

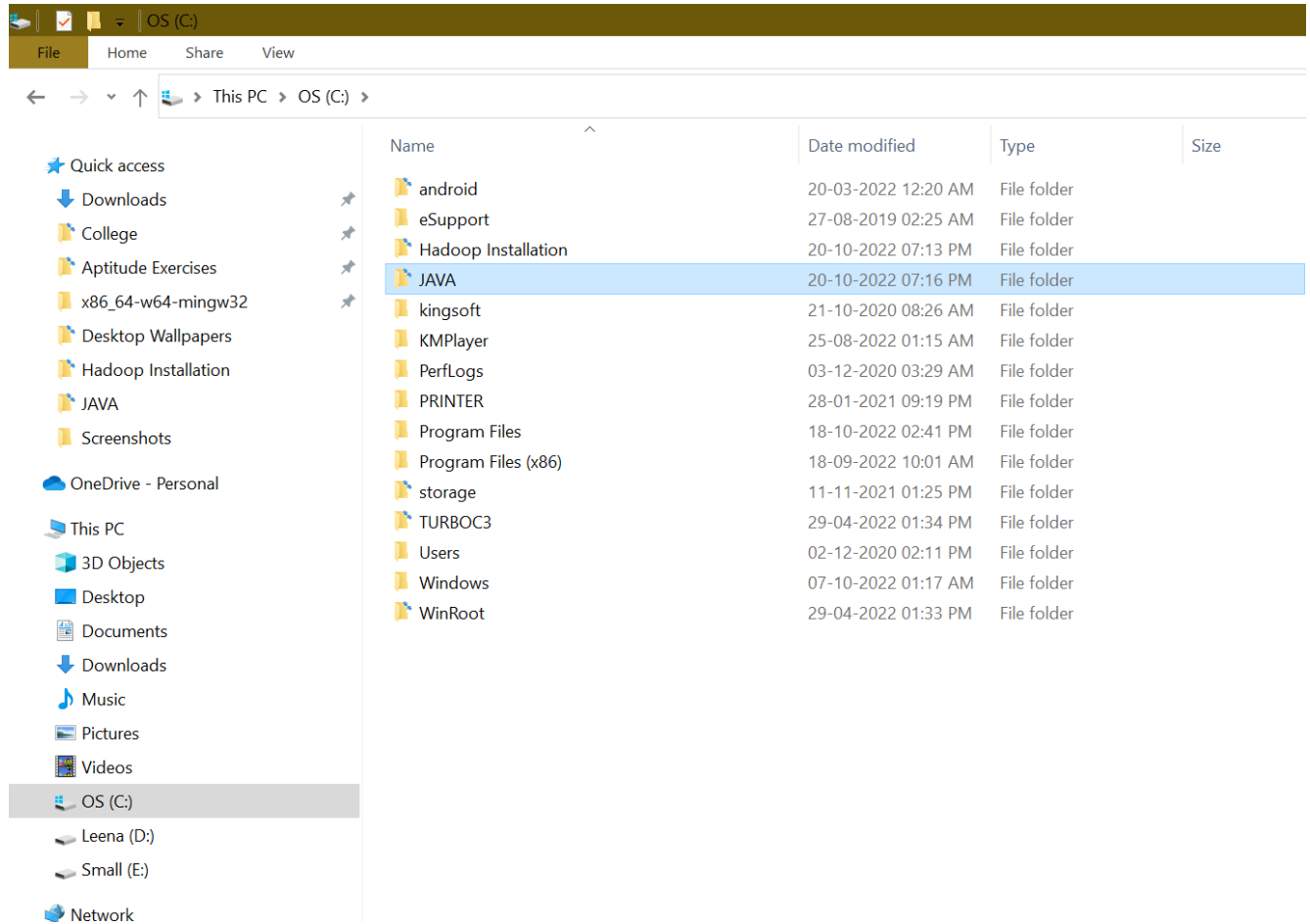
EXERCISE: 9

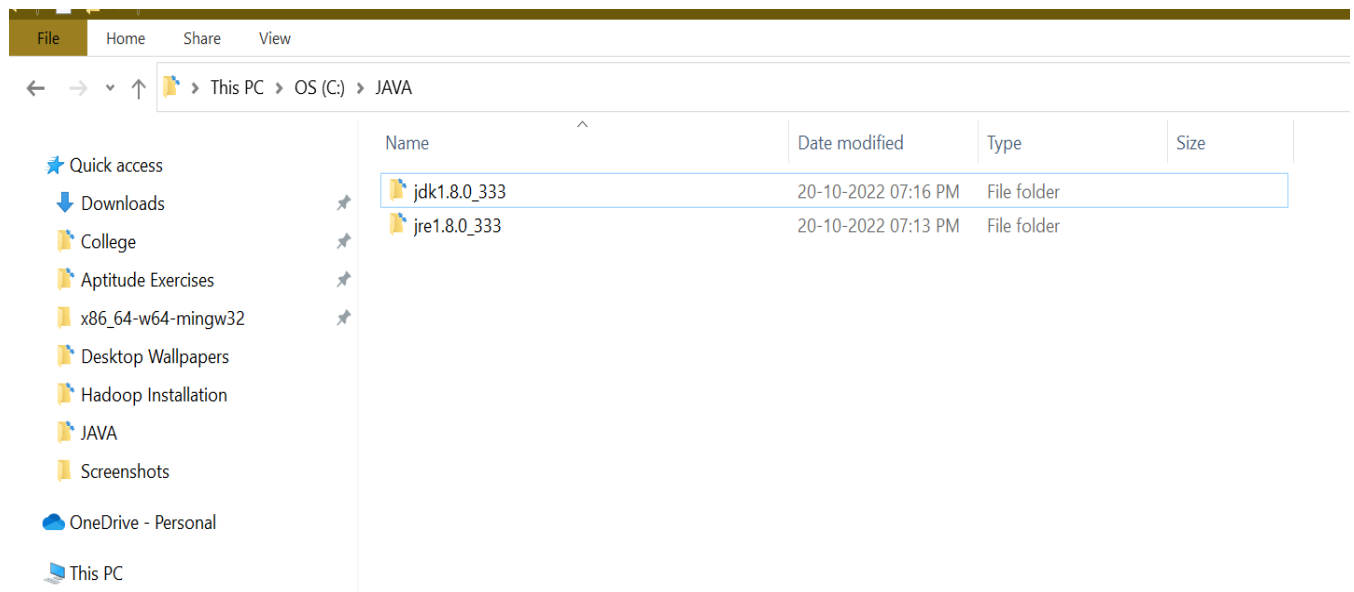
Installation of Single Node Hadoop Cluster

PROCEDURAL STEPS

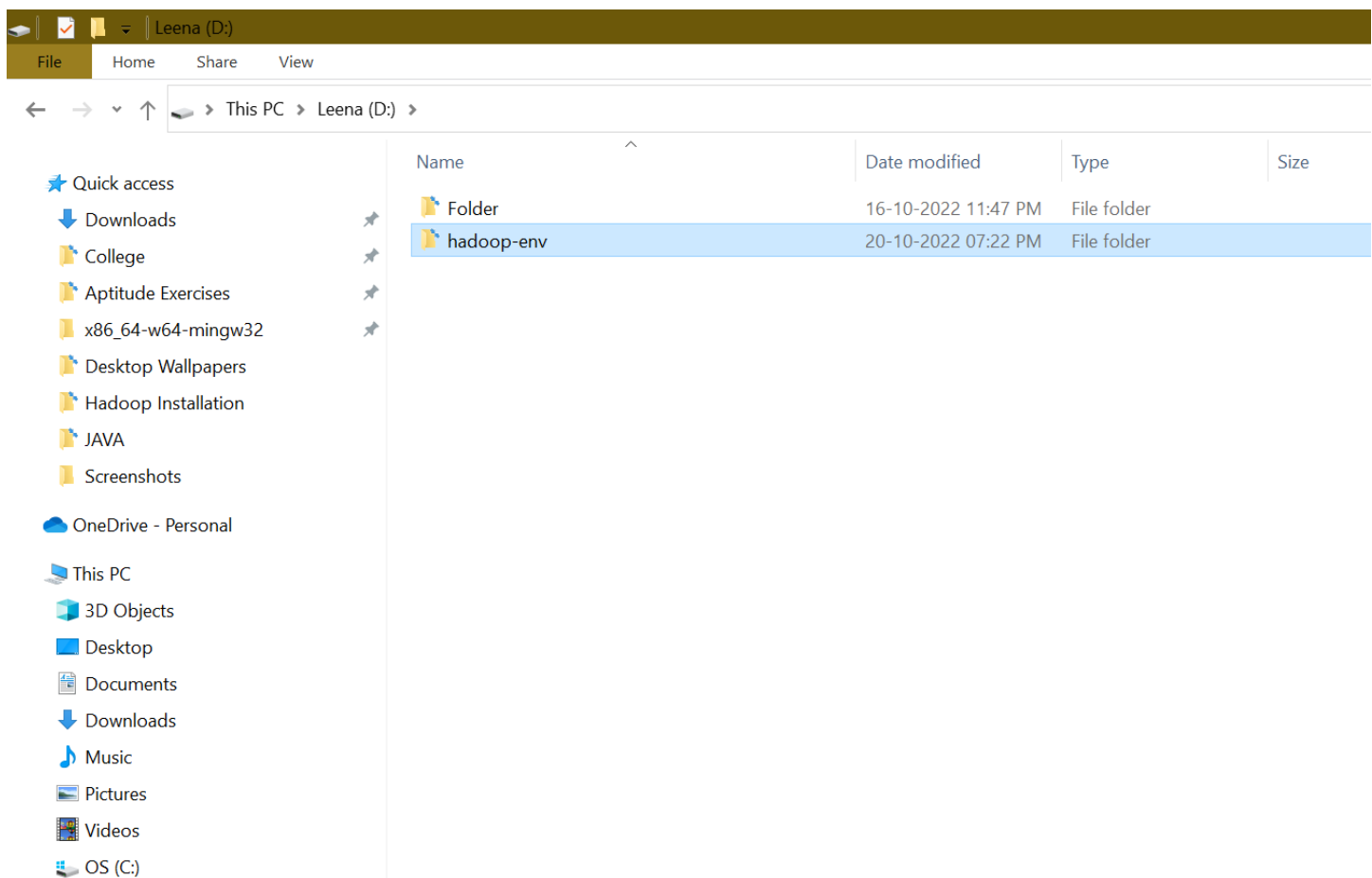
Step 1: Install / Extract the following Packages:

