

## INSTALLATION OF HIVE WITH PRACTICE EXAMPLES

**AIM:** To install Hive on Windows operating system with practice examples.

### STEPS:

**STEP 1:** Install Apache Derby from the official derby website

[https://db.apache.org/derby/derby\\_downloads.html](https://db.apache.org/derby/derby_downloads.html) according to your Java Version

Installed on your system.

Apache Derby: Downloads

For Java 17 and Higher

- [10.16.1.1](#) (May 19, 2022 / SVN 1901046)

For Java 9 and Higher

- [10.15.2.0](#) (February 18, 2020 / SVN 1873585)
- [10.15.1.3](#) (March 5, 2019 / SVN 1853019)

For Java 8 and Higher

- [10.14.2.0](#) (May 3, 2018 / SVN 1828579)
- [10.13.1.1](#) (October 25, 2016 / SVN 1766613)

For Java 6 and Higher

- [10.12.1.1](#) (October 11, 2015 / SVN 1704137)
- [10.11.1.1](#) (August 26, 2014 / SVN 1616546)

For Java 1.4 and Higher

- [10.10.2.0](#) (April 15, 2014 / SVN 1582446)
- [10.10.1.1](#) (April 15, 2013 / SVN 1458268)
- [10.9.1.0](#) (June 25, 2012 / SVN 1344872)
- [10.8.3.0](#) (November 16, 2012 / SVN 1405108)
- [10.8.2.2](#) (October 24, 2011 / SVN 1181258)

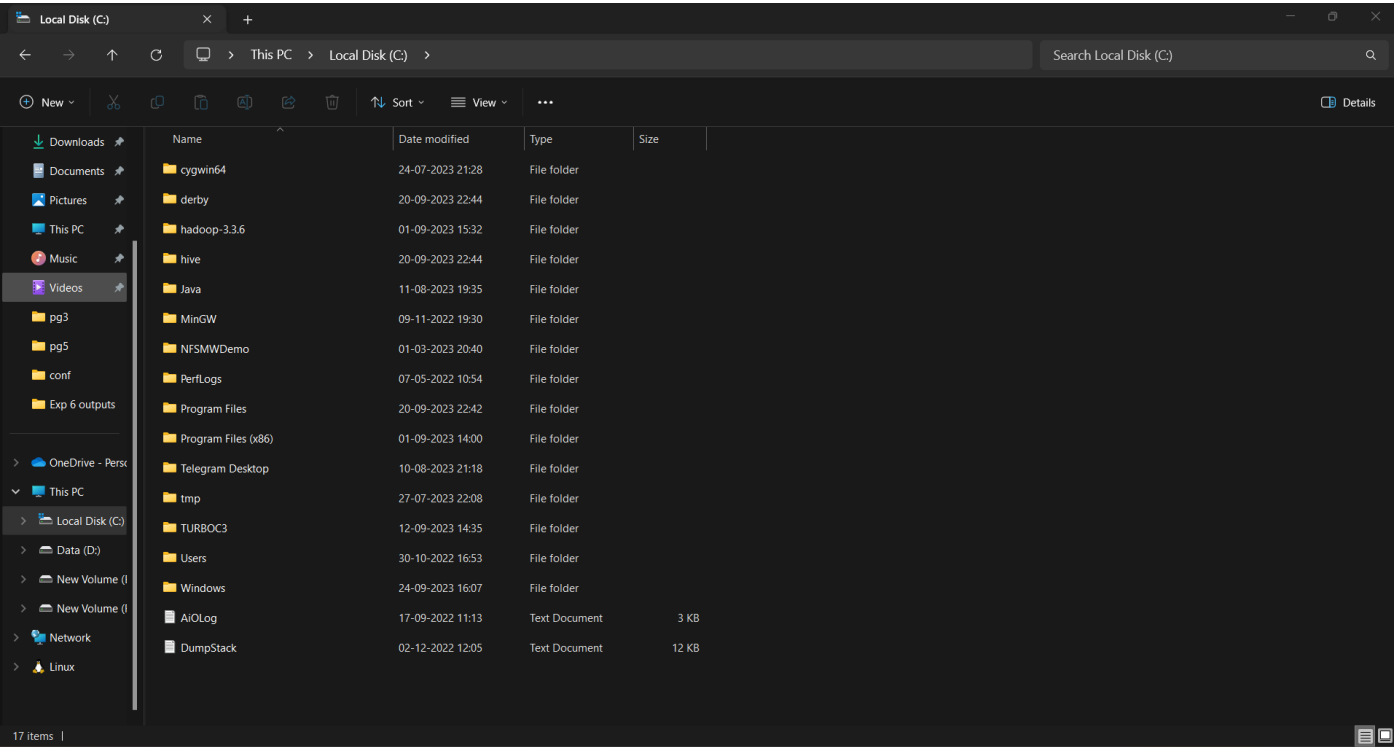
**STEP 2:** Install Apache Hive 3.1.2 version from the official website

<https://downloads.apache.org/hive/hive-3.1.2/>

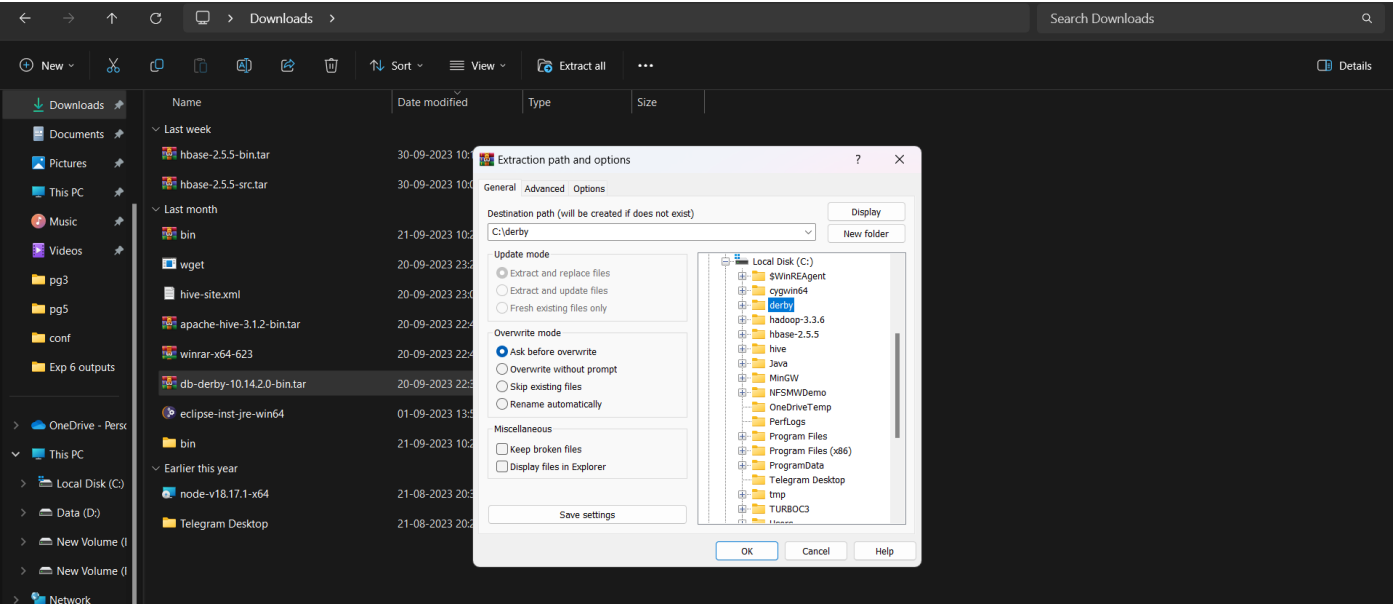
Index of /hive/hive-3.1.2

Name	Last modified	Size	Description
<a href="#">Parent Directory</a>	-	-	
<a href="#">apache-hive-3.1.2-bin.tar.gz</a>	2019-08-26 20:20	266M	
<a href="#">apache-hive-3.1.2-bin.tar.gz.asc</a>	2019-08-26 20:20	833	
<a href="#">apache-hive-3.1.2-bin.tar.gz.sha256</a>	2019-08-26 20:20	95	
<a href="#">apache-hive-3.1.2-src.tar.gz</a>	2019-08-26 20:20	24M	
<a href="#">apache-hive-3.1.2-src.tar.gz.asc</a>	2019-08-26 20:20	833	
<a href="#">apache-hive-3.1.2-src.tar.gz.sha256</a>	2019-08-26 20:20	95	

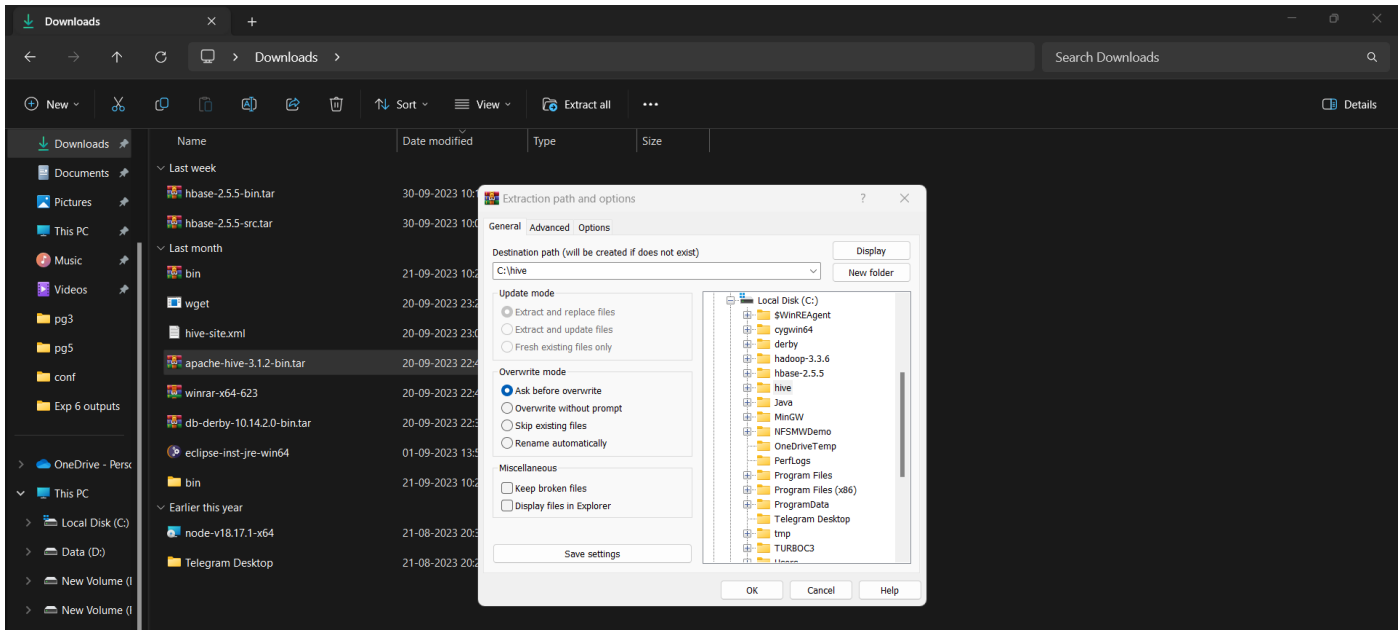
**STEP 3:** Create two new folders with name **Hive** and **Derby** in **C:** folder



