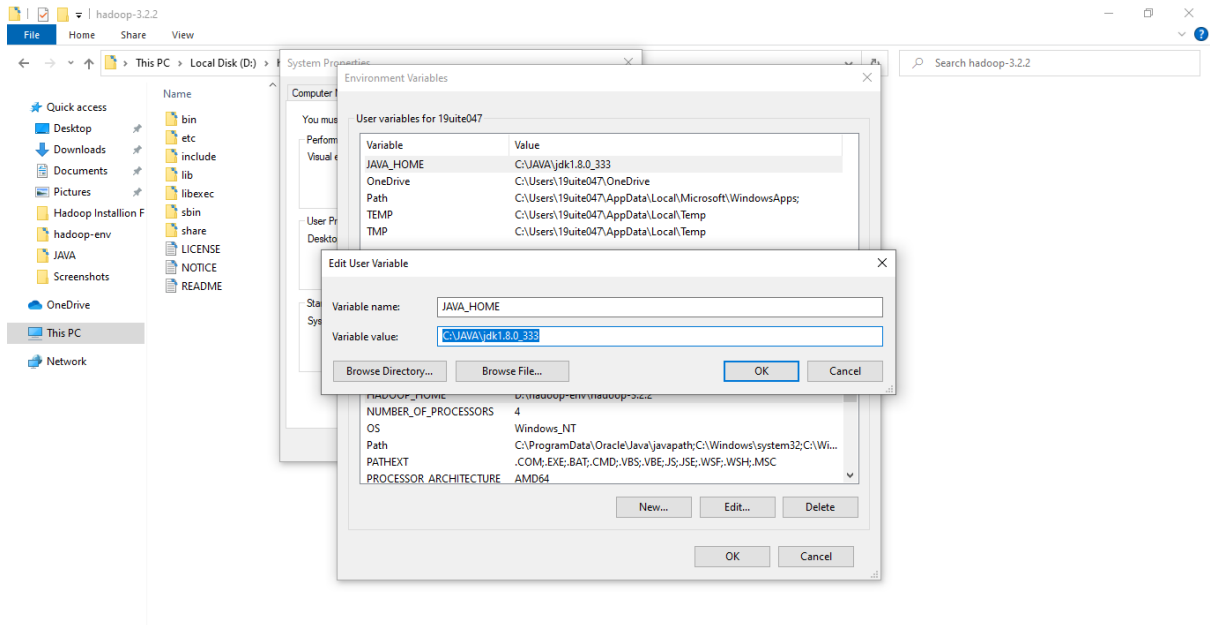


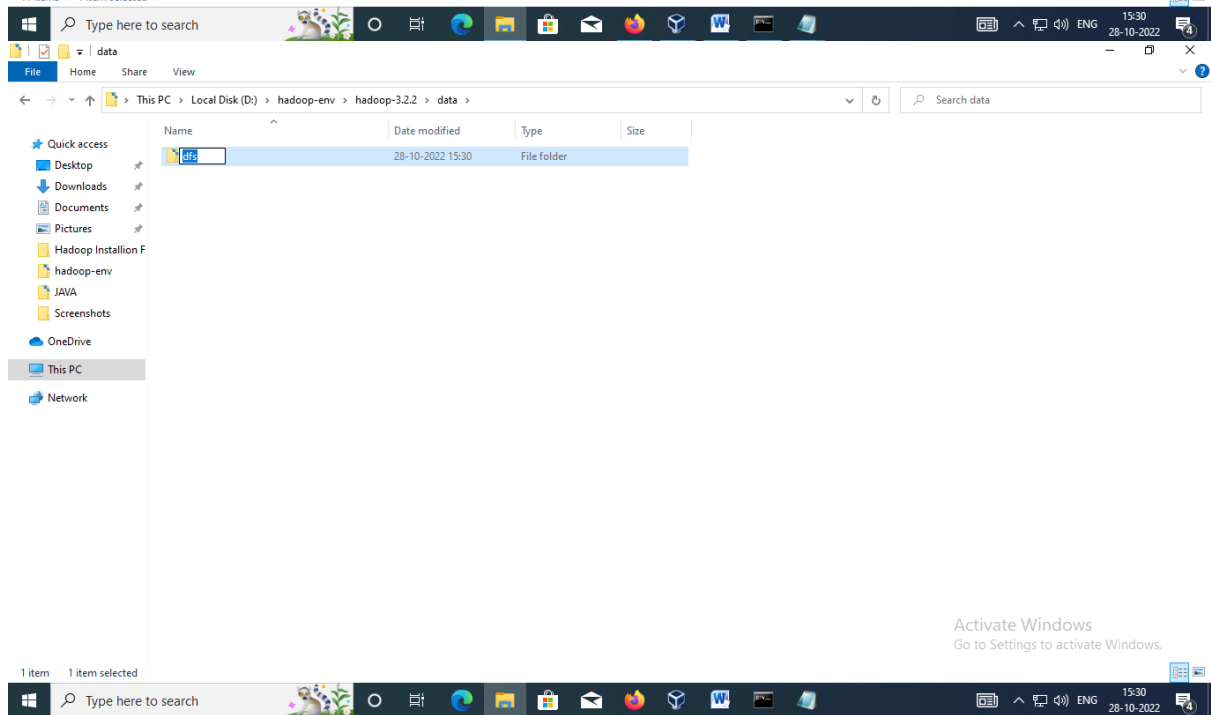