1. Install Java 8 in the location **c:\JAVA**. Also create two folders namely “**jdk1.8.0_333**” and “**jre1.8.0_333**”.

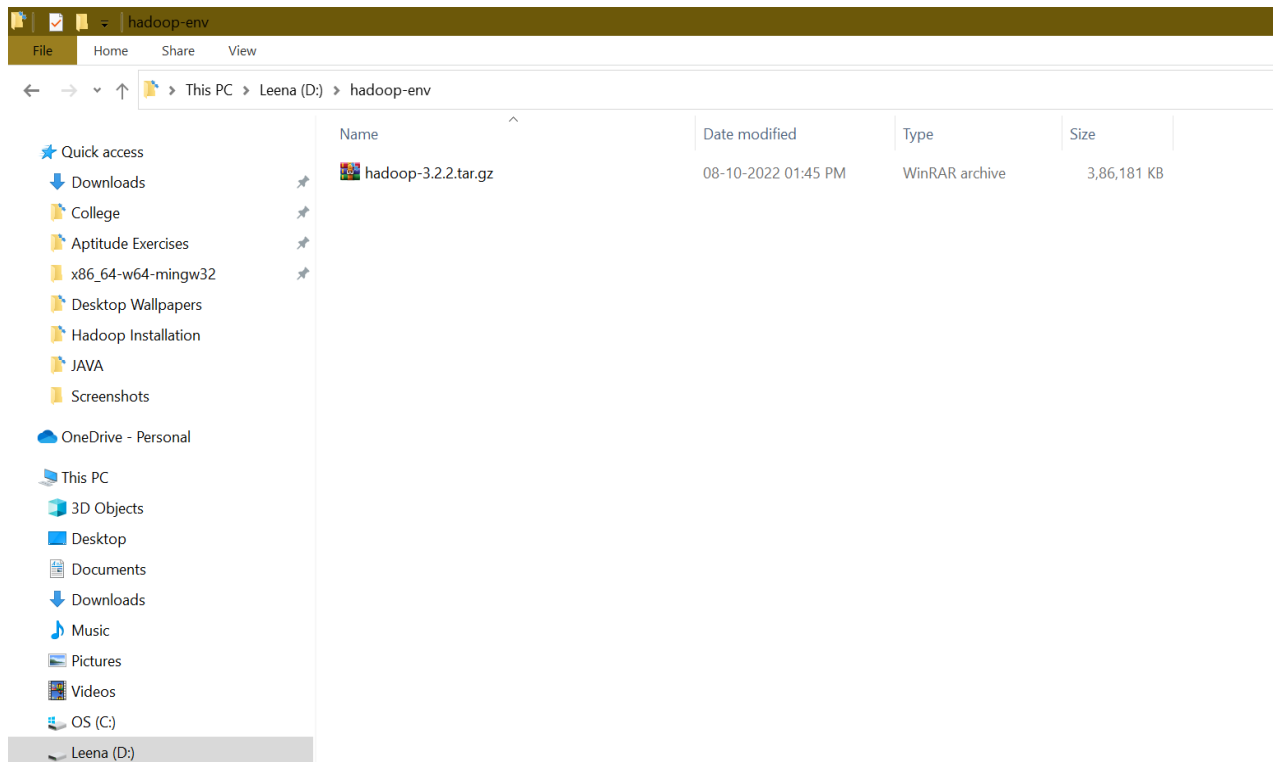




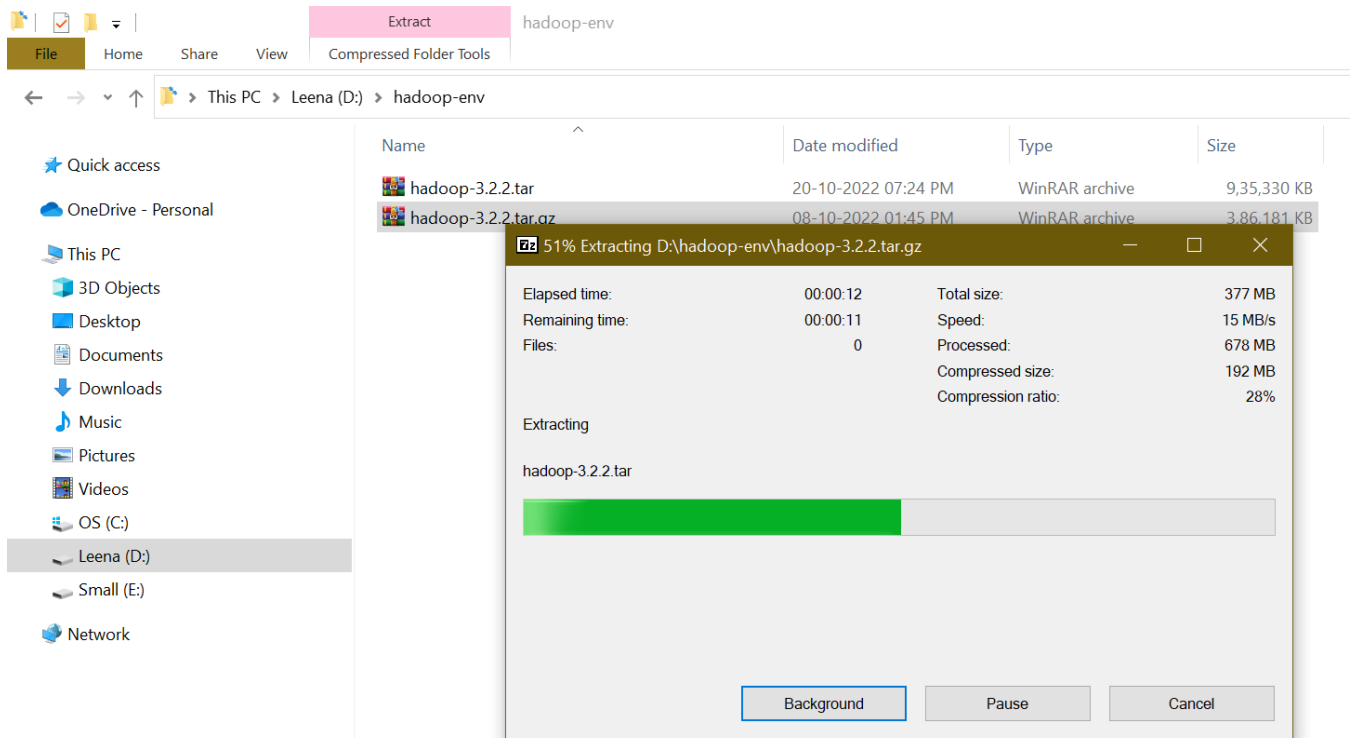
2. Create a folder “hadoop-env” in D:\

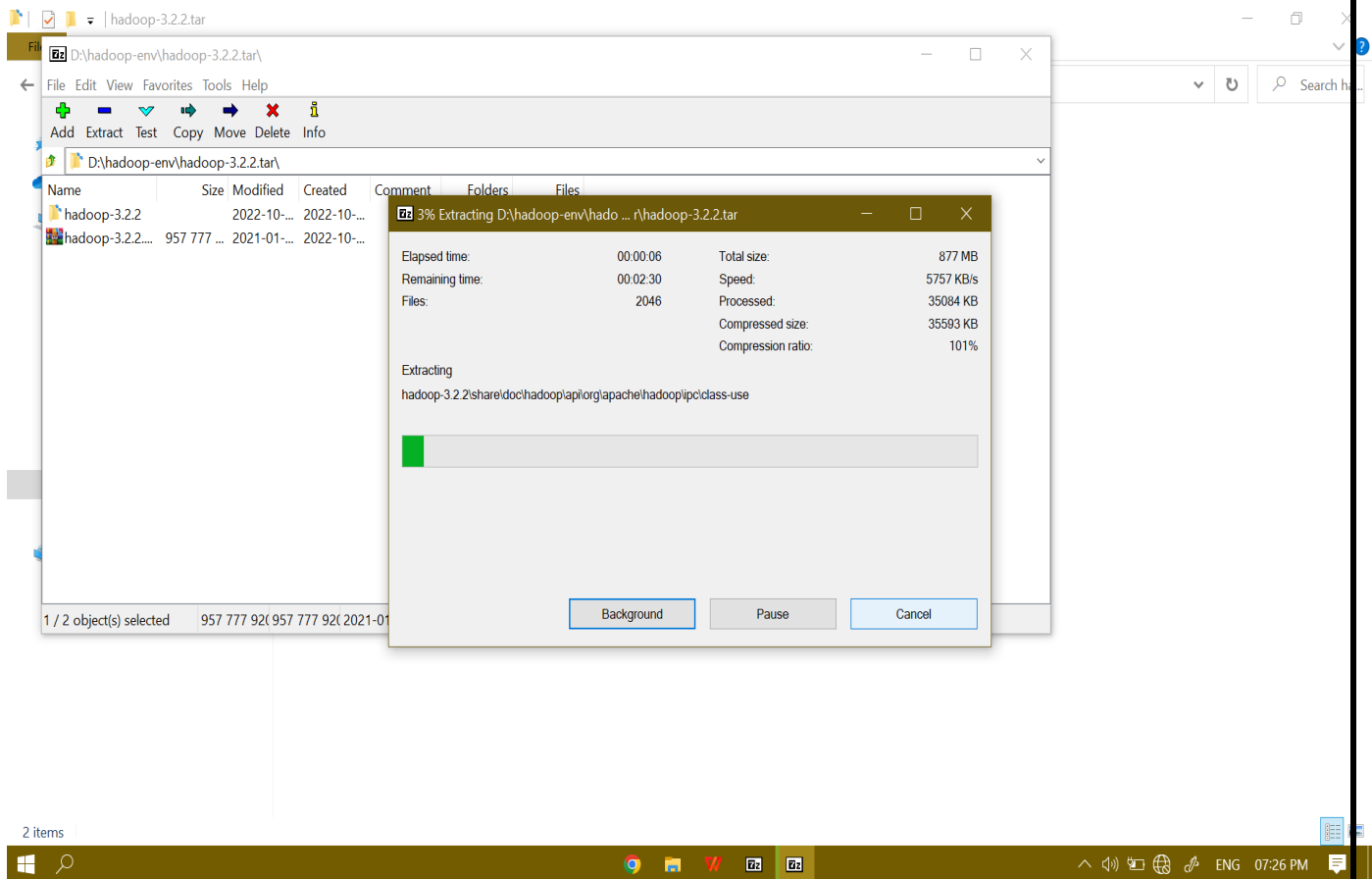


3. Paste the downloaded “hadoop-3.2.2.tar.gz” into “d:\hadoop-env”