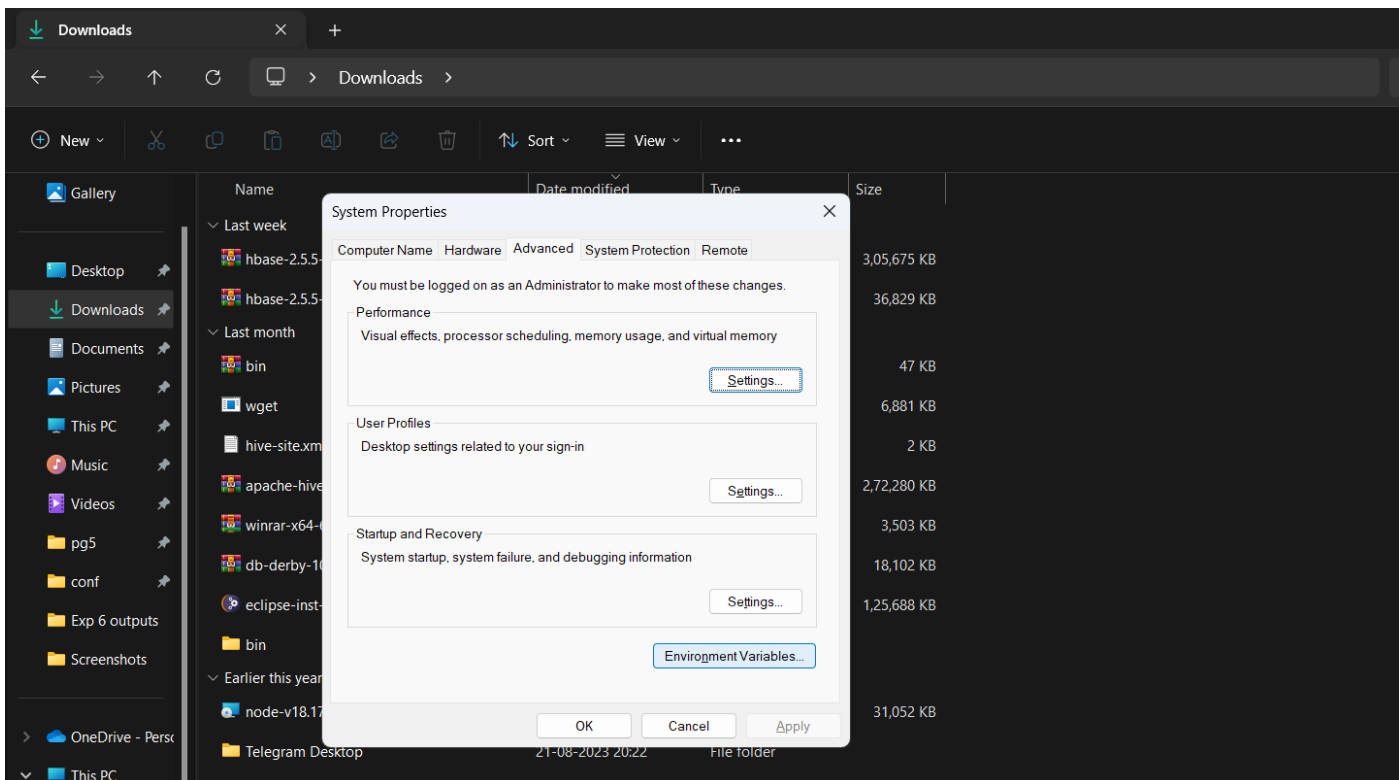
**STEP 4:** Extract the downloaded **Derby** file to newly created **Derby** folder in **C:** directory



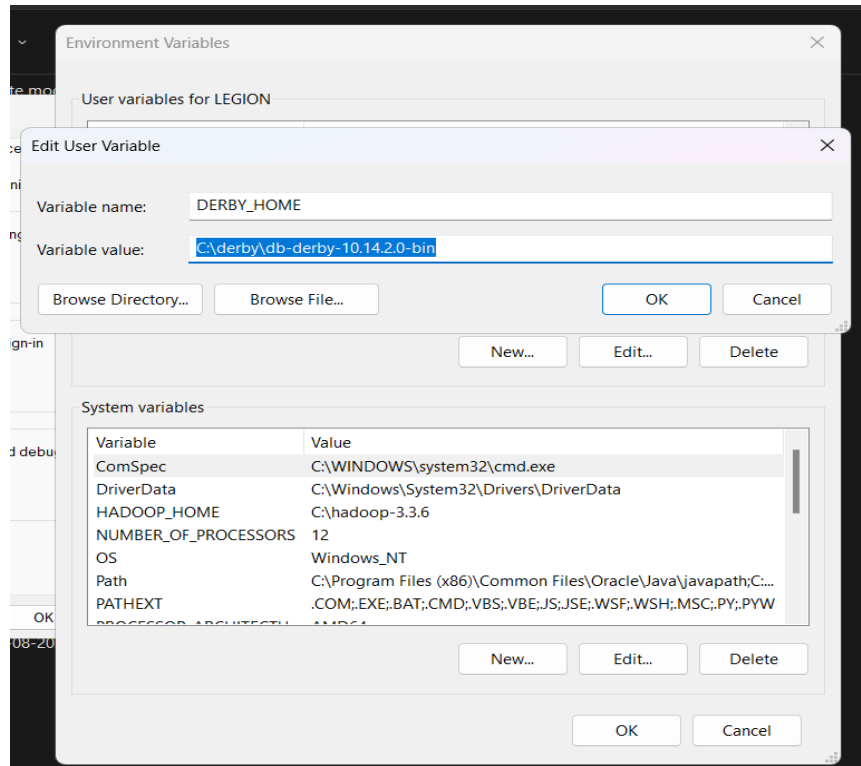
**STEP 5:** Extract the downloaded **Hive** file to newly created **Hive** folder in **C:** directory.



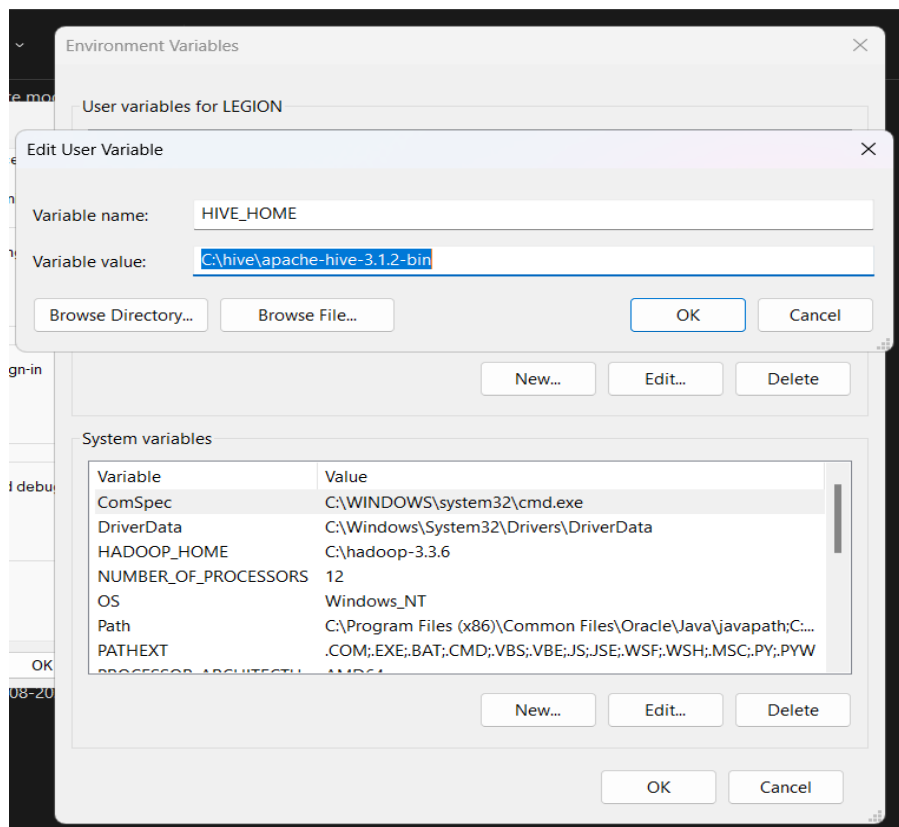
**STEP 6:** Now edit the Environment Variables.



