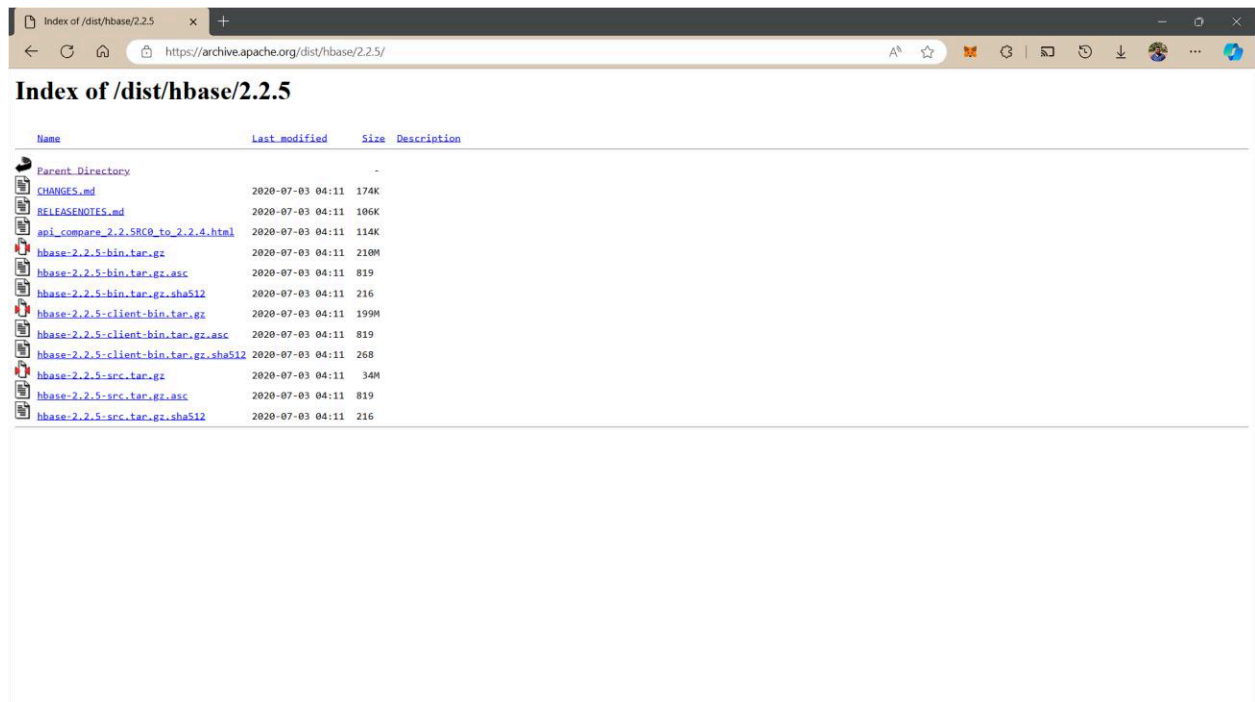


Practical 5:

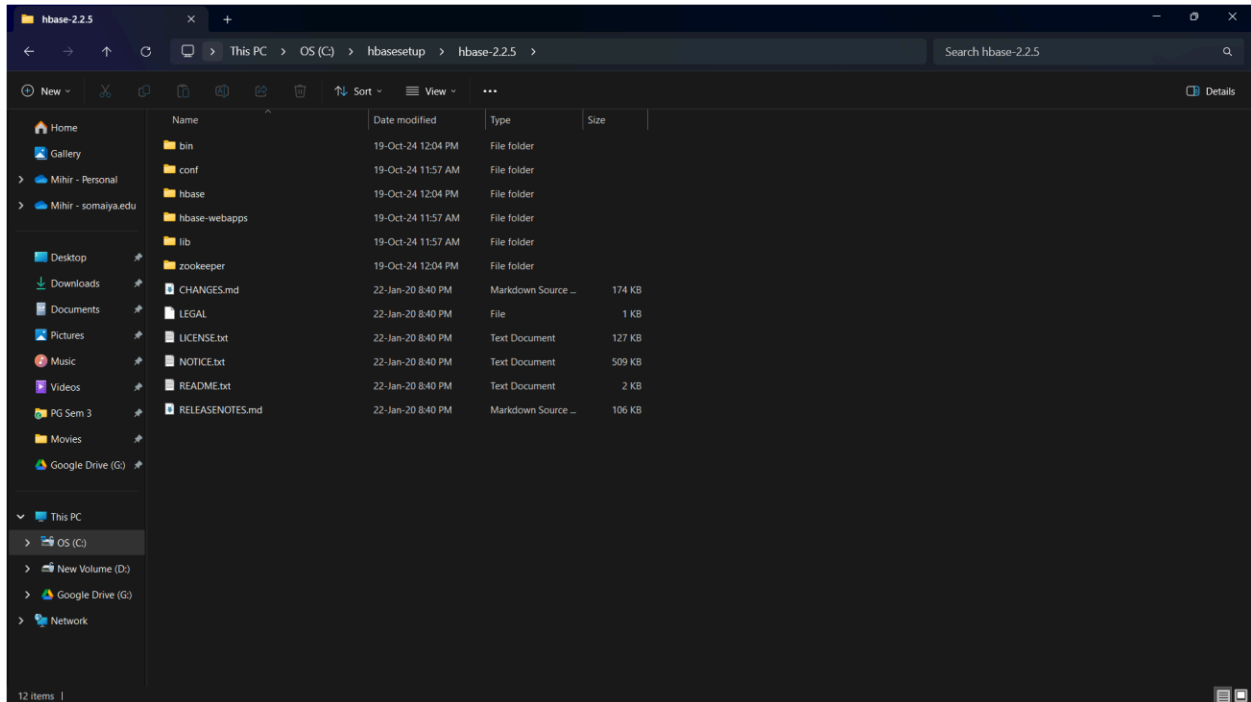
Aim: Download and installation of HBase

Steps:

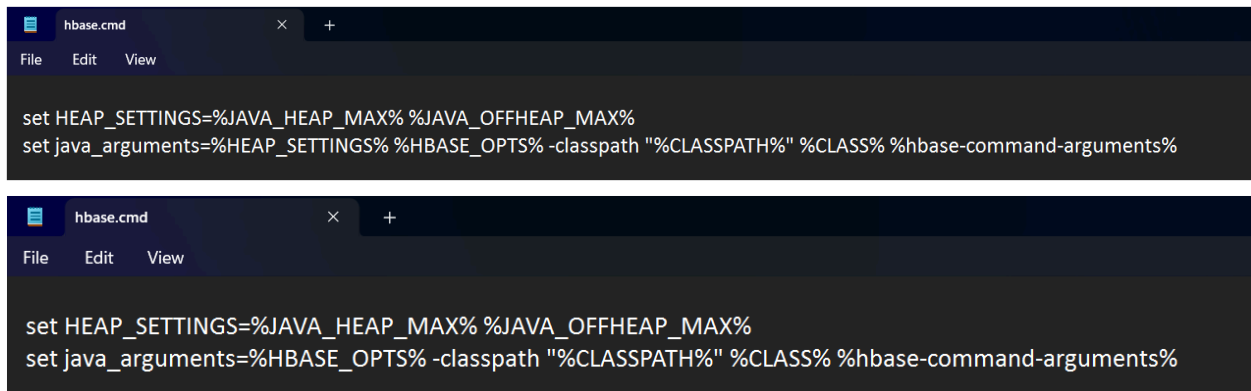
1- Download HBase bin file from [here](https://archive.apache.org/dist/hbase/2.2.5/).



2- Create a new folder in C drive named hbasesetup. Extract the files and paste it in the hbasesetup. Create 2 new folders hbase and zookeeper inside.



3-Open the bin folder. Search for the file hbase.cmd and edit it in notepad. Search for java_arguments and remove %HEAP_SETTINGS%.