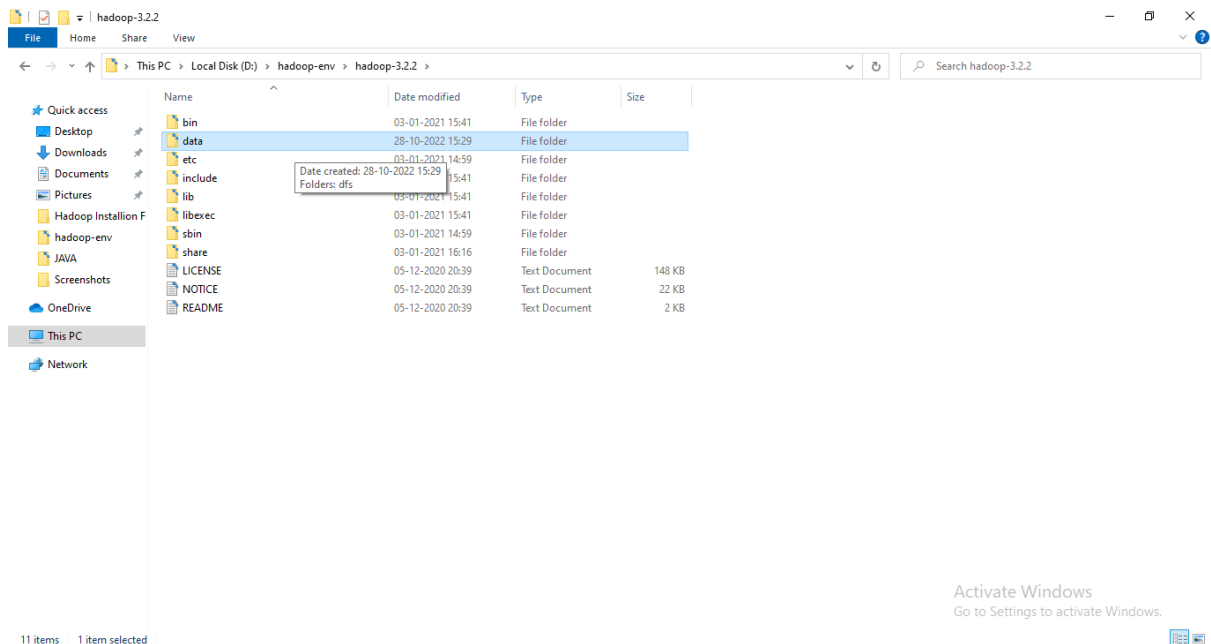