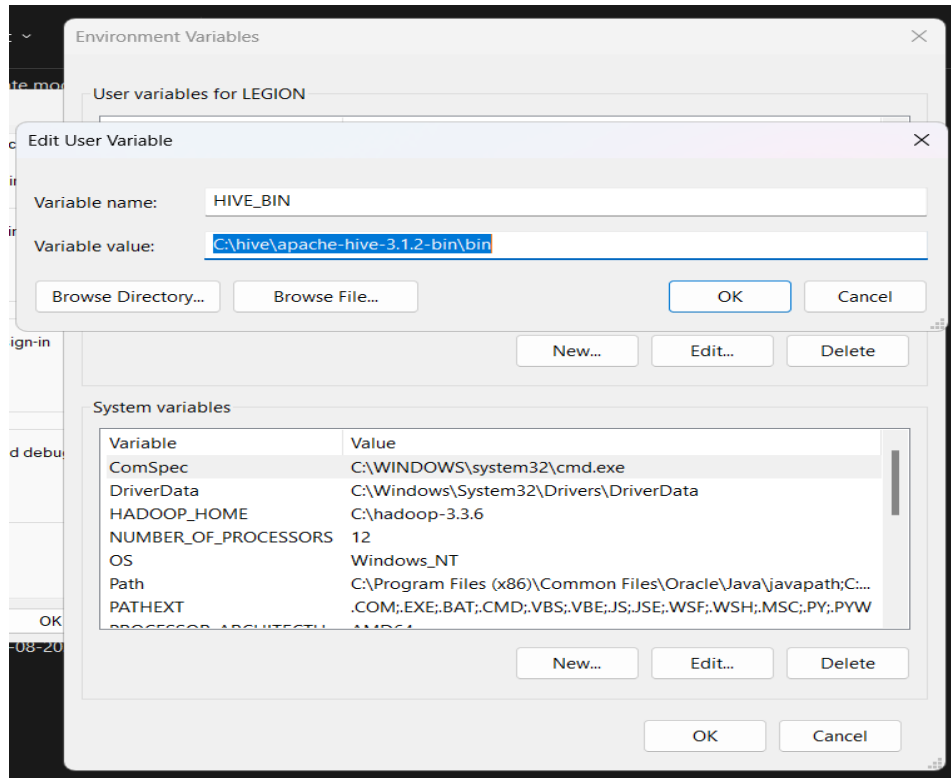
**STEP 7:** Create a new User Variable with **Variable Name: DERBY\_HOME**  
and with **Variable Value: C:\derby\db-derby-10.14.2.0-bin**



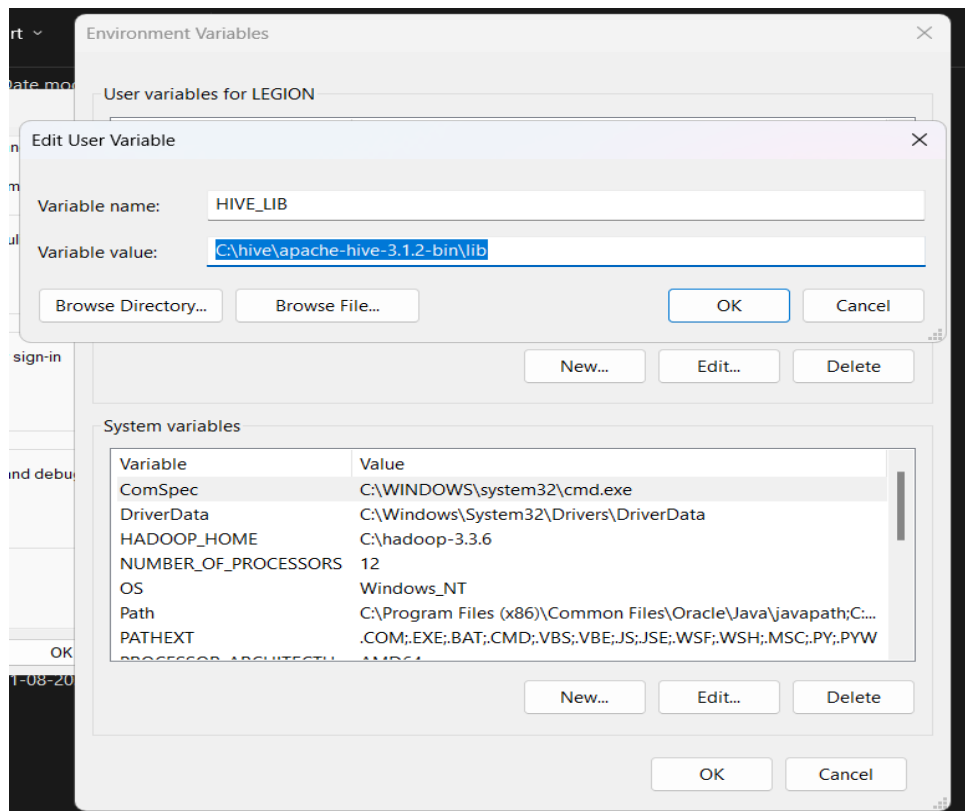
**STEP 8:** Create a new User Variable with **Variable Name: HIVE\_HOME**  
and with **Variable Value: C:\hive\apache-hive-3.1.2-bin**



**STEP 9:** Create a new User Variable with **Variable Name: HIVE\_BIN**  
and with **Variable Value: C:\hive\apache-hive-3.1.2-bin\bin**



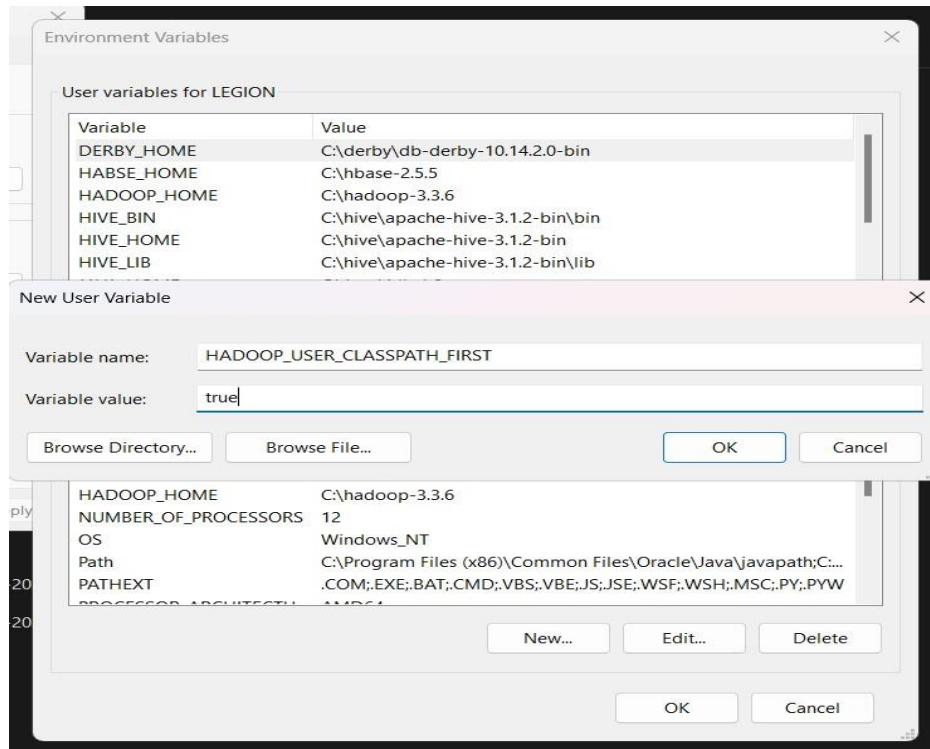
**STEP 10:** Create a new User Variable with **Variable Name: HIVE\_LIB**  
and with **Variable Value: C:\hive\apache-hive-3.1.2-bin\lib**



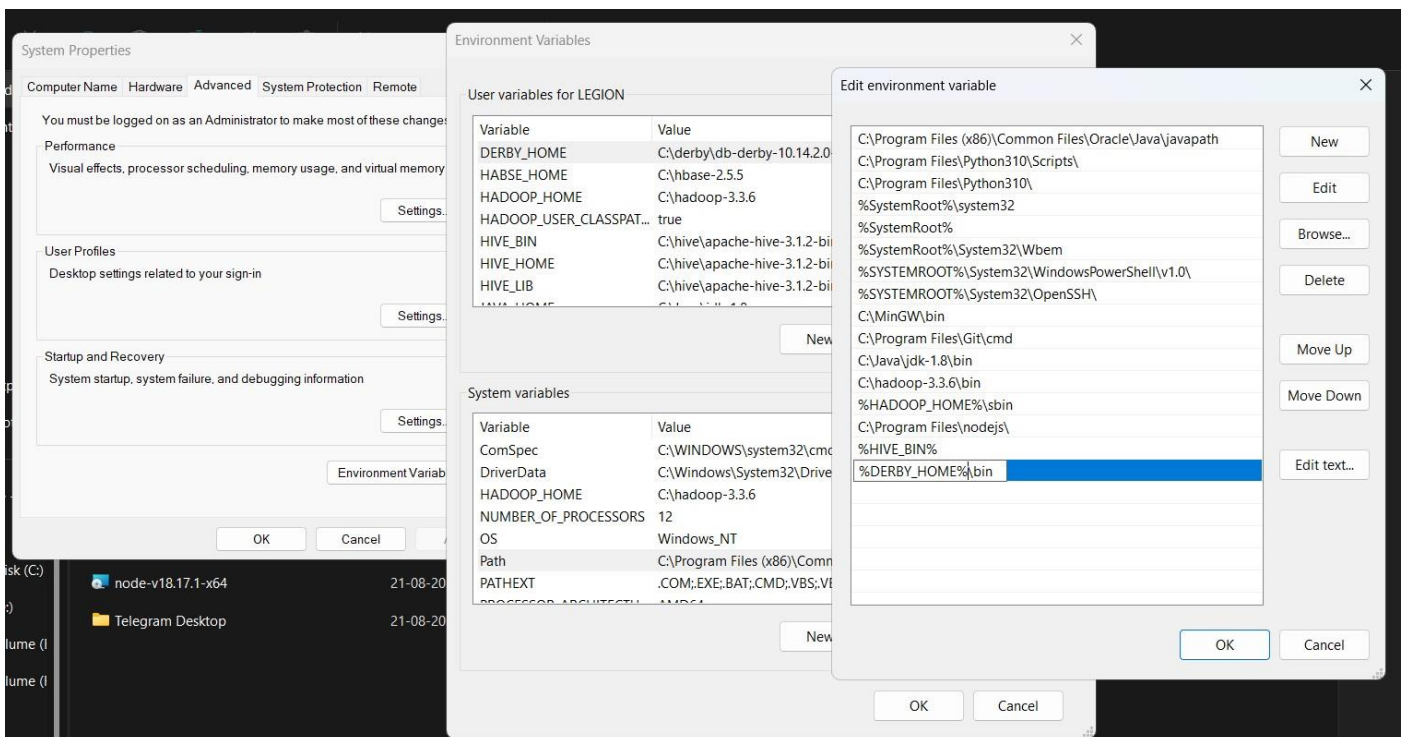
**STEP 11:** Create a new User Variable with