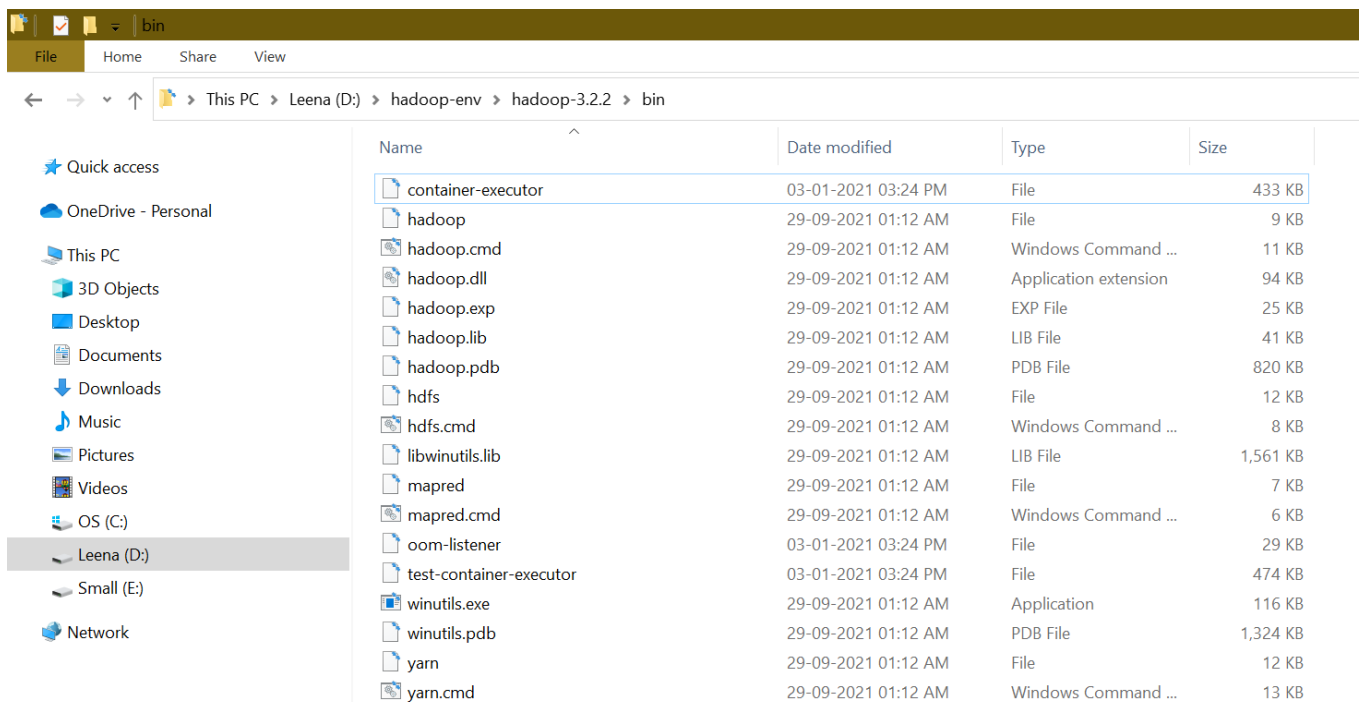


4. Unzip the “hadoop-3.2.2.tar.gz” using 7zip (do the unzip function two times)

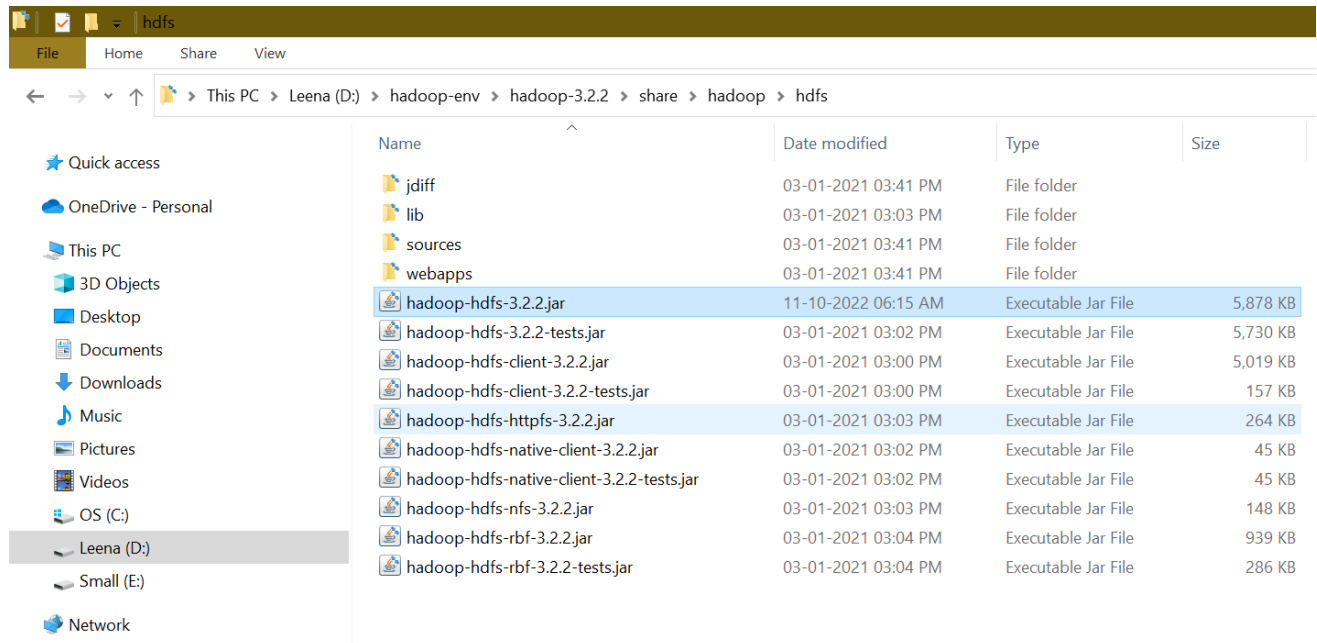




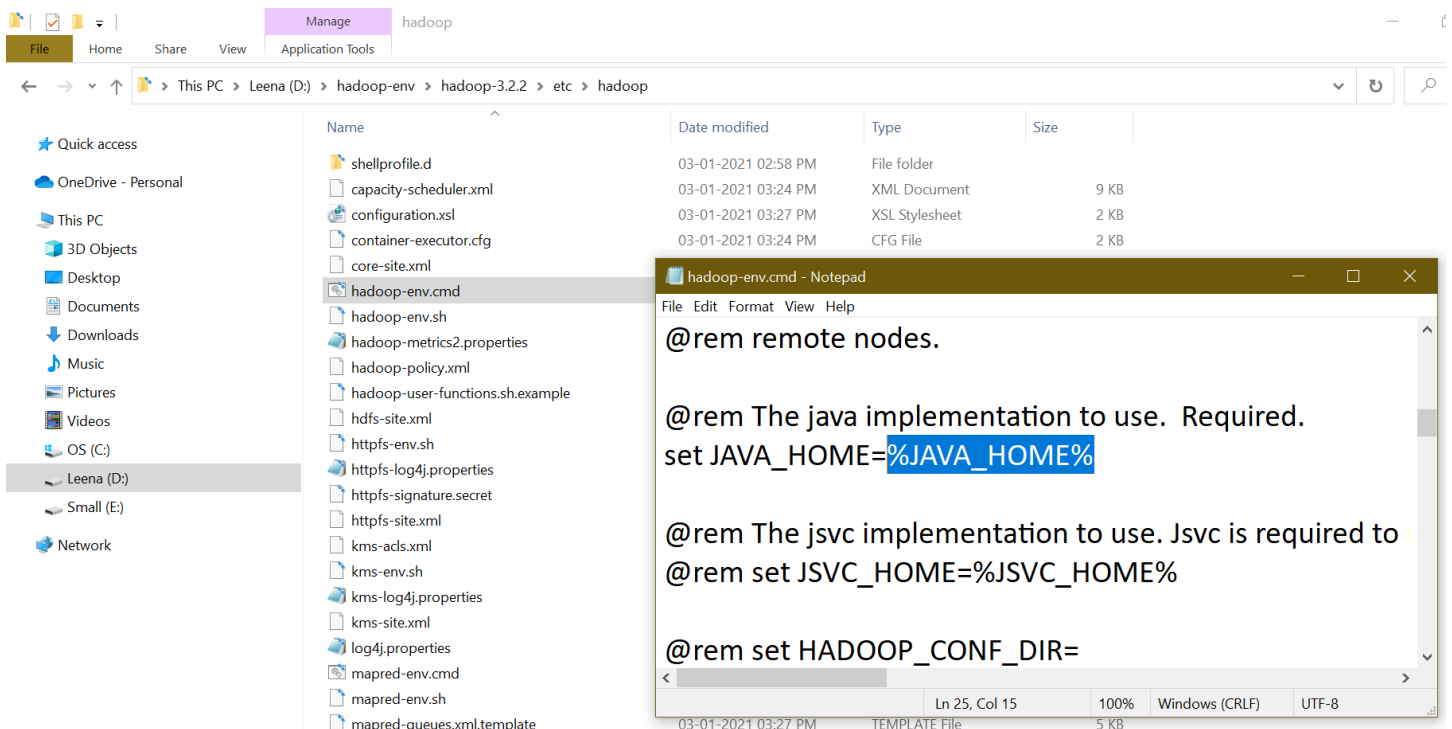
5. Copy the downloaded Hadoop dll files to the location “D:\hadoop-env\hadoop-3.2.2\bin”