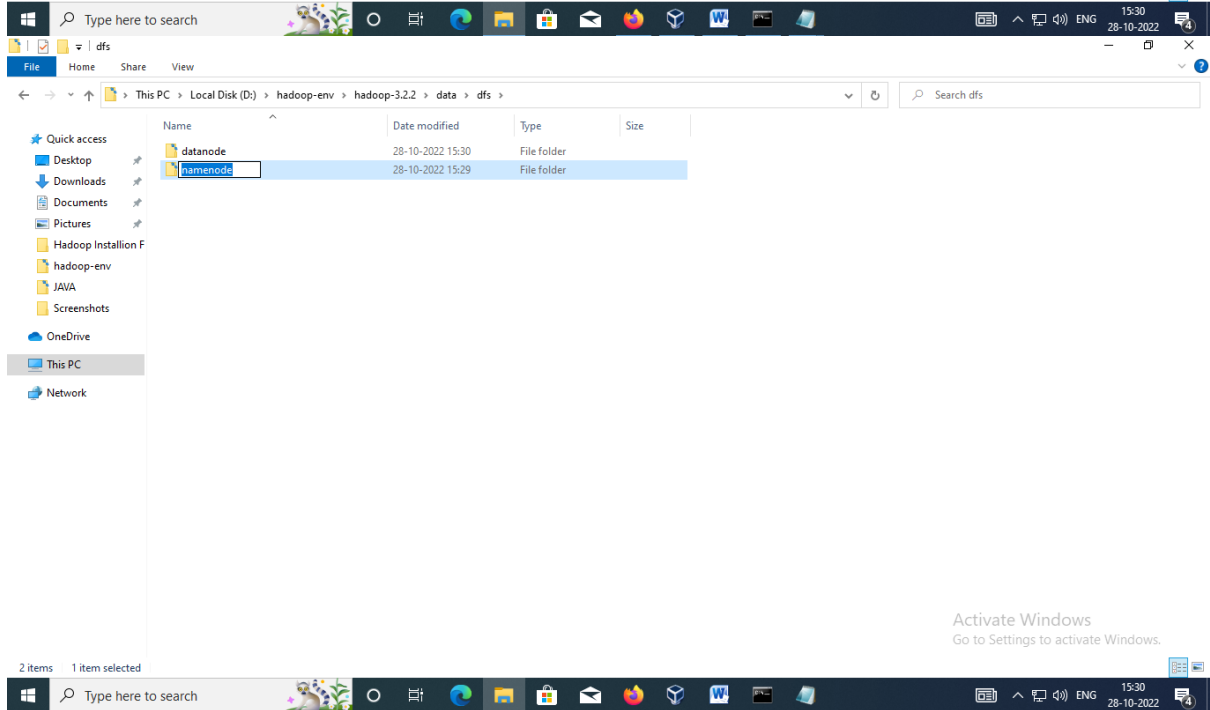
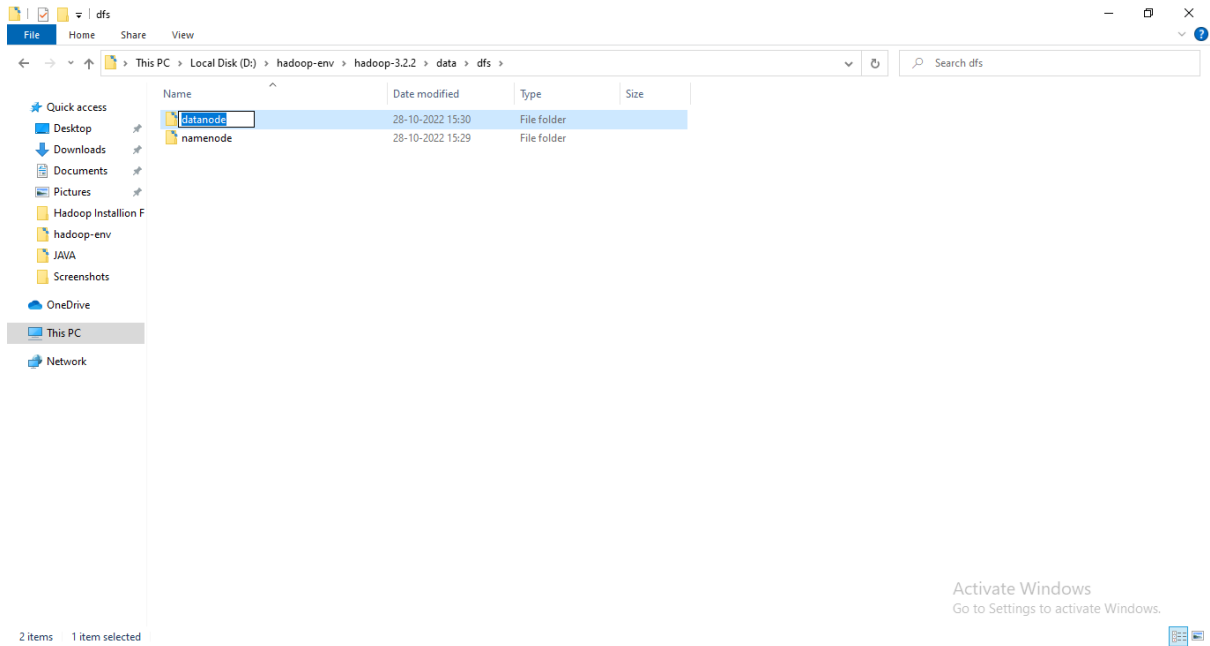