**Variable Name: HADOOP\_USER\_CLASSPATH\_FIRST** and with

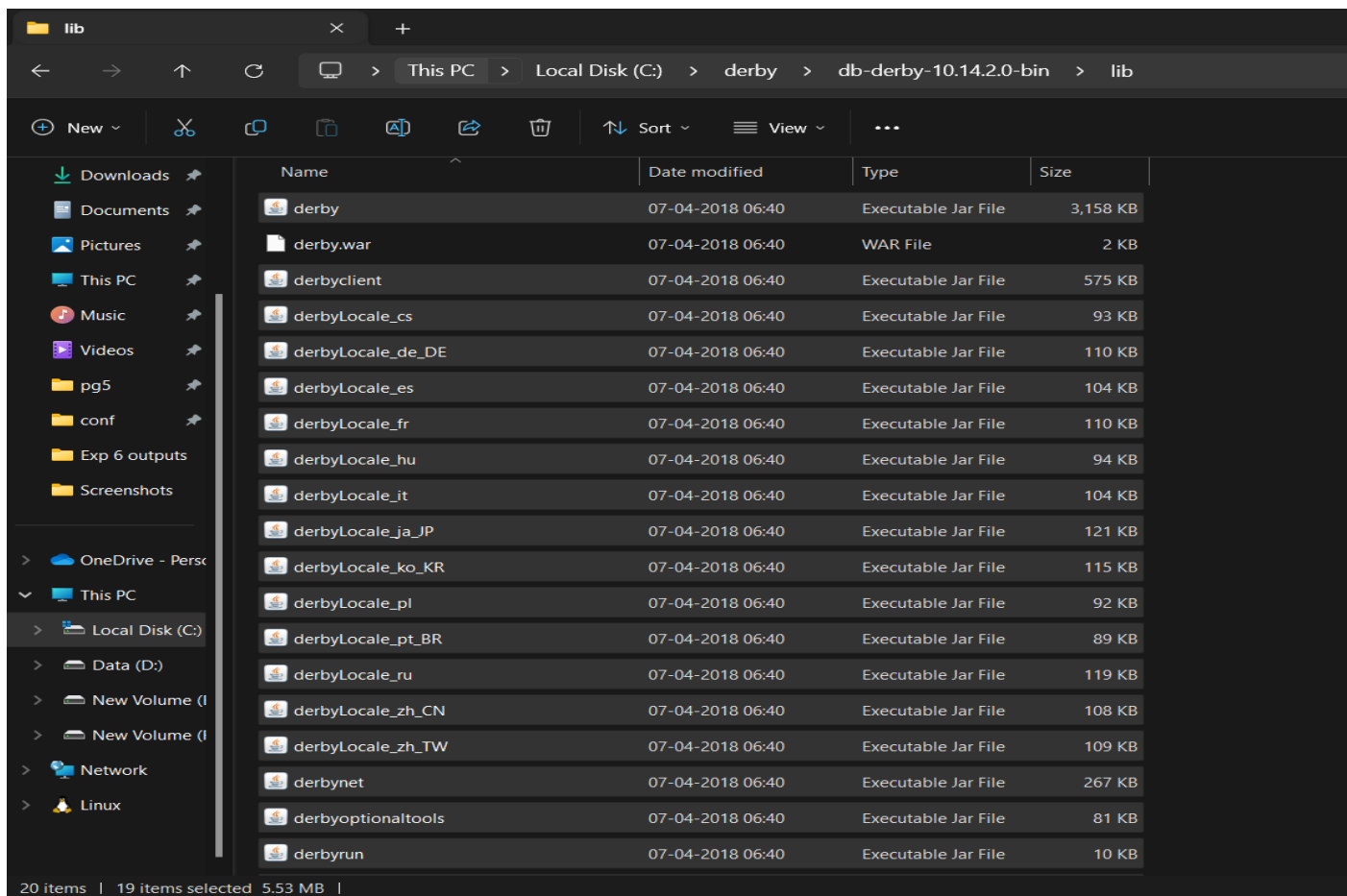
**Variable Value: true**



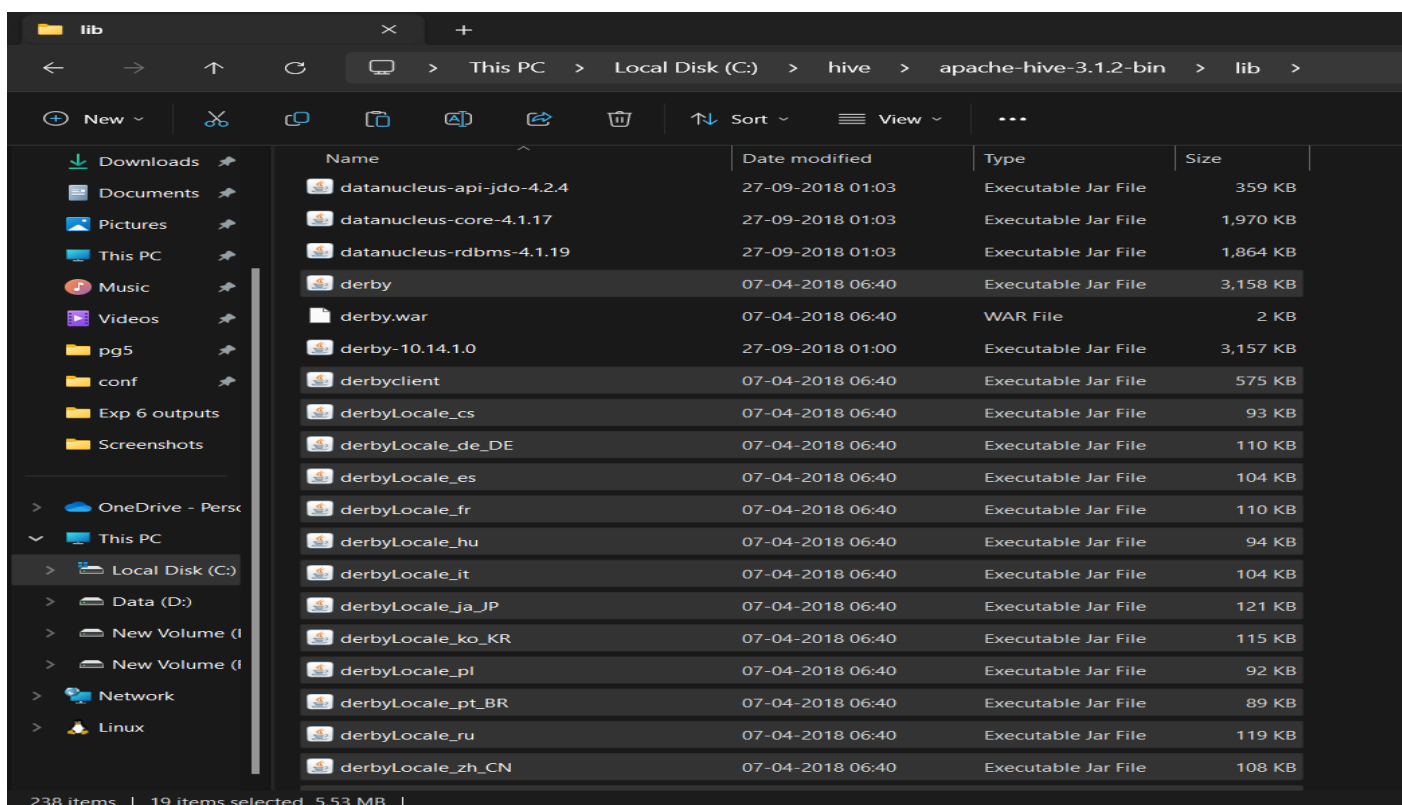
**STEP 12:** Add %HIVE\_BIN% and %DERBY\_HOME%\bin to the Path of the System Variables.



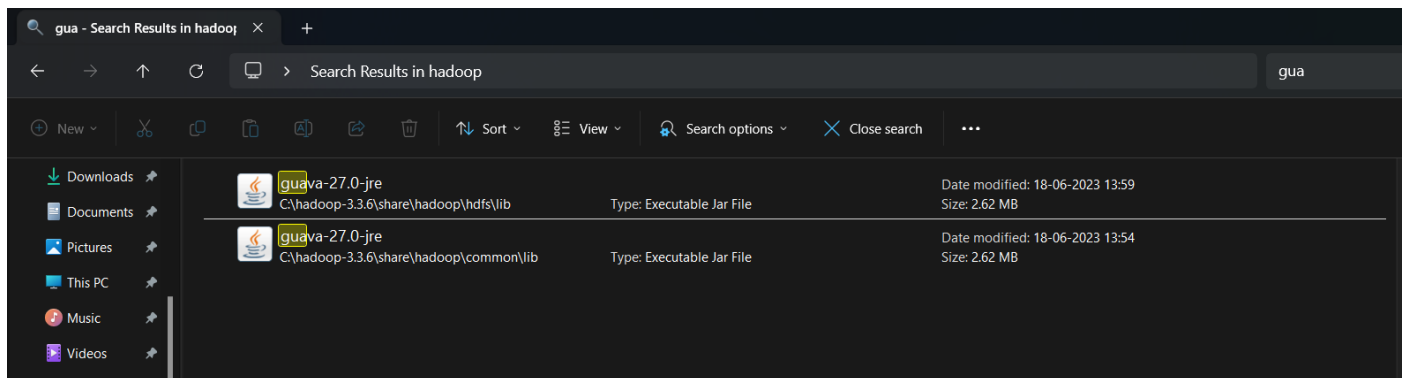
**STEP 13:** Copy all the **JAR Files** located in **lib** folder in **Derby** folder.