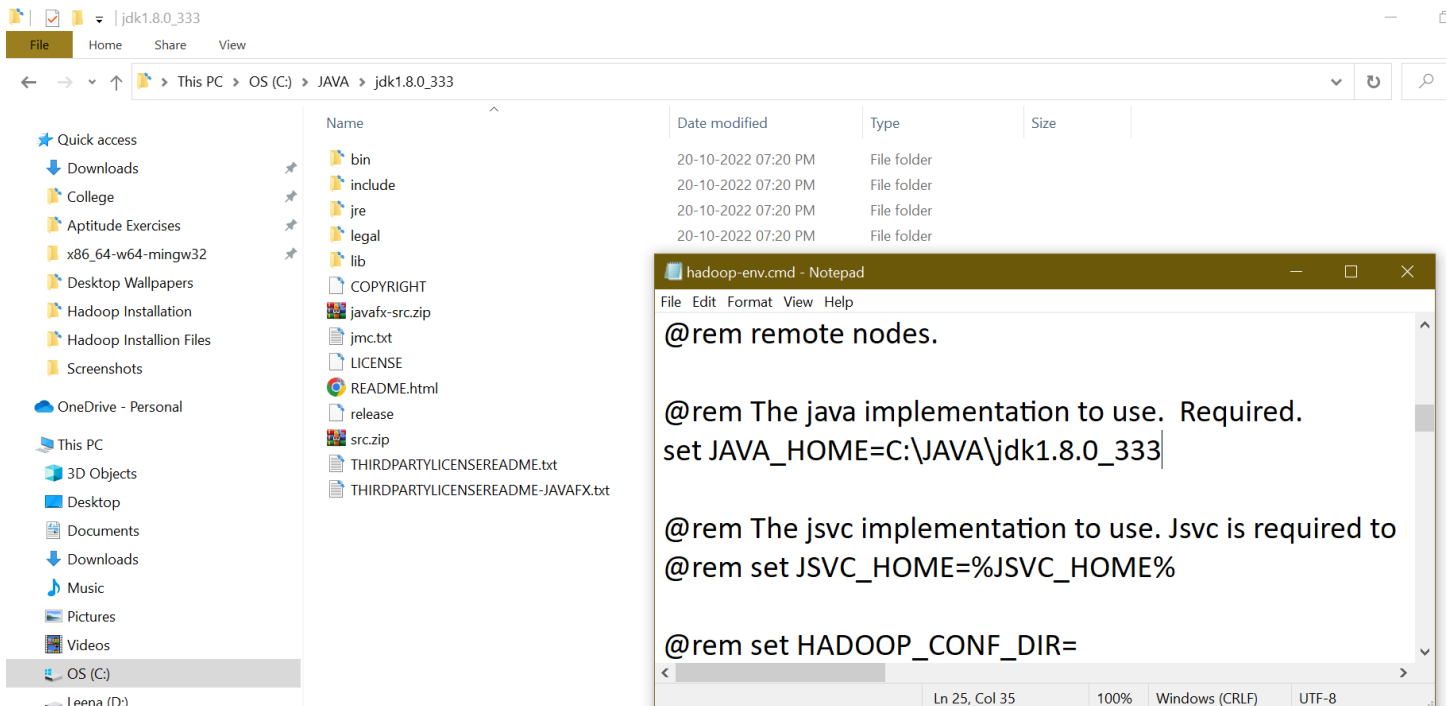


6. Copy the downloaded `hadoop-hdfs-3.2.2.jar` to “`D:\hadoop-env\hadoop-3.2.2\share\hadoop\hdfs`”



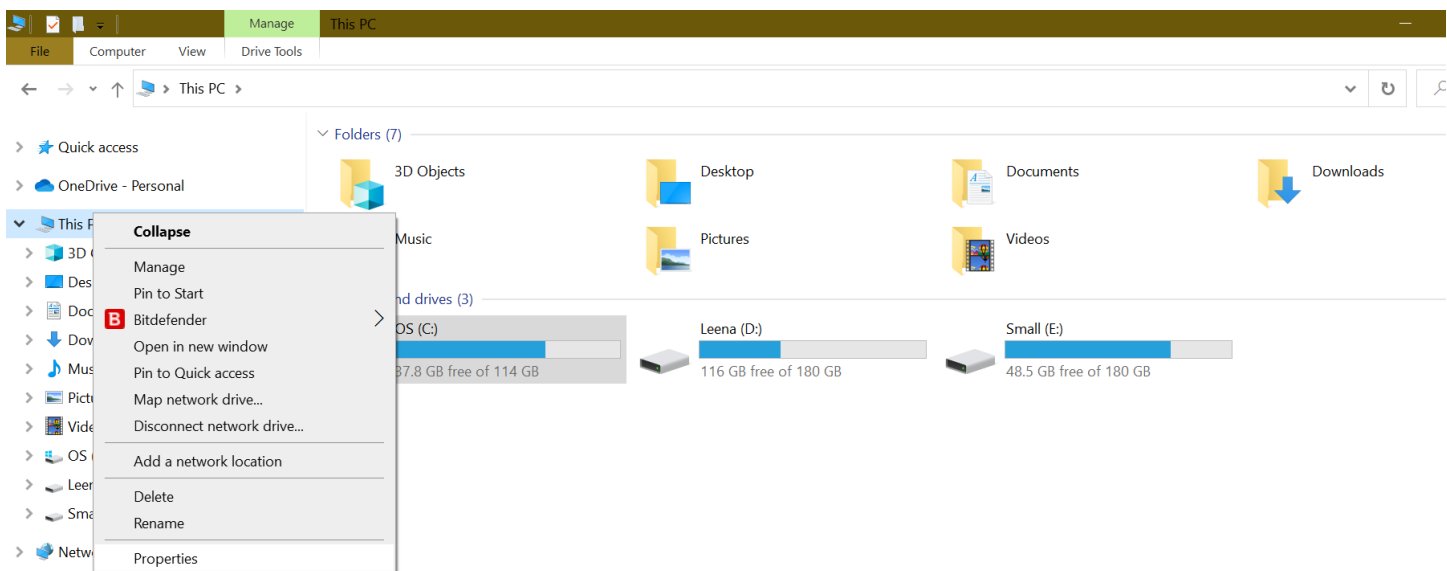
7. Edit the `JAVA_HOME = C:\JAVA\jdk1.8.0_333` in the path “`D:\hadoop-env\hadoop-3.2.2\etc\hadoop\hadoop-env.cmd`”



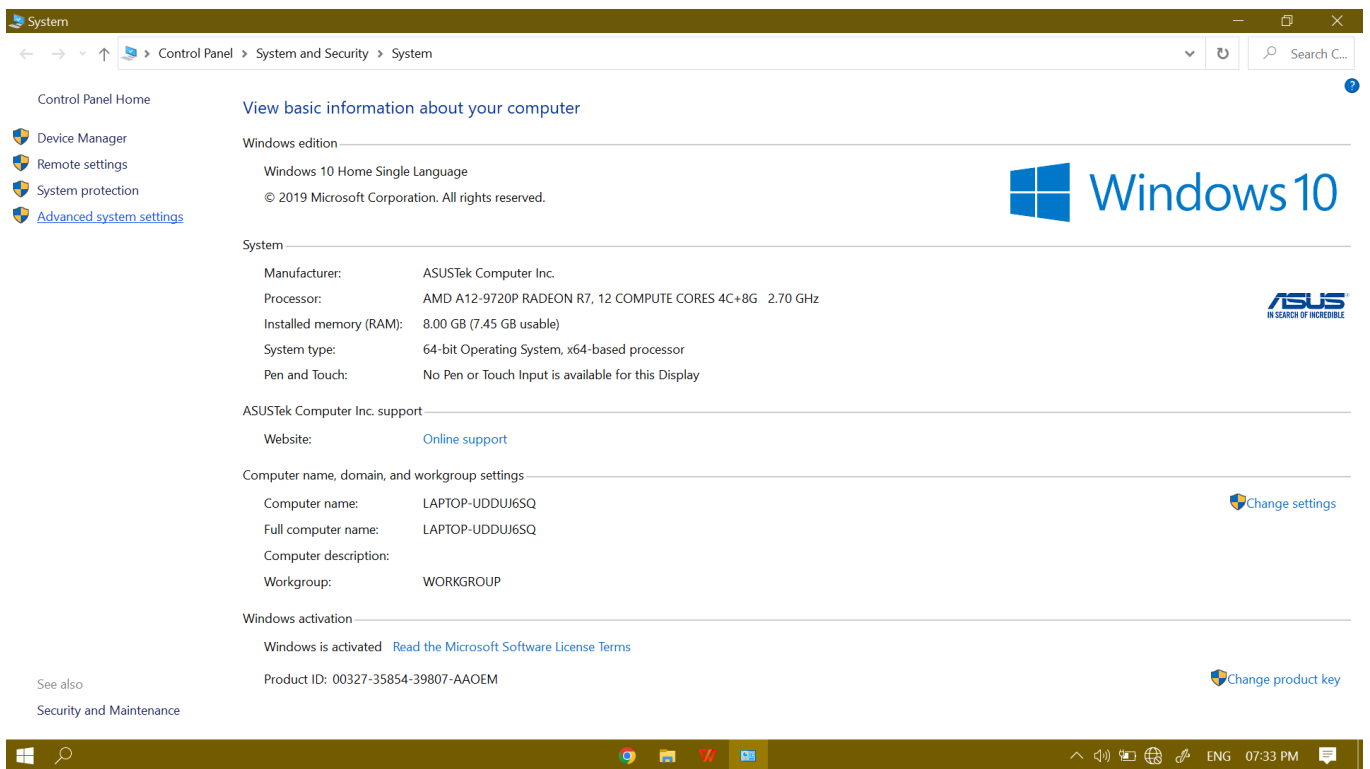


Step 2: Set the path for Java and Hadoop in system environment variables

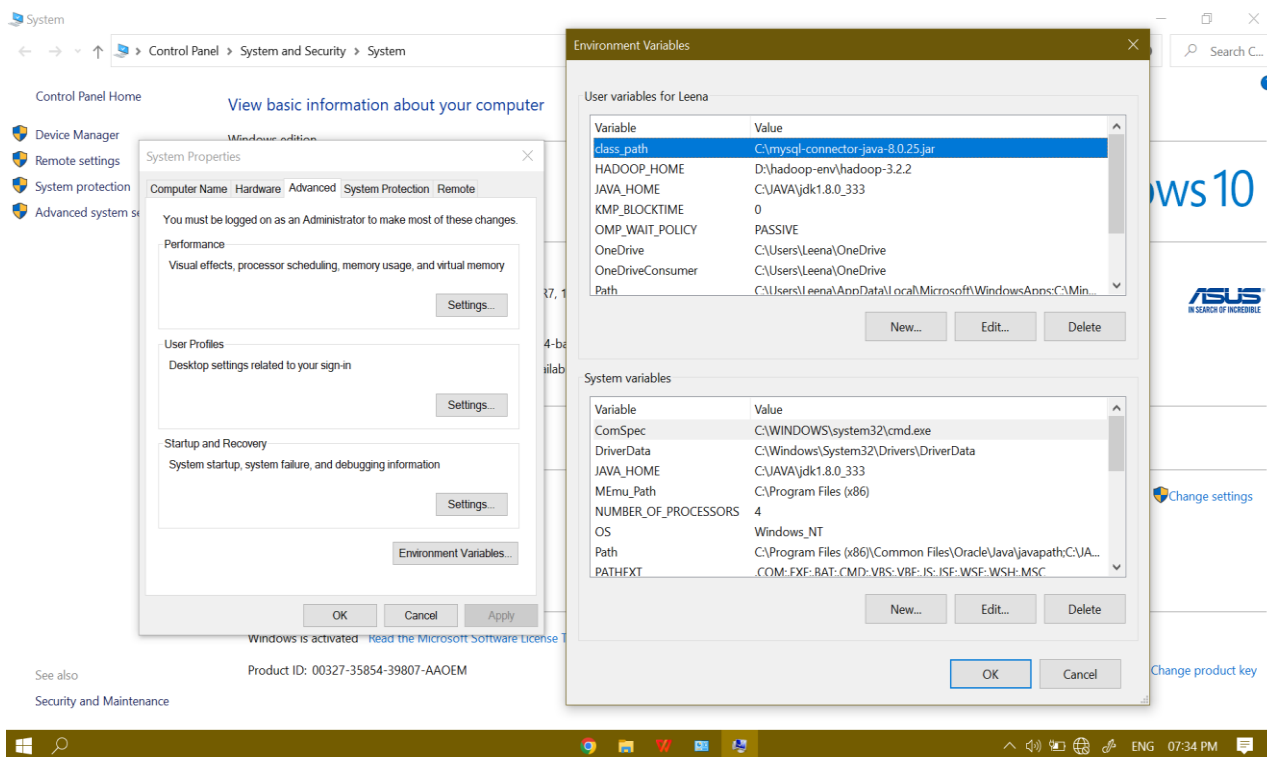
To edit environment variables, go to Control Panel → System and Security → System (or) right-click “This PC” → Properties (My Computer icon) and click on the “Advanced system settings” link.