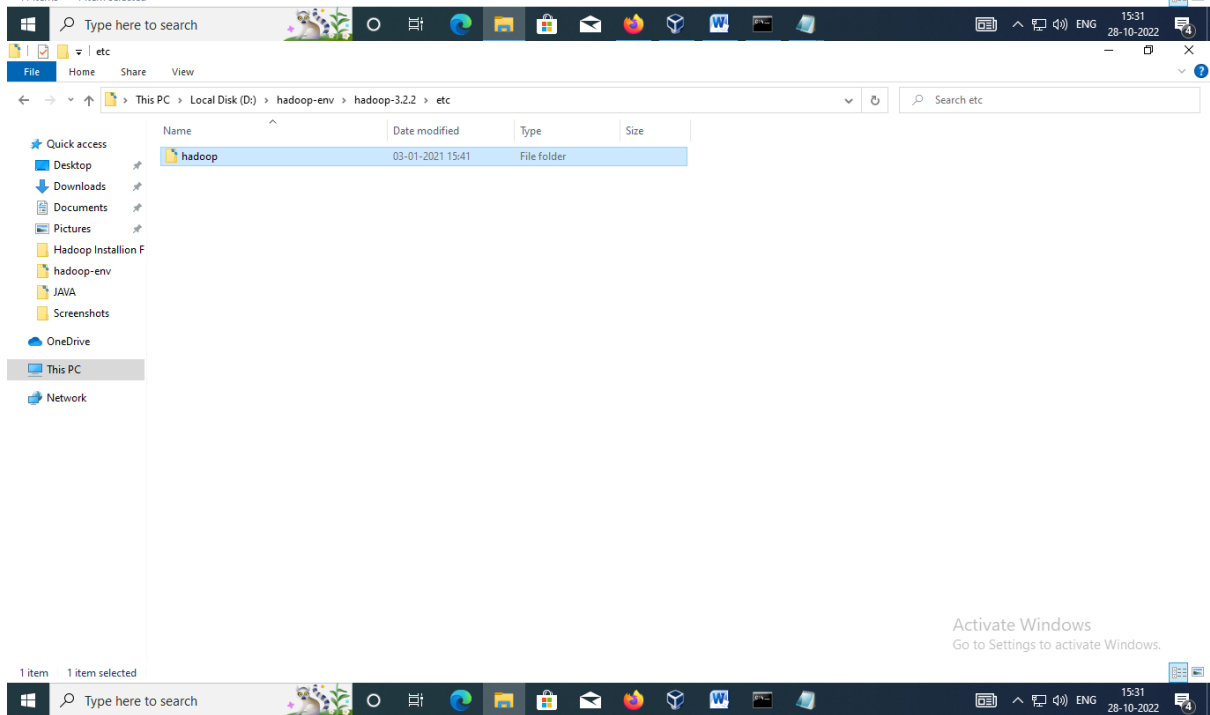
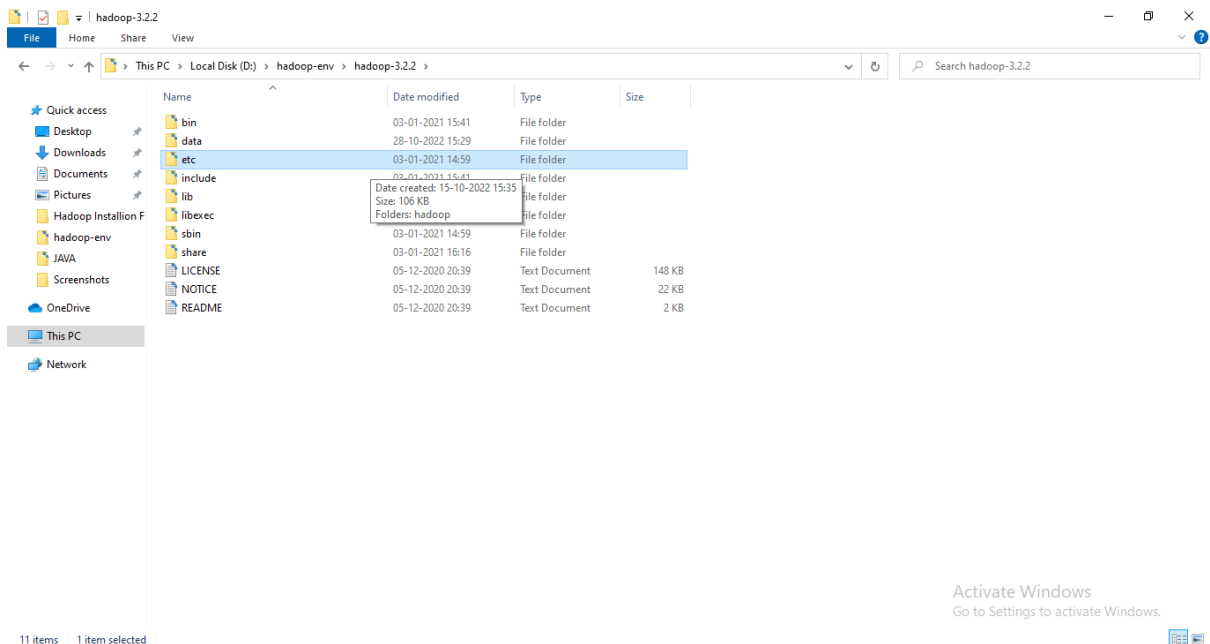