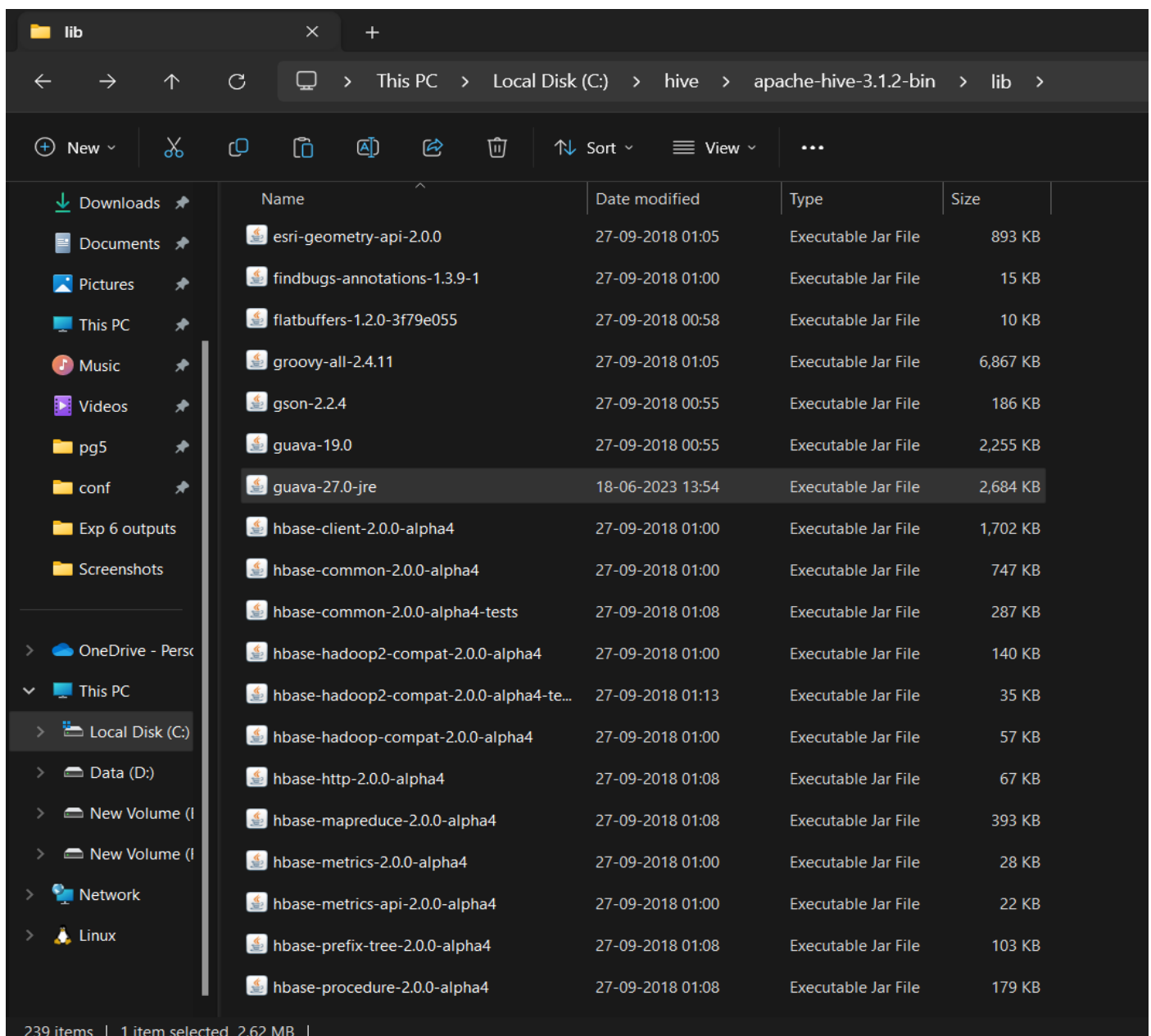
**STEP 14:** Paste all the **JAR Files** in **lib** folder of **Hive** folder.



**STEP 15:** Go to the **Hadoop** folder. Go to **share**. Go to **Hadoop**. Search for **guava**. Copy the **guava-27.0-jre** file.