When the “Advanced system settings” dialog appears, go to the “Advanced” tab and click on the “Environment variables” button located on the bottom of the dialog.

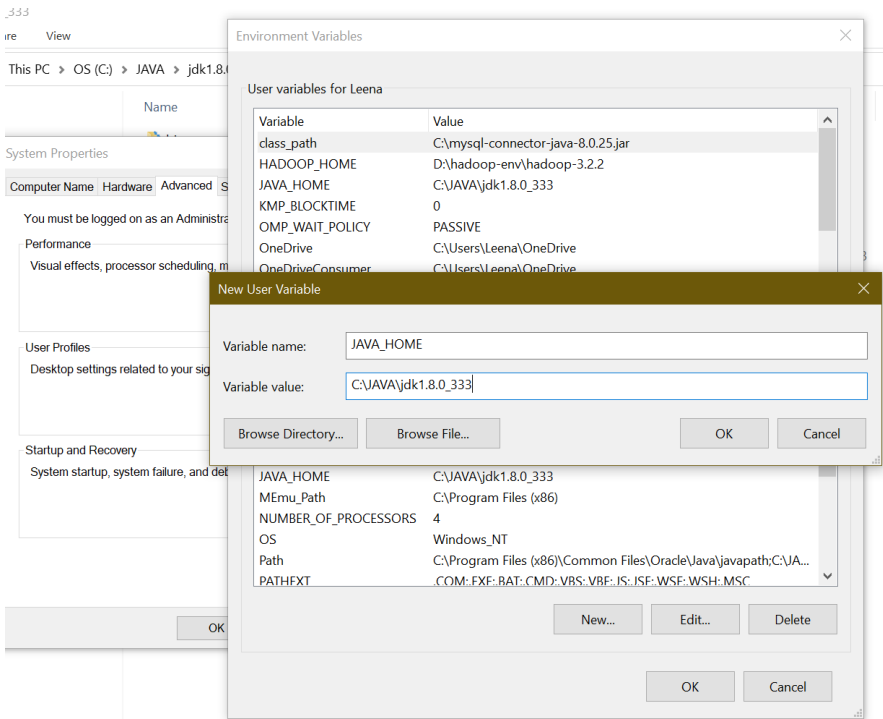


In the “Environment Variables” dialog, press the “New” button to add a new variable.

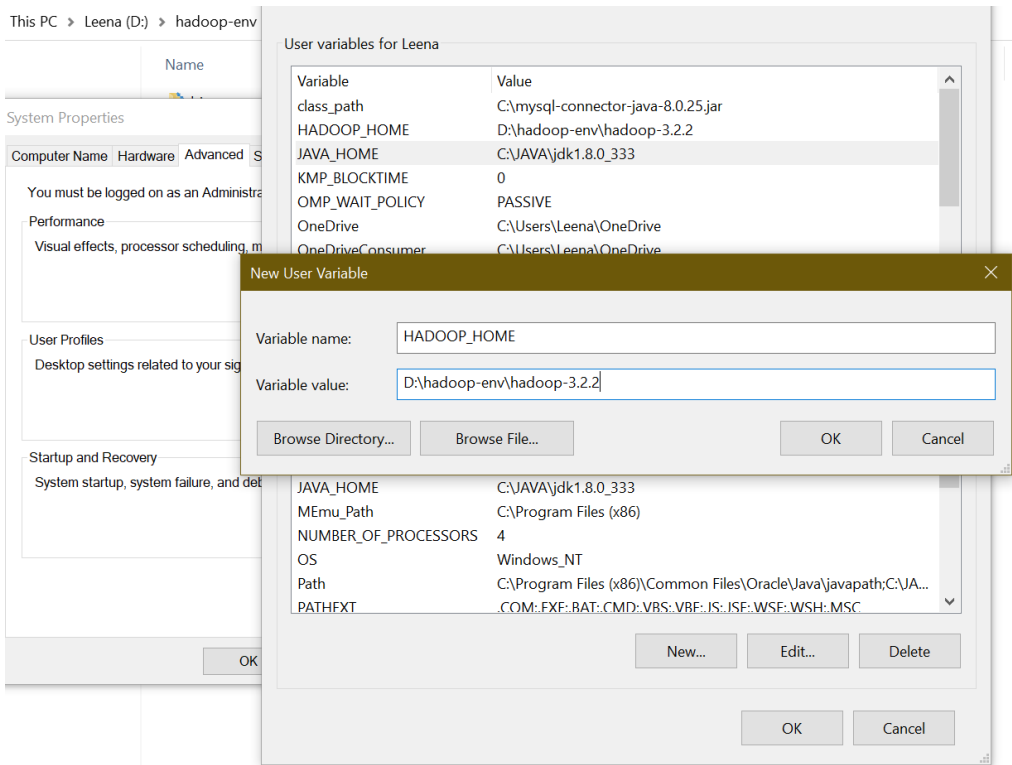


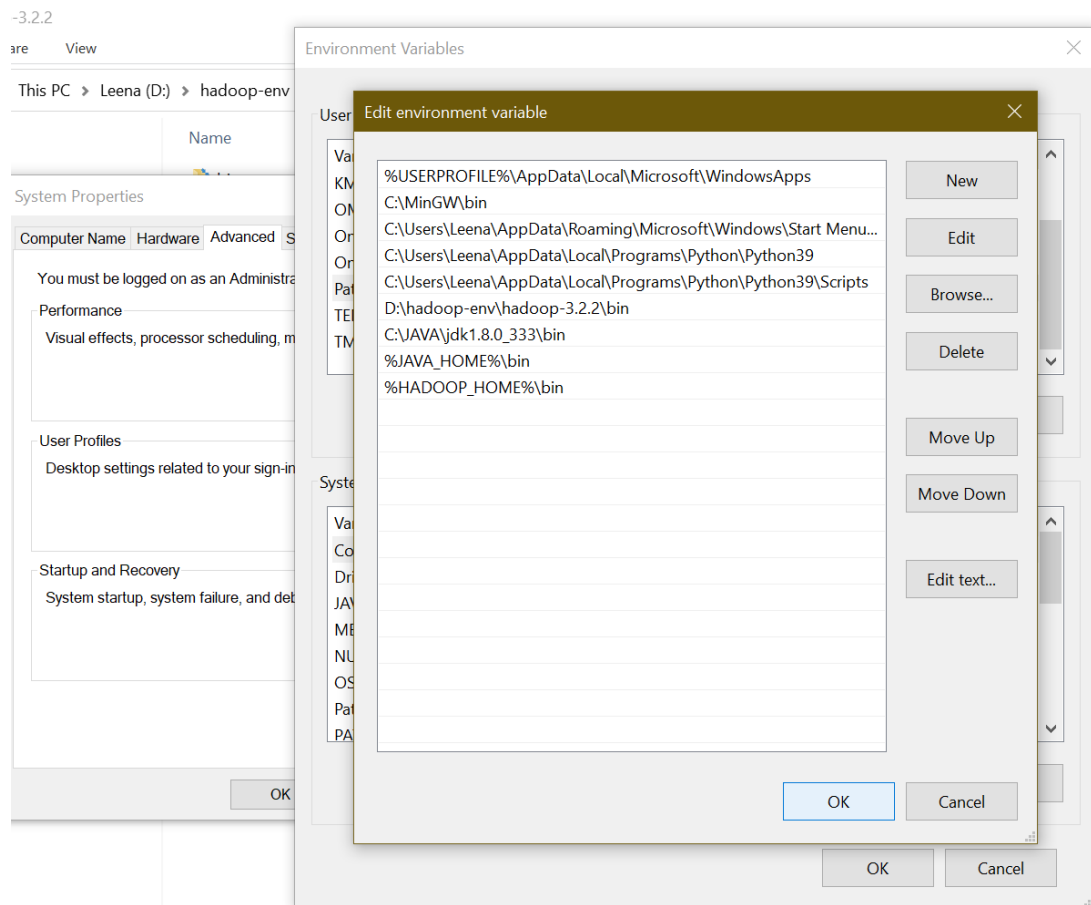
Now, Edit the PATH variable to add the Java and Hadoop binaries paths as shown in the following screenshots.

JAVA_HOME: JDK installation folder path



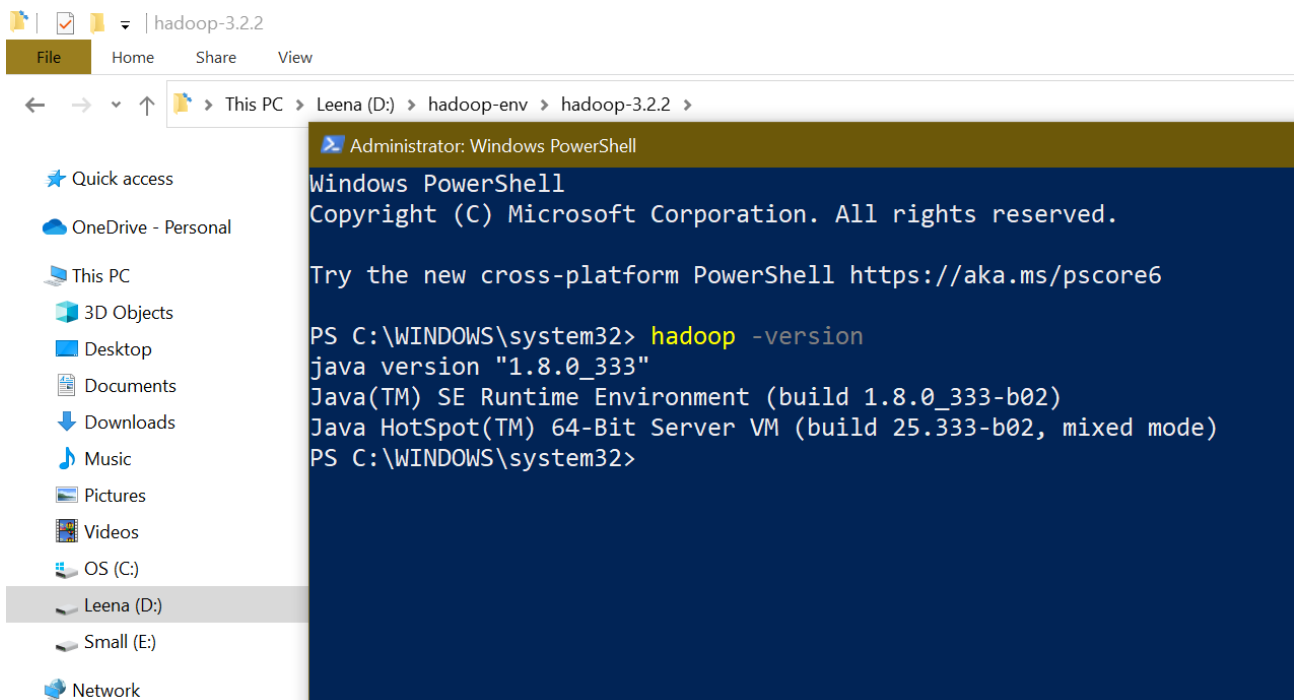
HADOOP_HOME: Hadoop installation folder path