File Explorer window showing the directory structure of Hadoop files. The selected file is `hdfs-site`.

Name	Date modified	Type	Size
core-site	03-01-2021 14:58	XML Document	1 KB
hadoop-env	28-10-2022 15:20	Windows Comma...	4 KB
hadoop-env	03-01-2021 15:41	Shell Script	16 KB
hadoop-metrics2.properties	03-01-2021 14:58	PROPERTIES File	4 KB
hadoop-policy	03-01-2021 14:58	XML Document	12 KB
hadoop-user-functions.sh.example	03-01-2021 14:58	EXAMPLE File	4 KB
hdfs-site	03-01-2021 15:02	XML Document	1 KB
https-env	03-01-2021 15:03	Shell Script	2 KB
https-log4j.properties	03-01-2021 15:03	PROPERTIES File	2 KB
https-signature.secret	03-01-2021 15:03	SECRET File	1 KB
https-site	03-01-2021 15:03	XML Document	1 KB
kms-acls	03-01-2021 14:59	XML Document	4 KB
kms-env	03-01-2021 14:59	Shell Script	2 KB
kms-log4j.properties	03-01-2021 14:59	PROPERTIES File	2 KB
kms-site	03-01-2021 14:59	XML Document	1 KB
log4j.properties	03-01-2021 14:58	PROPERTIES File	15 KB
mapred-env	03-01-2021 15:27	Windows Comma...	1 KB
mapred-env	03-01-2021 15:27	Shell Script	2 KB
mapred-queues.xml.template	03-01-2021 15:27	TEMPLATE File	5 KB
mapred-site	03-01-2021 15:27	XML Document	1 KB
ssl-client.xml.example	03-01-2021 14:58	EXAMPLE File	3 KB
ssl-server.xml.example	03-01-2021 14:58	EXAMPLE File	3 KB
user_ec_policies.xml.template	03-01-2021 15:02	TEMPLATE File	3 KB
workers	03-01-2021 14:58	File	1 KB
yam-env	03-01-2021 15:24	Windows Comma...	3 KB
yam-env	03-01-2021 15:24	Shell Script	7 KB
yamservice-log4j.properties	03-01-2021 15:24	PROPERTIES File	3 KB
yam-site	03-01-2021 15:24	XML Document	1 KB