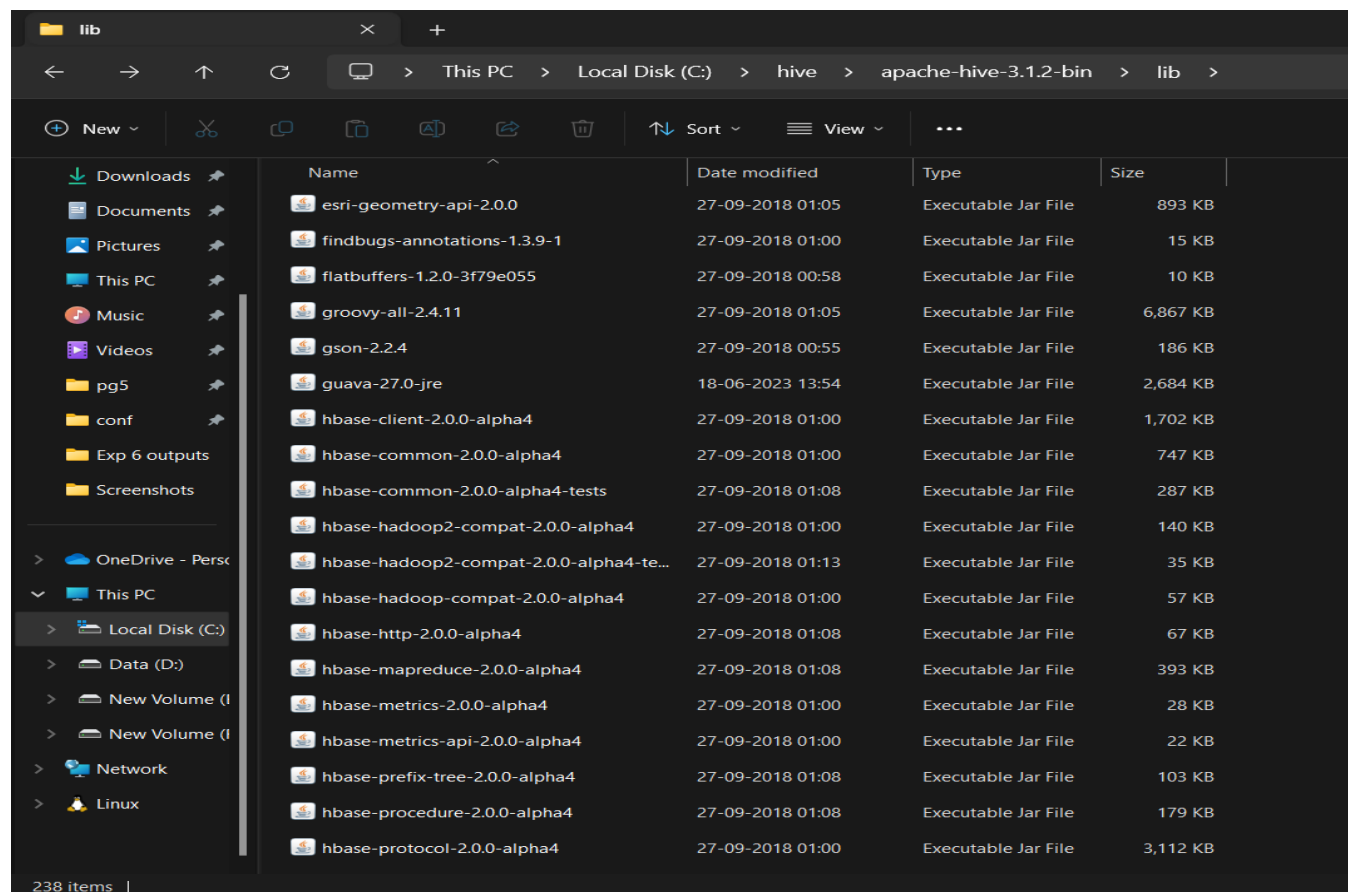


**STEP 16:** Go to **lib** folder of **Hive** folder and paste the copied **guava** file.

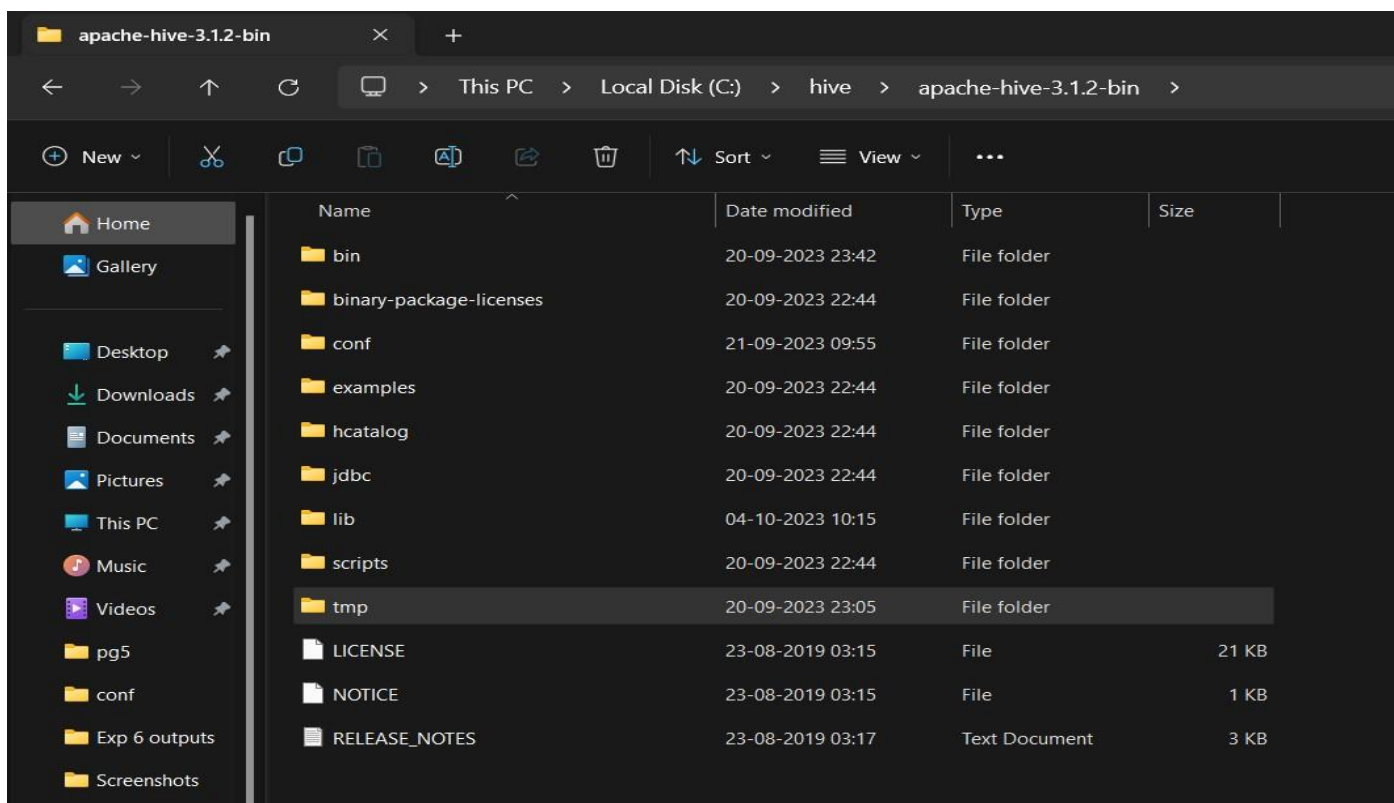




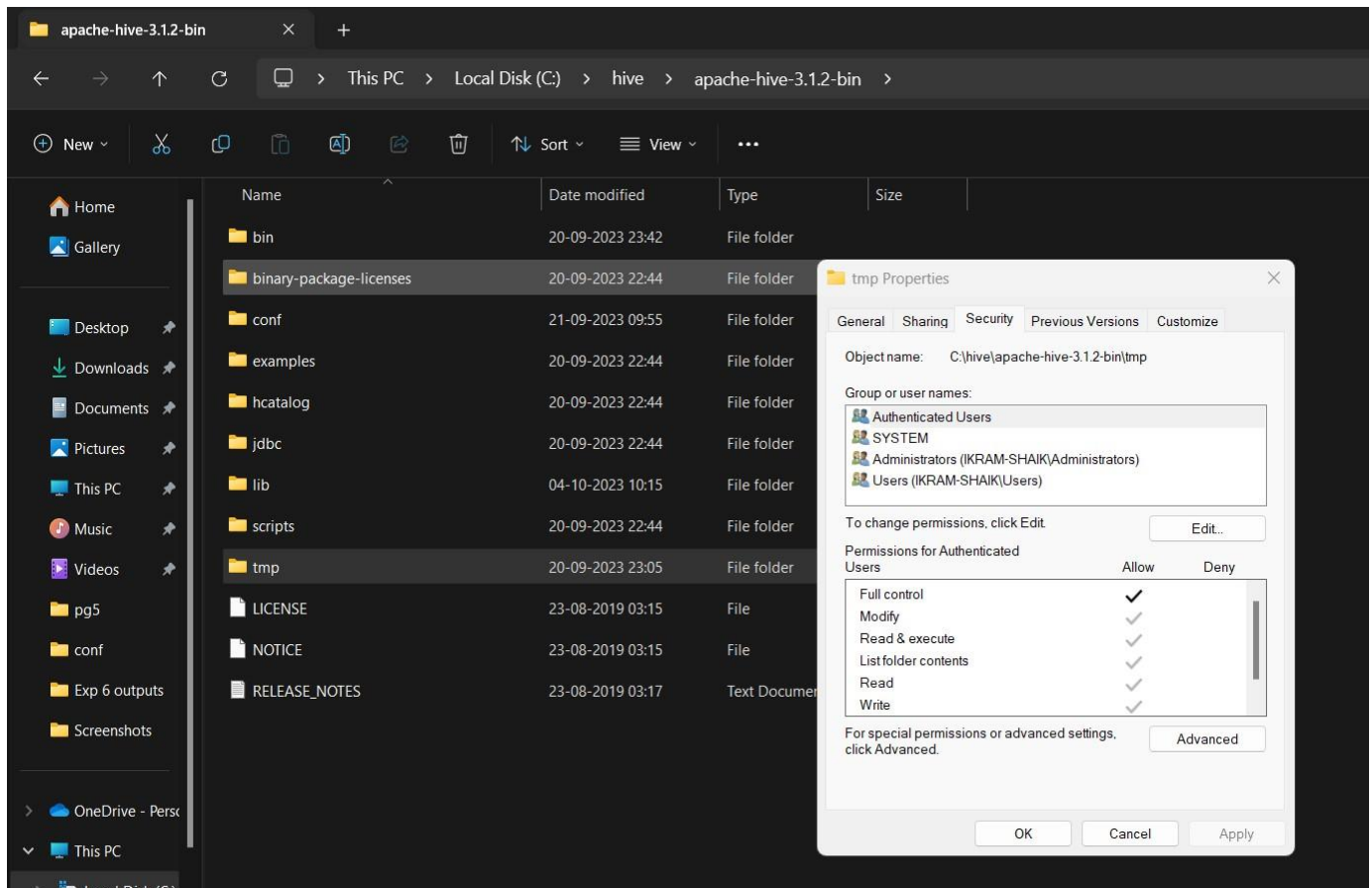
**STEP 17:** Delete the **older version guava** file already present in hive folder.



**STEP 18:** Create a **new folder** with name **tmp** in **Hive** folder.



**STEP 19:** Go to **Security in Properties** of **tmp** file and give **all the permissions** to the tmp file.



**STEP 20:** Go to **conf** folder of **Hive** and create a **new file** by name **hive-site.xml** and paste the following code given below.

**PROGRAM (hive-site.xml):**

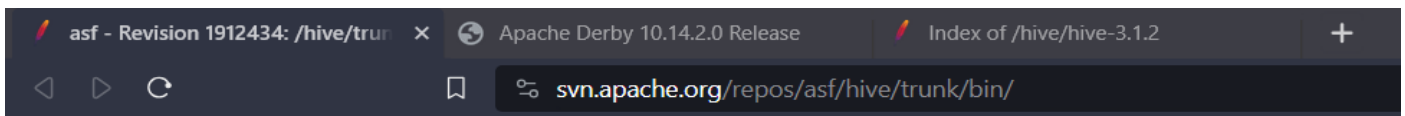
```
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<configuration><property> <name>javax.jdo.option.ConnectionURL</name>
<value>jdbc:derby://localhost:1527/metastore_db;create=true</value>
<description>JDBC connect string for a JDBC metastore</description>
</property>
<property>
  <name>system:java.io.tmpdir</name>
  <value>C:/hive/apache-hive-3.1.2-bin/tmp</value>
</property>
<property>
  <name>system:user.name</name>
```

```

<value>${user.name}</value>
</property>
<property>
<name>javax.jdo.option.ConnectionDriverName</name>
<value>org.apache.derby.jdbc.ClientDriver</value>
<description>Driver class name for a JDBC metastore</description>
</property>
<property>
<name>hive.server2.enable.doAs</name>
<description>Enable user impersonation for HiveServer2</description>
<value>true</value>
</property>
<property>
<name>hive.server2.authentication</name>
<value>NONE</value>
<description> Client authentication types. NONE: no authentication check LDAP: LDAP/AD
based authentication KERBEROS: Kerberos/GSSAPI authentication CUSTOM: Custom
authentication provider (Use with property hive.server2.custom.authentication.class)
</description>
</property>
<property>
<name>datanucleus.autoCreateTables</name>
<value>True</value>
</property>
</configuration>

```

**STEP 21:** The **bin** file in Hive folder is given for **Linux operating system**. We need to download **bin** file for **Windows operating system** from the official website of Hive.  
<https://svn.apache.org/repos/asf/hive/trunk/bin/>



## asf - Revision 1912434: /hive/trunk/bin

- [beeline](#)
- [beeline.cmd](#)
- [derbyserver.cmd](#)
- [ext/](#)
- [hive](#)
- [hive-config.cmd](#)
- [hive-config.sh](#)
- [hive.cmd](#)
- [hiveserver2](#)
- [init-hive-dfs.sh](#)
- [metatool](#)
- [schematool](#)

**STEP 22:** To install **bin** file for **Windows Operating system** we need to install **wget** from official website <https://eternallybored.org/misc/wget/> according to your **system type**.

**Windows binaries of GNU Wget**

A command-line utility for retrieving files using HTTP, HTTPS and FTP protocols.

**Warning:** some antivirus tools recognise wget-1.21.4-win32.zip as **potentially dangerous**. The file that triggers the warning is wget.exe.debug, which contains debugging symbols for wget.exe, and isn't even executable. If your AV is giving you trouble, and you don't need the documentation or debug symbols, you can download wget.exe directly, or switch to a less broken security product.

All of the binaries are compiled statically, meaning that wget.exe doesn't require any other files to work.