Step 3: Open Command Prompt as Administrator and run the following command:

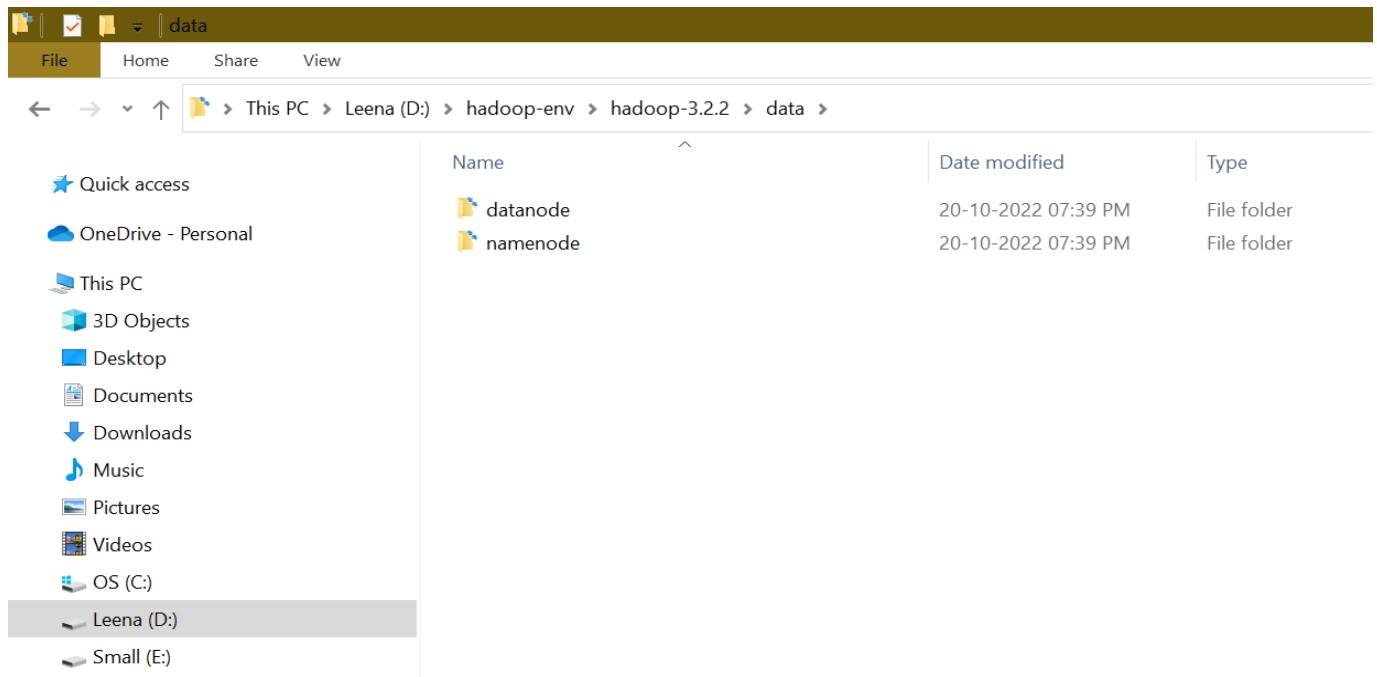
hadoop -version



Step 4: Create the following folders

D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode

D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode

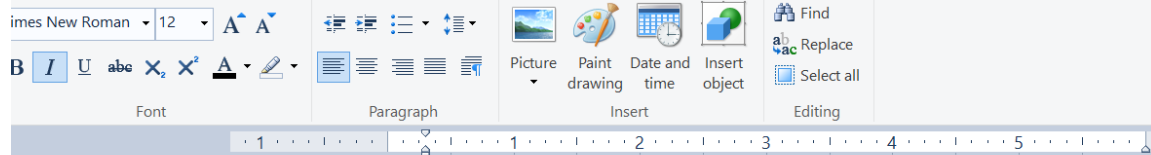


Step 5: Configuring Hadoop cluster

There are **four files** to configure Hadoop cluster:

Location of the File: “D:\hadoop-env\hadoop-3.2.2\etc\hadoop”

View



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-->

<!-- 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>

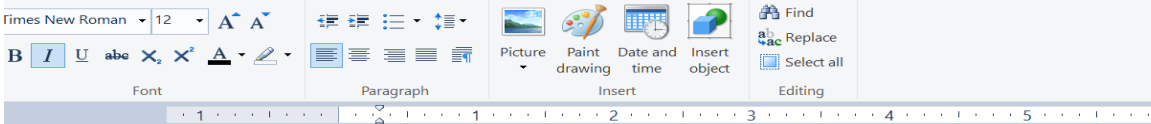
<property>

<name>dfs.datanode.data.dir</name>

<value>file:///D:/hadoop-env/hadoop-3.2.2/data/dfs/datanode</value>

</property>

View



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-->

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

<configuration>

<property>

<name>fs.default.name</name>

<value>hdfs://localhost:9820</value>

</property>

</configuration>

mapred-site.xml - WordPad

View

Times New Roman 12

Font Paragraph Insert Editing

1 2 3 4 5

```
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and
limitations under the License. See accompanying LICENSE file.
-->

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

<configuration>

    <property>
        <name>mapreduce.framework.name</name>
        <value>yarn</value>
        <description>MapReduce framework name</description>
    </property>
</configuration>
```

yarn-site.xml - WordPad

View

Courier New 11

Font Paragraph Insert Editing

1 2 3 4 5

```
<?xml version="1.0"?>
<!--
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BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied.
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and
limitations under the License. See accompanying LICENSE file.
-->
<configuration>

<!-- Site specific YARN configuration properties -->

    <property>
        <name>yarn.nodemanager.aux-services</name>
        <value>mapreduce_shuffle</value>
        <description>Yarn Node Manager Aux Service</description>
    </property>

</configuration>
```

Step 6: Format the namenode

After finishing the configuration, format the name using the following command

hdfs namenode -format

Administrator: Windows PowerShell

Windows PowerShell

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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

```
PS C:\WINDOWS\system32> 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)
```

```
PS C:\WINDOWS\system32> hdfs namenode -format
```

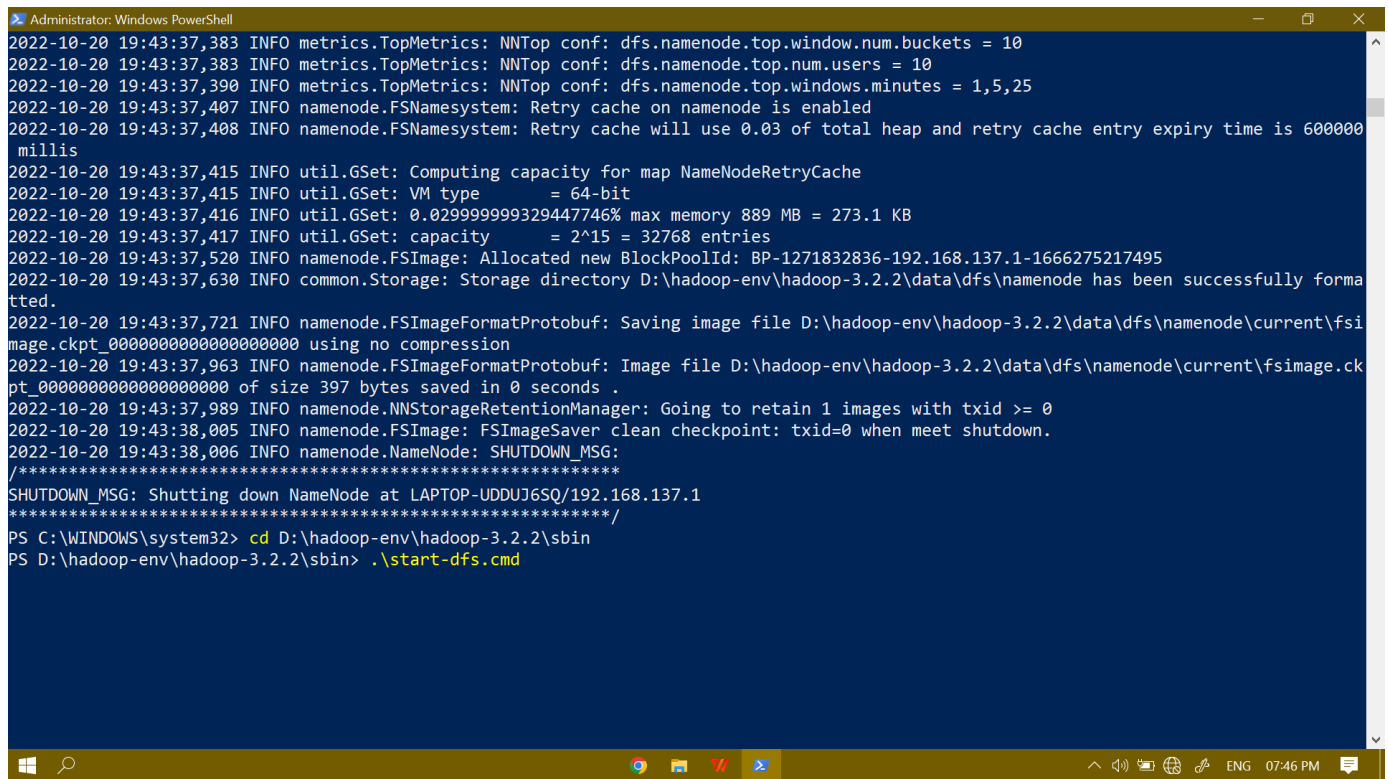
Select Administrator: Windows PowerShell

```
2022-10-20 19:43:37,305 INFO namenode.FSDirectory: XAttrs enabled? true
2022-10-20 19:43:37,307 INFO namenode.NameNode: Caching file names occurring more than 10 times
2022-10-20 19:43:37,325 INFO snapshot.SnapshotManager: Loaded config captureOpenFiles: false, skipCaptureAccessTimeOnlyChange: false, s
napshotDiffAllowSnapRootDescendant: true, maxSnapshotLimit: 65536
2022-10-20 19:43:37,333 INFO snapshot.SnapshotManager: SkipList is disabled
2022-10-20 19:43:37,346 INFO util.GSet: Computing capacity for map cachedBlocks
2022-10-20 19:43:37,346 INFO util.GSet: VM type = 64-bit
2022-10-20 19:43:37,348 INFO util.GSet: 0.25% max memory 889 MB = 2.2 MB
2022-10-20 19:43:37,350 INFO util.GSet: capacity = 2^18 = 262144 entries
2022-10-20 19:43:37,383 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.window.num.buckets = 10
2022-10-20 19:43:37,383 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.num.users = 10
2022-10-20 19:43:37,390 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.windows.minutes = 1,5,25
2022-10-20 19:43:37,407 INFO namenode.FSNamesystem: Retry cache on namenode is enabled
2022-10-20 19:43:37,408 INFO namenode.FSNamesystem: Retry cache will use 0.03 of total heap and retry cache entry expiry time is 600000
millis
2022-10-20 19:43:37,415 INFO util.GSet: Computing capacity for map NameNodeRetryCache
2022-10-20 19:43:37,415 INFO util.GSet: VM type = 64-bit
2022-10-20 19:43:37,416 INFO util.GSet: 0.029999999329447746% max memory 889 MB = 273.1 KB
2022-10-20 19:43:37,417 INFO util.GSet: capacity = 2^15 = 32768 entries
2022-10-20 19:43:37,520 INFO namenode.FSImage: Allocated new BlockPoolId: BP-1271832836-192.168.137.1-1666275217495
2022-10-20 19:43:37,630 INFO common.Storage: Storage directory D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode has been successfully forma
tted.
2022-10-20 19:43:37,721 INFO namenode.FSImageFormatProtobuf: Saving image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsi
mage.ckpt_000000000000000000 using no compression
2022-10-20 19:43:37,963 INFO namenode.FSImageFormatProtobuf: Image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsimage.ck
pt_000000000000000000 of size 397 bytes saved in 0 seconds .
2022-10-20 19:43:37,989 INFO namenode.NNStorageRetentionManager: Going to retain 1 images with txid >= 0
2022-10-20 19:43:38,005 INFO namenode.FSImage: FSImageSaver clean checkpoint: txid=0 when meet shutdown.
2022-10-20 19:43:38,006 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at LAPTOP-UDDUJ6SQ/192.168.137.1
*****/
PS C:\WINDOWS\system32>
```