32 items 1 item selected 775 bytes

hdfs-site - Notepad

```
File Edit Format View Help
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<!--
Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

    http://www.apache.org/licenses/LICENSE-2.0

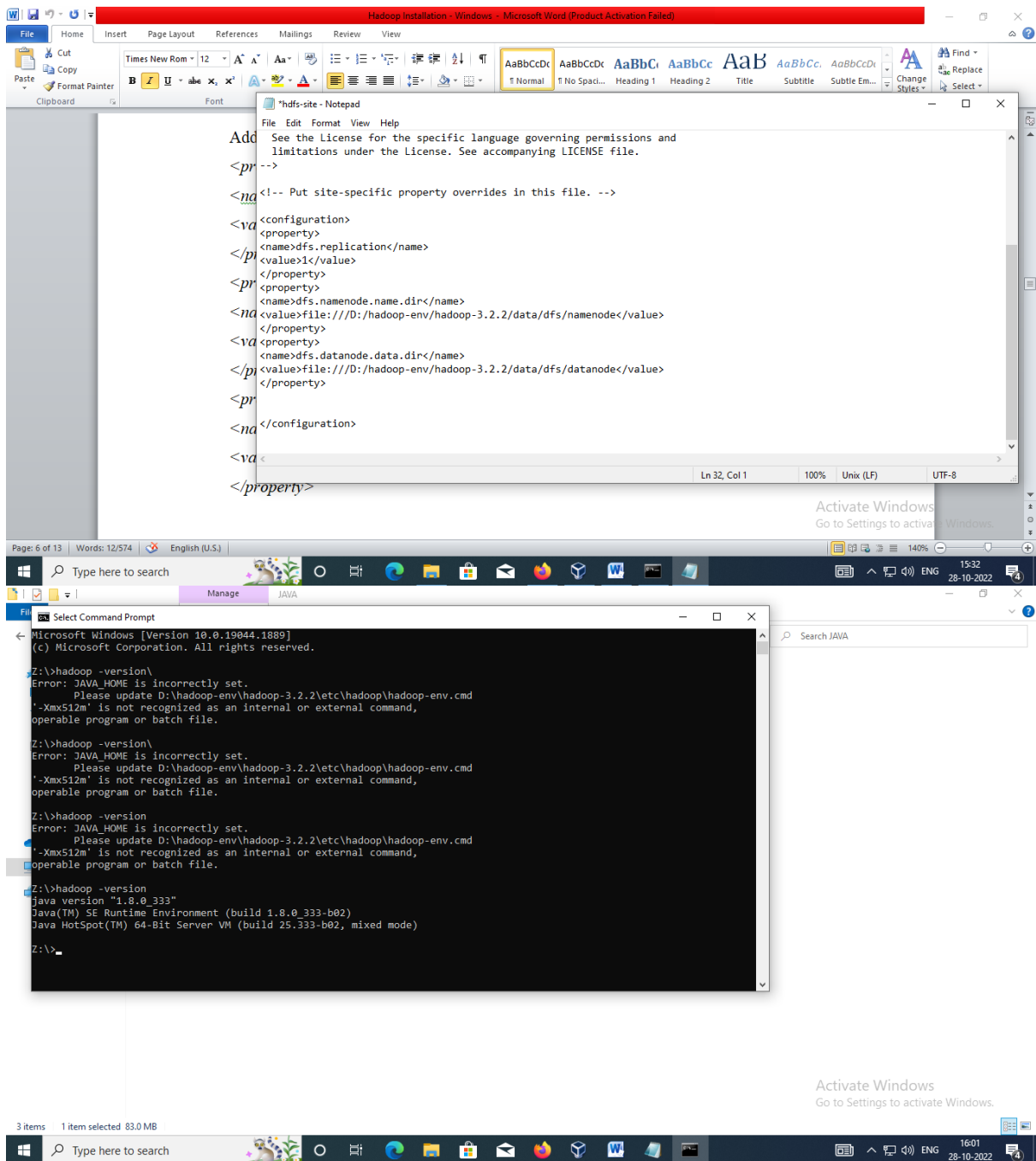
Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License. See accompanying LICENSE file.
-->

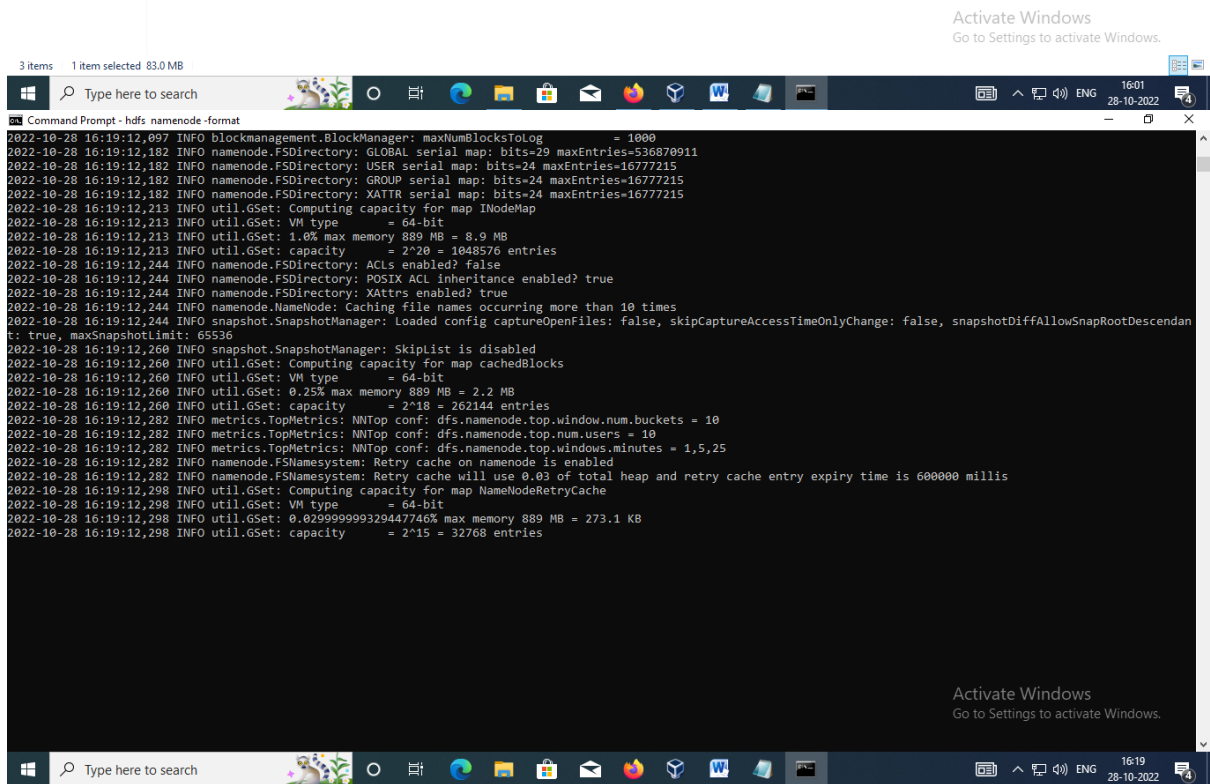
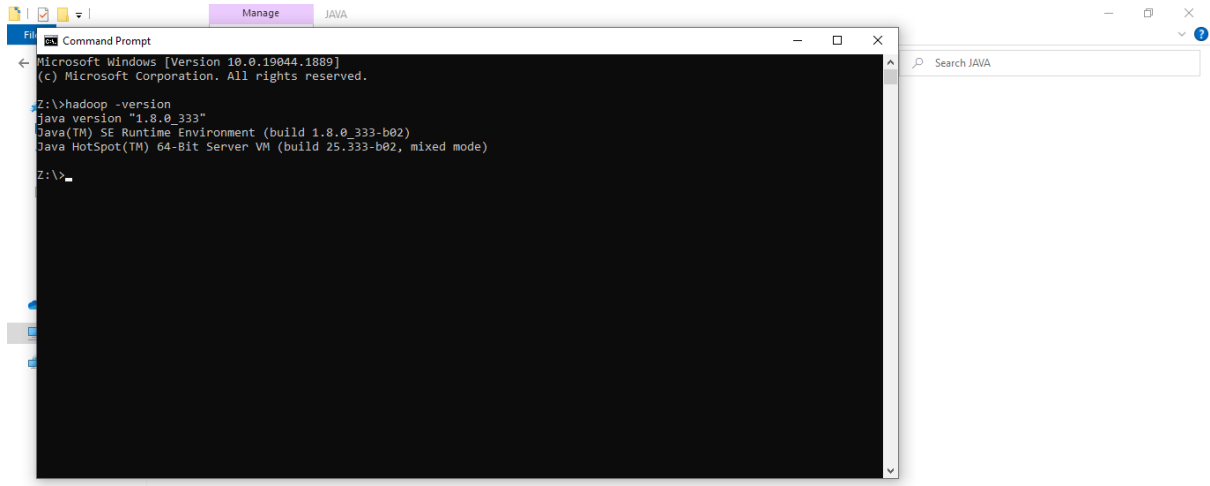
<!-- Put site-specific property overrides in this file. -->

<configuration>
</configuration>
```