Version	x86	x64	ARM64	Notes
1.21.4	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	OpenSSL 3.1.0, ZLib 1.2.13, gpgme-1.20.0, pcre2 10.42, libpsl 0.21.2, c-ares 1.19.0, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">manual</a>
1.21.3	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	OpenSSL 1.1.1m, ZLib 1.2.11, gpgme-1.17.1, pcre2 10.39, libpsl 0.21.1, c-ares 1.18.1, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">manual</a>
1.21.2	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	-	OpenSSL 1.1.1l, ZLib 1.2.11, gpgme-1.16.0, pcre2 10.38, libpsl 0.21.1, c-ares 1.17.2, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">manual</a>
1.21.1	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	-	OpenSSL 1.1.1k, ZLib 1.2.11, gpgme-1.15.1, pcre2 10.36, libpsl 0.21.1, c-ares 1.17.1, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">fix for downloading files &gt;2GB</a> , <a href="#">manual</a>
1.20.3	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	-	OpenSSL 1.1.1b, ZLib 1.2.11, gpgme-1.13.0, pcre2 10.32, libpsl 0.20.2, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">manual</a>
1.20	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	-	OpenSSL 1.1.1a, ZLib 1.2.11, gpgme-1.12.0, pcre2 10.32, libpsl 0.20.2, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">manual</a> ; <b>XP support dropped</b>
1.19.4	<a href="#">ZIP</a> <a href="#">EXE</a>	<a href="#">ZIP</a> <a href="#">EXE</a>	-	OpenSSL 1.1.0g, ZLib 1.2.11, gpgme-1.10.0, <a href="#">taskbar progressbar</a> , <a href="#">Windows certificate store support</a> , <a href="#">manual</a>

**Windows ports**  
[Gifsicle](#)  
[NetCat](#)  
[Pet Utilities](#)  
[GNU Wget](#)

**Scripts**  
[AutoHotKey for \(he\)xchat for VMWare ESXi](#)

**Other things**  
[GIMP-related stuff](#)

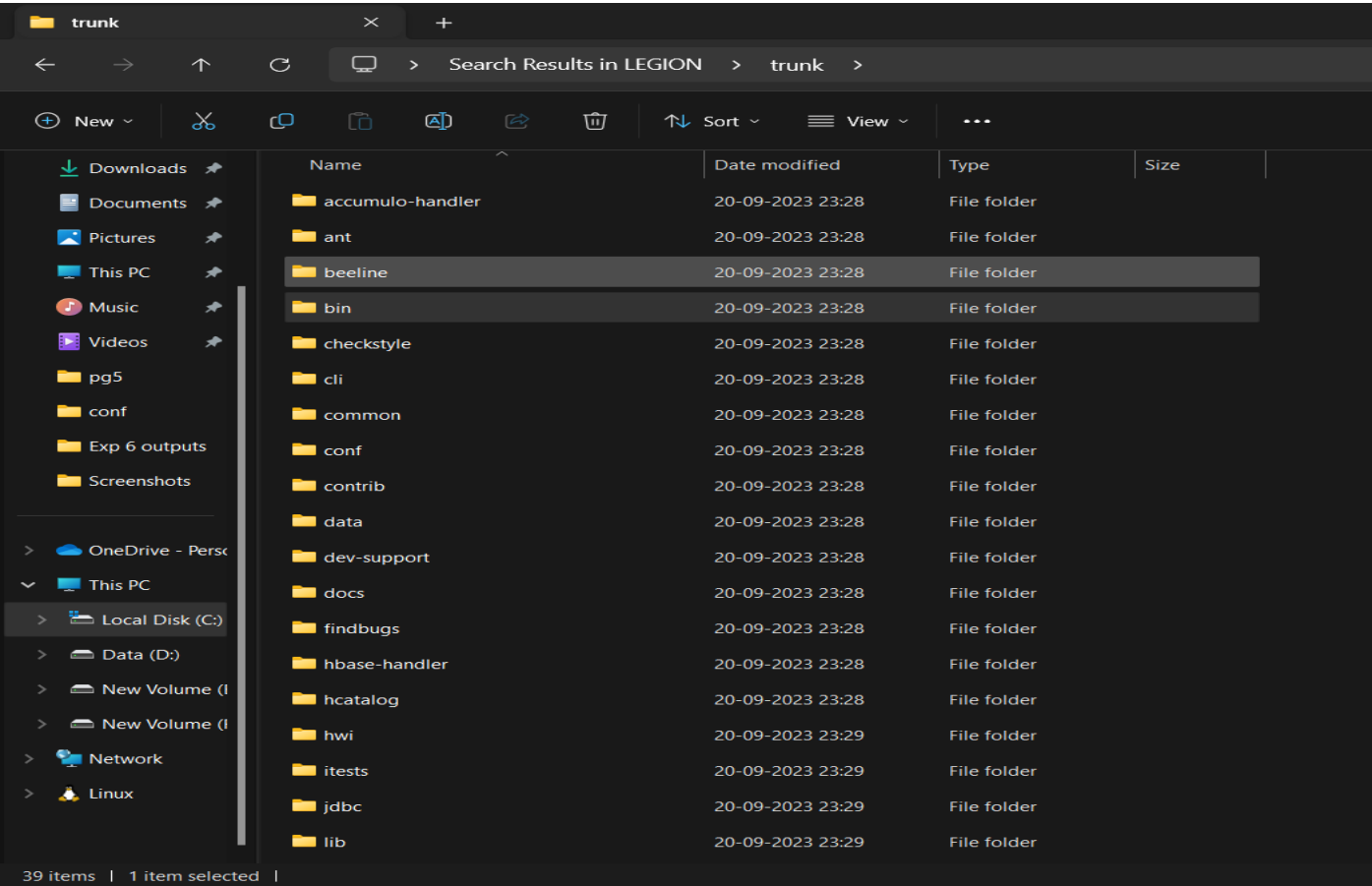
Provided by [Jepson Simon](#)  
[Donate](#)