Step 7: Start the Hadoop nodes

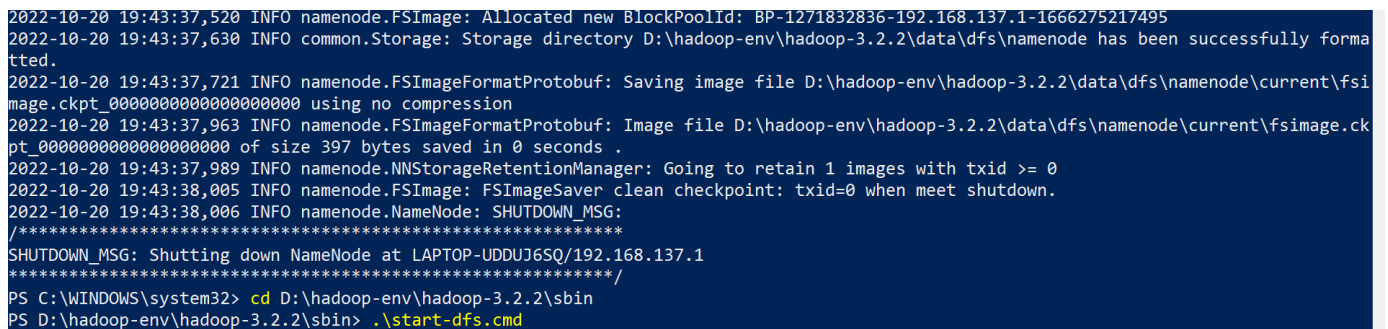
Now navigate to the location “D:\hadoop-env\hadoop-3.2.2\sbin” in powershell and then run the following command to start the Hadoop nodes:

.\start-dfs.cmd

A screenshot of a Windows PowerShell window titled "Administrator: Windows PowerShell". The window displays a series of log messages from the Hadoop startup process. The logs include information about metrics, namenode configuration, storage directory, and the successful formatting of the storage directory. The command prompt shows the user navigating to the directory "D:\hadoop-env\hadoop-3.2.2\sbin" and running the command ".\start-dfs.cmd".

```
Administrator: Windows PowerShell
2022-10-20 19:43:37,383 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.window.num.buckets = 10
2022-10-20 19:43:37,383 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.num.users = 10
2022-10-20 19:43:37,390 INFO metrics.TopMetrics: NNTop conf: dfs.namenode.top.windows.minutes = 1,5,25
2022-10-20 19:43:37,407 INFO namenode.FSNamesystem: Retry cache on namenode is enabled
2022-10-20 19:43:37,408 INFO namenode.FSNamesystem: Retry cache will use 0.03 of total heap and retry cache entry expiry time is 600000
millis
2022-10-20 19:43:37,415 INFO util.GSet: Computing capacity for map NameNodeRetryCache
2022-10-20 19:43:37,415 INFO util.GSet: VM type = 64-bit
2022-10-20 19:43:37,416 INFO util.GSet: 0.0299999999329447746% max memory 889 MB = 273.1 KB
2022-10-20 19:43:37,417 INFO util.GSet: capacity = 2^15 = 32768 entries
2022-10-20 19:43:37,520 INFO namenode.FSImage: Allocated new BlockPoolId: BP-1271832836-192.168.137.1-1666275217495
2022-10-20 19:43:37,630 INFO common.Storage: Storage directory D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode has been successfully formatted.
2022-10-20 19:43:37,721 INFO namenode.FSImageFormatProtobuf: Saving image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsi
image.ckpt_000000000000000000 using no compression
2022-10-20 19:43:37,963 INFO namenode.FSImageFormatProtobuf: Image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsimage.ck
pt_000000000000000000 of size 397 bytes saved in 0 seconds .
2022-10-20 19:43:37,989 INFO namenode.NNStorageRetentionManager: Going to retain 1 images with txid >= 0
2022-10-20 19:43:38,005 INFO namenode.FSImage: FSImageSaver clean checkpoint: txid=0 when meet shutdown.
2022-10-20 19:43:38,006 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at LAPTOP-UDDUJ6SQ/192.168.137.1
*****/
PS C:\WINDOWS\system32> cd D:\hadoop-env\hadoop-3.2.2\sbin
PS D:\hadoop-env\hadoop-3.2.2\sbin> .\start-dfs.cmd
```

Two command prompt windows will open (one for the **namenode** and one for the **datanode**) as follows:

A screenshot of a Windows PowerShell window showing the continuation of the Hadoop startup logs. The logs show the successful allocation of a new BlockPoolId, the formatting of the storage directory, and the saving of the image file. The command prompt shows the user running the command ".\start-dfs.cmd".

```
2022-10-20 19:43:37,520 INFO namenode.FSImage: Allocated new BlockPoolId: BP-1271832836-192.168.137.1-1666275217495
2022-10-20 19:43:37,630 INFO common.Storage: Storage directory D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode has been successfully formatted.
2022-10-20 19:43:37,721 INFO namenode.FSImageFormatProtobuf: Saving image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsi
image.ckpt_000000000000000000 using no compression
2022-10-20 19:43:37,963 INFO namenode.FSImageFormatProtobuf: Image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsimage.ck
pt_000000000000000000 of size 397 bytes saved in 0 seconds .
2022-10-20 19:43:37,989 INFO namenode.NNStorageRetentionManager: Going to retain 1 images with txid >= 0
2022-10-20 19:43:38,005 INFO namenode.FSImage: FSImageSaver clean checkpoint: txid=0 when meet shutdown.
2022-10-20 19:43:38,006 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at LAPTOP-UDDUJ6SQ/192.168.137.1
*****/
PS C:\WINDOWS\system32> cd D:\hadoop-env\hadoop-3.2.2\sbin
PS D:\hadoop-env\hadoop-3.2.2\sbin> .\start-dfs.cmd
```

```

Apache Hadoop Distribution - hadoop namenode
org.apache.hadoop.hdfs.server.namenode.FSNamesystem.registerDatanode(FSNamesystem.java:3946)
org.apache.hadoop.hdfs.server.namenode.NameNodeRpcServer.registerDatanode(NameNodeRpcServer.java:1556)
org.apache.hadoop.hdfs.protocolPB.DatanodeProtocolServerSideTranslatorPB.registerDatanode(DatanodeProtocolServerSideTranslatorPB.java:101)
org.apache.hadoop.hdfs.protocol.proto.DatanodeProtocolProtos$DatanodeProtocolService$2.callBlockingMethod(DatanodeProtocolProtos.java:31660)
org.apache.hadoop.ipc.ProtobufRpcEngine$Server$ProtoBufRpcInvoker.call(ProtobufRpcEngine.java:528)
org.apache.hadoop.ipc.RPC$Server.call(RPC.java:1086)
org.apache.hadoop.ipc.Server$RpcCall.run(Server.java:1029)
org.apache.hadoop.ipc.Server$RpcCall.run(Server.java:957)
java.security.AccessController.doPrivileged(Native Method)
javax.security.auth.Subject.doAs(Subject.java:422)
org.apache.hadoop.security.UserGroupInformation.doAs(UserGroupInformation.java:1762)
org.apache.hadoop.ipc.Server$Handler.run(Server.java:2957)
    Number of suppressed write-lock reports: 0
    Longest write-lock held interval: 20937.0
    Total suppressed write-lock held time: 0.0
2022-10-20 19:46:42,211 INFO blockmanagement.DatanodeDescriptor: Adding new storage ID DS-500fff1e-a27a-4d78-b9a3-c8f7b287e4ed for DN 127.0.0.1:9866
2022-10-20 19:46:42,303 INFO BlockStateChange: BLOCK* processReport 0x8f525beb44861b08: Processing first storage report for DS-500fff1e-a27a-4d78-b9a3-c8f7b287e4ed from datanode 2813af4f-24e9-4935-a224-92a92aa83132
2022-10-20 19:46:42,308 INFO BlockStateChange: BLOCK* processReport 0x8f525beb44861b08: from storage DS-500fff1e-a27a-4d78-b9a3-c8f7b287e4ed node DatanodeRegistration(127.0.0.1:9866, datanodeUuid=2813af4f-24e9-4935-a224-92a92aa83132)