Ln 20, Col 1 100% Unix (LF) UTF-8

Activate Windows
Go to Settings to activate Windows.







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

Apache Hadoop Distribution

at org.apache.hadoop.yarn.server.resourcemanager.modelabels.NodeAttributesManagerImpl.initNodeAttributeStore(NodeAttribu
tesManagerImpl.java:139)
at org.apache.hadoop.yarn.server.resourcemanager.modelabels.NodeAttributesManagerImpl.serviceStart(NodeAttributesManager
Impl.java:123)
at org.apache.hadoop.service.AbstractService.start(AbstractService.java:194)
at org.apache.hadoop.service.CompositeService.serviceStart(CompositeService.java:121)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager$RMActiveServices.serviceStart(ResourceManager.java:910)
at org.apache.hadoop.service.AbstractService.start(AbstractService.java:194)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager.startActiveServices(ResourceManager.java:1278)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager$1.run(ResourceManager.java:1319)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager$1.run(ResourceManager.java:1315)
at java.security.AccessController.doPrivileged(Native Method)
at javax.security.auth.Subject.doAs(Subject.java:422)
at org.apache.hadoop.security.UserGroupInformation.doAs(UserGroupInformation.java:1762)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager.transitionToActive(ResourceManager.java:1315)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager.serviceStart(ResourceManager.java:1366)
at org.apache.hadoop.service.AbstractService.start(AbstractService.java:194)
at org.apache.hadoop.yarn.server.resourcemanager.ResourceManager.main(ResourceManager.java:1553)
Caused by: java.io.FileNotFoundException: Could not locate Hadoop executable: D:\hadoop-env\hadoop-3.2.2\bin\winutils.exe -see h
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.yarn.server.resourcemanager.ResourceManager.main(ResourceManager.java:1530)
2022-10-28 16:38:35,649 INFO resourceManager.ResourceManager: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down ResourceManager at a4164/192.168.56.1
*****/
D:\hadoop-env\hadoop-3.2.2\sbin>
```

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

Apache Hadoop Distribution

at org.apache.hadoop.util.Shell.getSetPermissionCommand(Shell.java:287)
at org.apache.hadoop.fs.RawLocalFileSystem.setPermission(RawLocalFileSystem.java:867)
at org.apache.hadoop.fs.RawLocalFileSystem.mkOneDirWithMode(RawLocalFileSystem.java:549)
at org.apache.hadoop.fs.RawLocalFileSystem.mkdirsWithOptionalPermission(RawLocalFileSystem.java:589)
at org.apache.hadoop.fs.RawLocalFileSystem.mkdirs(RawLocalFileSystem.java:566)
at org.apache.hadoop.fs.FileSystem.primitiveMkdir(FileSystem.java:1286)
at org.apache.hadoop.fs.DelegatedFileSystem.mkdir(DelegatedFileSystem.java:183)
at org.apache.hadoop.fs.FilterFs.mkdir(FilterFs.java:217)
at org.apache.hadoop.fs.FileContext$4.next(FileContext.java:806)
at org.apache.hadoop.fs.FileContext$4.next(FileContext.java:802)
at org.apache.hadoop.fs.FSLinkResolver.resolve(FSLinkResolver.java:90)
at org.apache.hadoop.fs.FileContext.mkdir(FileContext.java:809)
at org.apache.hadoop.yarn.server.nodemanager.DirectoryCollection.createDir(DirectoryCollection.java:573)
at org.apache.hadoop.yarn.server.nodemanager.DirectoryCollection.createDir(DirectoryCollection.java:571)
at org.apache.hadoop.yarn.server.nodemanager.DirectoryCollection.createNonExistentDirs(DirectoryCollection.java:388)
at org.apache.hadoop.yarn.server.nodemanager.LocalDirsHandlerService.serviceInit(LocalDirsHandlerService.java:242)
at org.apache.hadoop.service.AbstractService.init(AbstractService.java:164)
at org.apache.hadoop.service.CompositeService.serviceInit(CompositeService.java:108)
at org.apache.hadoop.yarn.server.nodemanager.NodeHealthCheckerService.serviceInit(NodeHealthCheckerService.java:59)
at org.apache.hadoop.service.AbstractService.init(AbstractService.java:164)
at org.apache.hadoop.service.CompositeService.serviceInit(CompositeService.java:108)
at org.apache.hadoop.yarn.server.nodemanager.NodeManager.serviceInit(NodeManager.java:519)
at org.apache.hadoop.service.AbstractService.init(AbstractService.java:164)
at org.apache.hadoop.yarn.server.nodemanager.NodeManager.initAndStartNodeManager(NodeManager.java:977)
at org.apache.hadoop.yarn.server.nodemanager.NodeManager.main(NodeManager.java:1057)
Caused by: java.io.FileNotFoundException: Could not locate Hadoop executable: D:\hadoop-env\hadoop-3.2.2\bin\winutils.exe -see https://wiki.apa
che.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.yarn.server.nodemanager.NodeManager.main(NodeManager.java:1052)
2022-10-28 16:38:27,311 INFO nodemanager.NodeManager: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NodeManager at a4164/192.168.56.1
*****/
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>_
```

Activate Windows
Go to Settings to activate Windows.

Type here to search

16:38
28-10-2022