**STEP 23:** After downloading the **wget** application place it in the **C:\Windows\System32**

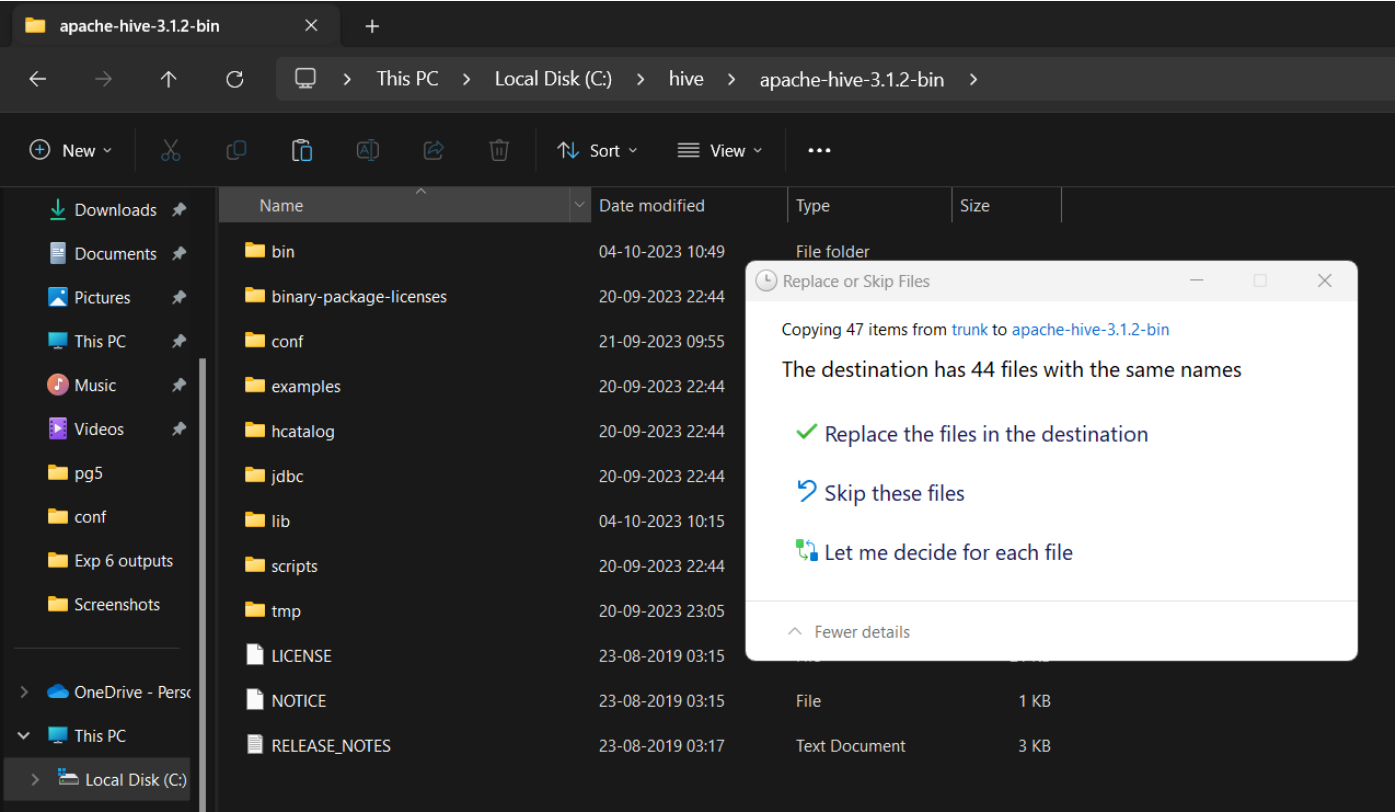




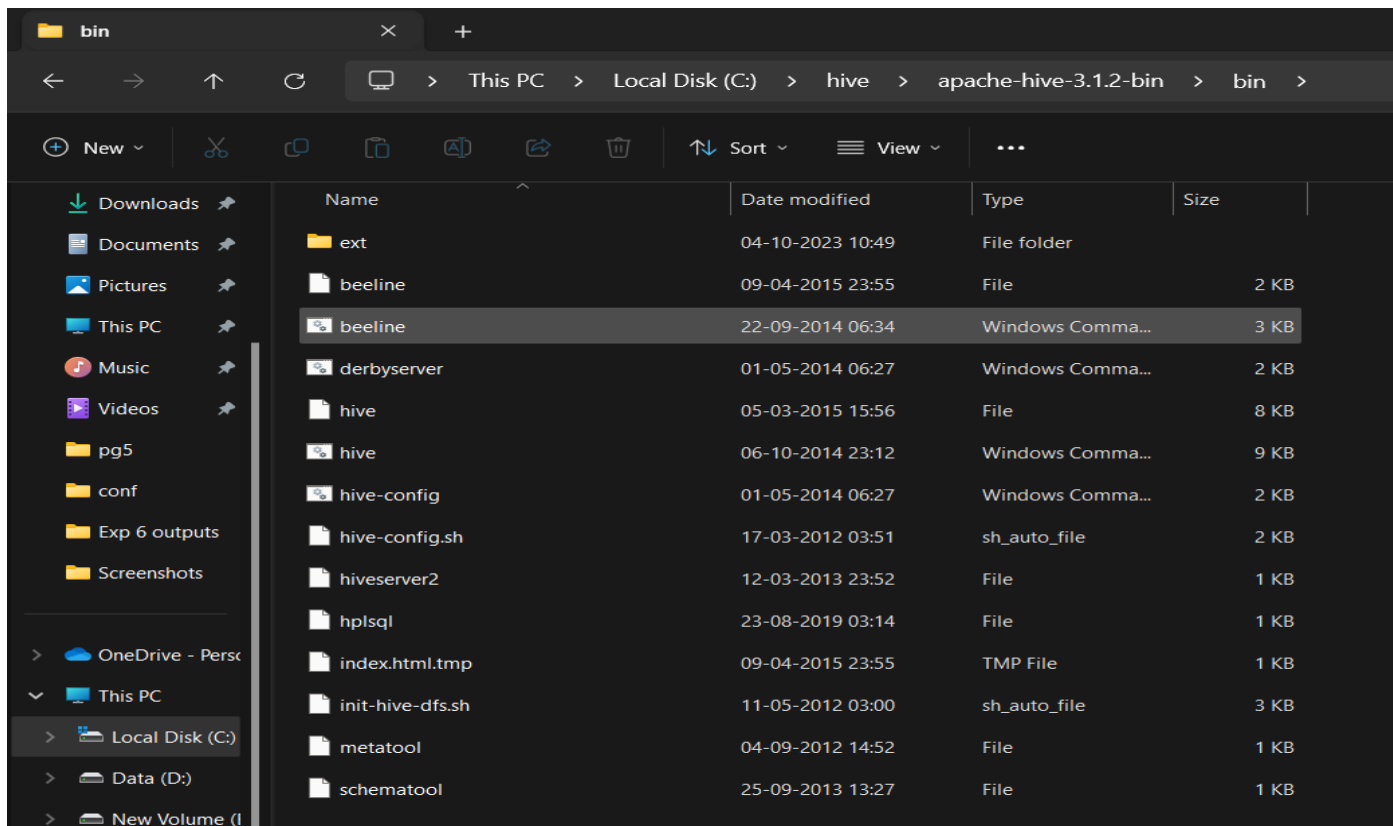
**STEP 26:** After downloading **search** for the bin file and **copy** the bin file.



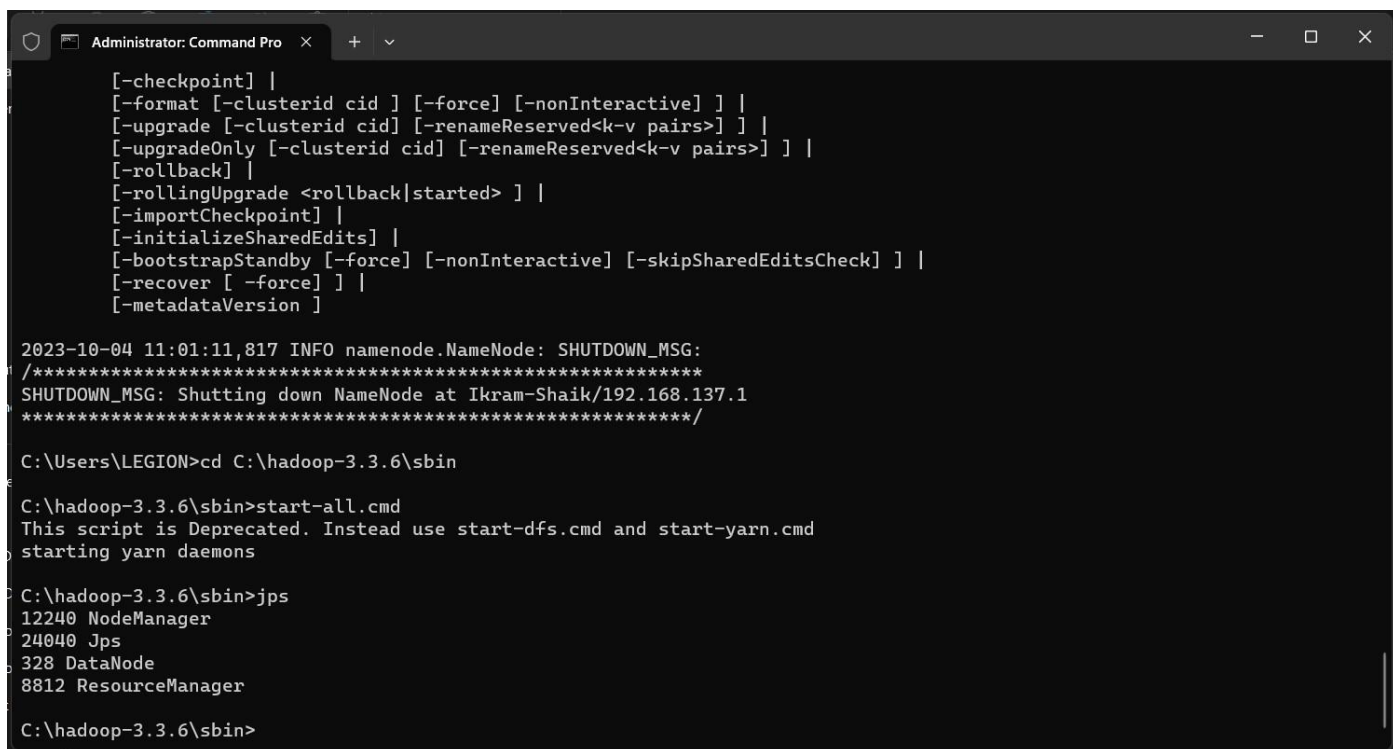
**STEP 27:** Replace this **bin** file with the bin file present in the **Hive** directory.



**STEP 28:** The replaced bin file consists of **Windows Community** files which not present in the old bin file.



**STEP 30:** Run **Command Prompt** as **Administartor** and **run all the demons** of Hadoop.



**STEP 31:** Open new command prompt and run the following command

**StartNewtowrkServer -h 0.0.0.0**

```
Administrator: Command Pro
Microsoft Windows [Version 10.0.22631.2338]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LEGION>StartNetworkServer -h 0.0.0.0
Wed Oct 04 11:09:06 IST 2023 : Security manager installed using the Basic server security policy.
Wed Oct 04 11:09:15 IST 2023 : Apache Derby Network Server - 10.14.2.0 - (1828579) started and ready to accept connections on port 1527
```

**STEP 31:** Check whether **NetworkServerControl** is running or not by using **jps** command.

```
Administrator: Command Pro
Microsoft Windows [Version 10.0.22631.2338]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LEGION>jps
22576 DataNode
25120 NetworkServerControl
24004 ResourceManager
19916 Jps
7996 NodeManager

C:\Users\LEGION>
```

**STEP 32:** In a new **Command Prompt** run **hive** command.

```
Administrator: Command Pro
...
at org.apache.hadoop.hive.metastore.HiveMetaStore.newRetryingHMSHandler(HiveMetaStore.java:8667)
at org.apache.hadoop.hive.metastore.HiveMetaStoreClient.<init>(HiveMetaStoreClient.java:169)
at org.apache.hadoop.hive ql.metadata.SessionHiveMetaStoreClient.<init>(SessionHiveMetaStoreClient.java:94)
... 27 more
Caused by: MetaException(message:Version information not found in metastore.)
at org.apache.hadoop.hive.metastore.ObjectStore.checkSchema(ObjectStore.java:9049)
at org.apache.hadoop.hive.metastore.ObjectStore.verifySchema(ObjectStore.java:9027)
at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:498)
at org.apache.hadoop.hive.metastore.RawStoreProxy.invoke(RawStoreProxy.java:97)
at com.sun.proxy.$Proxy36.verifySchema(Unknown Source)
at org.apache.hadoop.hive.metastore.HiveMetaStore$HMSHandler.getMSForConf(HiveMetaStore.java:697)
at org.apache.hadoop.hive.metastore.HiveMetaStore$HMSHandler.getMS(HiveMetaStore.java:690)
at org.apache.hadoop.hive.metastore.HiveMetaStore$HMSHandler.createDefaultDB(HiveMetaStore.java:767)
at org.apache.hadoop.hive.metastore.HiveMetaStore$HMSHandler.init(HiveMetaStore.java:538)
at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:62)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:498)
at org.apache.hadoop.hive.metastore.RetryingHMSHandler.invokeInternal(RetryingHMSHandler.java:147)
at org.apache.hadoop.hive.metastore.RetryingHMSHandler.invoke(RetryingHMSHandler.java:108)
at org.apache.hadoop.hive.metastore.RetryingHMSHandler.<init>(RetryingHMSHandler.java:80)
... 31 more
Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different execution engine (i.e. spark, tez) or using Hive 1.X releases.
2023-09-20 23:57:37,063 INFO CliDriver: Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different execution engine (i.e. spark, tez) or using Hive 1.X releases.
hive>
```

**RESULT:** Installation of Apache Hive on a windows operating system is successfully completed and verified.