```

```

Apache Hadoop Distribution - hadoop datanode
2836-192.168.137.1-1666275217495: 17ms
2022-10-20 19:46:20,802 INFO checker.ThrottledAsyncChecker: Scheduling a check for D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode
2022-10-20 19:46:20,833 INFO checker.DatasetVolumeChecker: Scheduled health check for volume D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode
2022-10-20 19:46:20,844 INFO datanode.VolumeScanner: Now scanning bpid BP-1271832836-192.168.137.1-1666275217495 on volume D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode
2022-10-20 19:46:20,848 INFO datanode.VolumeScanner: VolumeScanner(D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode, DS-500fff1e-a27a-4d78-b9a3-c8f7b287e4ed): finished scanning block pool BP-1271832836-192.168.137.1-1666275217495
2022-10-20 19:46:20,904 INFO datanode.VolumeScanner: VolumeScanner(D:\hadoop-env\hadoop-3.2.2\data\dfs\datanode, DS-500fff1e-a27a-4d78-b9a3-c8f7b287e4ed): no suitable block pools found to scan. Waiting 1814399940 ms.
2022-10-20 19:46:20,912 INFO datanode.DirectoryScanner: Periodic Directory Tree Verification scan starting at 2022-10-20 10:28 PM with interval of 21600000ms
2022-10-20 19:46:20,932 INFO datanode.DataNode: Block pool BP-1271832836-192.168.137.1-1666275217495 (Datanode Uuid 2813af4f-24e9-4935-a224-92a92aa83132) service to localhost/127.0.0.1:9820 beginning handshake with NN
2022-10-20 19:46:42,027 INFO datanode.DataNode: Block pool BP-1271832836-192.168.137.1-1666275217495 (Datanode Uuid 2813af4f-24e9-4935-a224-92a92aa83132) service to localhost/127.0.0.1:9820 successfully registered with NN

```

Next, Start the Hadoop Yarn service using the following command:

./start-yarn.cmd

```

2022-10-20 19:43:37,721 INFO namenode.FSImageFormatProtobuf: Saving image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsimage.ckpt_000000000000000000 using no compression
2022-10-20 19:43:37,963 INFO namenode.FSImageFormatProtobuf: Image file D:\hadoop-env\hadoop-3.2.2\data\dfs\namenode\current\fsimage.ckpt_000000000000000000 of size 397 bytes saved in 0 seconds .
2022-10-20 19:43:37,989 INFO namenode.NNStorageRetentionManager: Going to retain 1 images with txid >= 0
2022-10-20 19:43:38,005 INFO namenode.FSImage: FSImageSaver clean checkpoint: txid=0 when meet shutdown.
2022-10-20 19:43:38,006 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at LAPTOP-UDDUJ6SQ/192.168.137.1
*****/
PS C:\WINDOWS\system32> cd D:\hadoop-env\hadoop-3.2.2\sbin
PS D:\hadoop-env\hadoop-3.2.2\sbin> ./start-dfs.cmd
PS D:\hadoop-env\hadoop-3.2.2\sbin> ./start-yarn.cmd

```


Two command prompt windows will open (one for the **resource manager** and one for the **node manager**) as follows:

```
Apache Hadoop Distribution - yarn  nodemanager
D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\jackson-jaxrs-base-2.9.10.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\jackson-jaxrs-json-provider-2.9.10.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\jackson-module-jaxb-annotations-2.9.10.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\java-util-1.9.0.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\javax.inject-1.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\jersey-client-1.19.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\jersey-guice-1.19.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\json-io-2.5.1.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\metrics-core-3.2.4.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\mssql-jdbc-6.2.1.jre7.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\objenesis-1.0.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\snakeyaml-1.16.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\lib\swagger-annotations-1.5.4.jar;D:\hadoop-env\hadoop-3.2.2\etc\hadoop\nm-config\log4j.properties;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\hadoop-yarn-server-timelineservice-3.2.2.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\hadoop-yarn-server-timelineservice-hbase-client-3.2.2.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\hadoop-yarn-server-timelineservice-hbase-common-3.2.2.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\hadoop-yarn-server-timelineservice-hbase-coprocessor-3.2.2.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\commons-csv-1.0.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\commons-lang-2.6.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\hbase-annotations-1.2.6.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\hbase-client-1.2.6.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\hbase-common-1.2.6.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\hbase-protocol-1.2.6.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\htrace-core-3.1.0-incubating.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\jcodings-1.0.13.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice\lib\joni-2.1.2.jar;D:\hadoop-env\hadoop-3.2.2\share\hadoop\yarn\timelineservice
```

```
Apache Hadoop Distribution - yarn  resourcemanager
2022-10-20 19:47:13,449 INFO server.session: No SessionScavenger set, using defaults
2022-10-20 19:47:13,458 INFO server.session: node0 Scavenging every 600000ms
2022-10-20 19:47:13,495 INFO server.AuthenticationFilter: Unable to initialize FileSignerSecretProvider, falling back to use random secrets.
2022-10-20 19:47:13,520 INFO delegation.AbstractDelegationTokenSecretManager: Updating the current master key for generating delegation tokens
2022-10-20 19:47:13,529 INFO delegation.AbstractDelegationTokenSecretManager: Starting expired delegation token remover thread, tokenRemoverScanInterval=60 min(s)
2022-10-20 19:47:13,531 INFO delegation.AbstractDelegationTokenSecretManager: Updating the current master key for generating delegation tokens
2022-10-20 19:47:13,593 INFO handler.ContextHandler: Started o.e.j.s.ServletContextHandler@466276d8{/logs,/logs,file:///D:/hadoop-env/hadoop-3.2.2/logs/,AVAILABLE}
2022-10-20 19:47:13,597 INFO handler.ContextHandler: Started o.e.j.s.ServletContextHandler@31c7528f{/static,/static,jar:file:/D:/hadoop-env/hadoop-3.2.2/share/hadoop/yarn/hadoop-yarn-common-3.2.2.jar!/webapps/static,AVAILABLE}
2022-10-20 19:47:13,640 WARN webapp.WebInfConfiguration: Can't generate resourceBase as part of webapp tmp dir name: java.lang.NullPointerException
2022-10-20 19:47:13,859 INFO util.TypeUtil: JVM Runtime does not support Modules
Oct 20, 2022 7:47:14 PM com.sun.jersey.guice.spi.container.GuiceComponentProviderFactory register
INFO: Registering org.apache.hadoop.yarn.server.resourcemanager.webapp.JAXBContextResolver as a provider class
Oct 20, 2022 7:47:14 PM com.sun.jersey.guice.spi.container.GuiceComponentProviderFactory register
INFO: Registering org.apache.hadoop.yarn.server.resourcemanager.webapp.RMWebServices as a root resource class
Oct 20, 2022 7:47:14 PM com.sun.jersey.guice.spi.container.GuiceComponentProviderFactory register
INFO: Registering org.apache.hadoop.yarn.webapp.GenericExceptionHandler as a provider class
Oct 20, 2022 7:47:14 PM com.sun.jersey.server.impl.application.WebApplicationImpl _initiate
```


To make sure that all services started successfully, Run the following command:

jps

It should display the following services:

14560 DataNode

4960 ResourceManager

5936 NameNode

768 NodeManager

14636 Jps

```
SHUTDOWN_MSG: Shutting down NameNode at LAPTOP-UDDUJ6SQ/192.168.137.1
*****/
PS C:\WINDOWS\system32> cd D:\hadoop-env\hadoop-3.2.2\sbin
PS D:\hadoop-env\hadoop-3.2.2\sbin> .\start-dfs.cmd
PS D:\hadoop-env\hadoop-3.2.2\sbin> ./start-yarn.cmd
starting yarn daemons
PS D:\hadoop-env\hadoop-3.2.2\sbin> jps
1280 NodeManager
6496 ResourceManager
3860 Jps
6388 NameNode
312 DataNode
```

Output

Hadoop Web UI

<http://localhost:9870/dfshealth.html>

Namenode information

localhost:9870/dfshealth.html#tab-overview

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Hadoop Overview Datanodes Datanode Volume Failures Snapshot Startup Progress Utilities

Overview 'localhost:9820' (active)

Started:	Thu Oct 20 19:46:15 +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-578272e3-8c70-44ca-b6ba-a4f9d4a34a71
Block Pool ID:	BP-1271832836-192.168.137.1-1666275217495

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).

Windows taskbar: 07:48 PM

<http://localhost:9864/datanode.html>

DataNode Information

localhost:9864/datanode.html

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Hadoop Overview Utilities

DataNode on LAPTOP-UDDUJ6SQ.mshome.net:9866

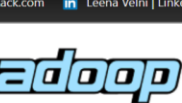
Cluster ID:	CID-578272e3-8c70-44ca-b6ba-a4f9d4a34a71
Version:	3.2.2, r7a3bc90b05f257c8ace2f76d74264906f0f7a932

Block Pools

Namenode Address	Block Pool ID	Actor State	Last Heartbeat	Last Block Report	Last Block Report Size (Max Size)
localhost:9820	BP-1271832836-192.168.137.1-1666275217495	RUNNING	1s	3 minutes	0 B (64 MB)

Volume Information

Windows taskbar: 07:49 PM



All Applications

Cluster

[About](#)
[Nodes](#)
[Node Labels](#)
[Applications](#)

NEW
NEW_SAVING
SUBMITTED
ACCEPTED
RUNNING
FINISHED
FAILED
KILLED

[Scheduler](#)

Tools

Cluster Metrics

Apps Submitted	Apps Pending	Apps Running	Apps Completed	Containers Running	Used Resources	Total Resources
0	0	0	0	0	<memory:0, vCores:0>	<memory:8192, vCores:8>

Cluster Nodes Metrics

Active Nodes	Decommissioning Nodes	Decommissioned Nodes	Lost Nodes	Unhealthy Nodes
1	0	0	0	0

Scheduler Metrics

Scheduler Type	Scheduling Resource Type	Minimum Allocation	Maximum Allocation
Capacity Scheduler	[memory-mb (unit=Mi), vcores]	<memory:1024, vCores:1>	<memory:8192, vCores:4>

Show 20 entries

ID	User	Name	Application Type	Queue	Application Priority	StartTime	LaunchTime	FinishTime	State	FinalStatus	Running Containers	Allocated CPU VCores	Allocated Memory MB	Allocated GPUs
No data available in table														

Showing 0 to 0 of 0 entries