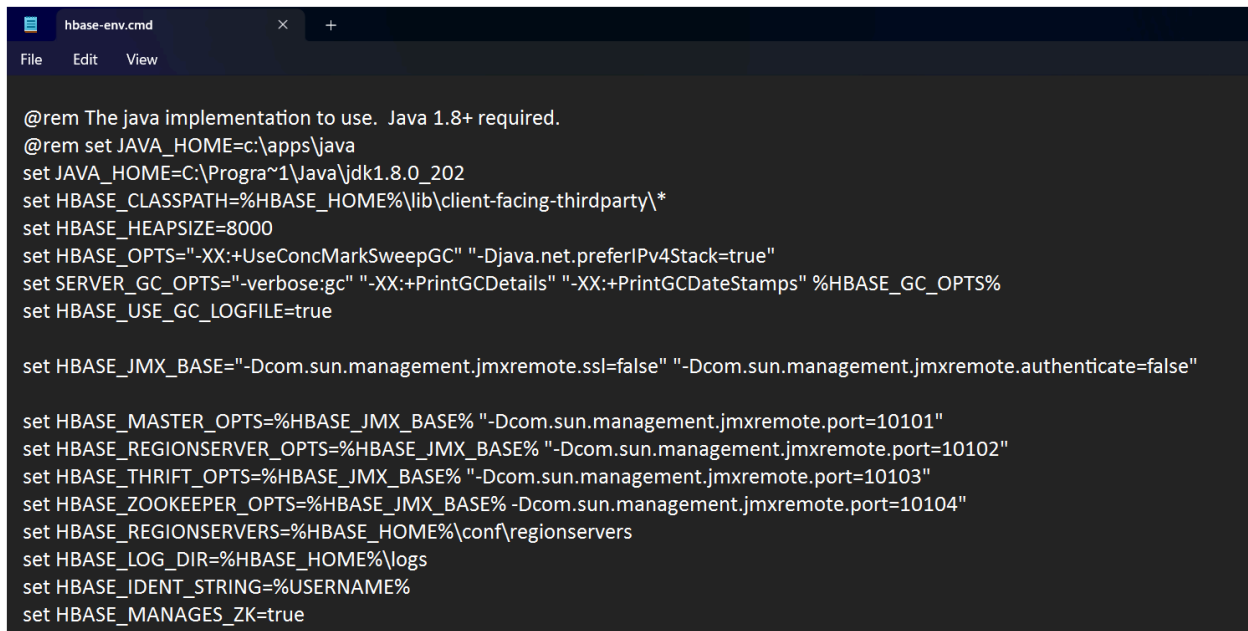
4-Open the conf folder and edit the file hbase-env.cmd in notepad. Add the following lines inside.

```
set JAVA_HOME=C:\Progra~1\Java\jdk1.8.0_202
set HBASE_CLASSPATH=%HBASE_HOME%\lib\client-facing-thirdparty\*
set HBASE_HEAPSIZE=8000
set HBASE_OPTS="-XX:+UseConcMarkSweepGC" "-Djava.net.preferIPv4Stack=true"
set SERVER_GC_OPTS="-verbose:gc" "-XX:+PrintGCDetails" "-XX:+PrintGCDateStamps"
%HBASE_GC_OPTS%
set HBASE_USE_GC_LOGFILE=true
```

```

set HBASE_JMX_BASE="-Dcom.sun.management.jmxremote.ssl=false"
"-Dcom.sun.management.jmxremote.authenticate=false"
set HBASE_MASTER_OPTS=%HBASE_JMX_BASE% "-Dcom.sun.management.jmxremote.port=10101"
set HBASE_REGIONSERVER_OPTS=%HBASE_JMX_BASE%
"-Dcom.sun.management.jmxremote.port=10102"
set HBASE_THRIFT_OPTS=%HBASE_JMX_BASE% "-Dcom.sun.management.jmxremote.port=10103"
set HBASE_ZOOKEEPER_OPTS=%HBASE_JMX_BASE%
-Dcom.sun.management.jmxremote.port=10104"
set HBASE_REGIONSERVERS=%HBASE_HOME%\conf\regionserver
set HBASE_LOG_DIR=%HBASE_HOME%\logs
set HBASE_IDENT_STRING=%USERNAME%
set HBASE_MANAGES_ZK=true

```



```

@rem The java implementation to use. Java 1.8+ required.
@rem set JAVA_HOME=c:\apps\java
set JAVA_HOME=C:\Program Files\Java\jdk1.8.0_202
set HBASE_CLASSPATH=%HBASE_HOME%\lib\client-facing-thirdparty\*
set HBASE_HEAPSIZE=8000
set HBASE_OPTS="-XX:+UseConcMarkSweepGC" "-Djava.net.preferIPv4Stack=true"
set SERVER_GC_OPTS="-verbose:gc" "-XX:+PrintGCDetails" "-XX:+PrintGCDateStamps" %HBASE_GC_OPTS%
set HBASE_USE_GC_LOGFILE=true

set HBASE_JMX_BASE="-Dcom.sun.management.jmxremote.ssl=false" "-Dcom.sun.management.jmxremote.authenticate=false"

set HBASE_MASTER_OPTS=%HBASE_JMX_BASE% "-Dcom.sun.management.jmxremote.port=10101"
set HBASE_REGIONSERVER_OPTS=%HBASE_JMX_BASE% "-Dcom.sun.management.jmxremote.port=10102"
set HBASE_THRIFT_OPTS=%HBASE_JMX_BASE% "-Dcom.sun.management.jmxremote.port=10103"
set HBASE_ZOOKEEPER_OPTS=%HBASE_JMX_BASE% "-Dcom.sun.management.jmxremote.port=10104"
set HBASE_REGIONSERVERS=%HBASE_HOME%\conf\regionserver
set HBASE_LOG_DIR=%HBASE_HOME%\logs
set HBASE_IDENT_STRING=%USERNAME%
set HBASE_MANAGES_ZK=true

```

5-Open the conf folder and edit the file hbase-site.xml in notepad. Add the following lines after the last property tag.

```

<property>
<name>hbase.rootdir</name>
<value>file:///C:/hbasesetup/hbase-2.2.5/hbase</value>
</property>
<property>
<name>hbase.zookeeper.property.dataDir</name>
<value>C:/hbasesetup/hbase-2.2.5/zookeeper</value>
</property>
<property>
<name> hbase.zookeeper.quorum</name>
<value>localhost</value>
</property>

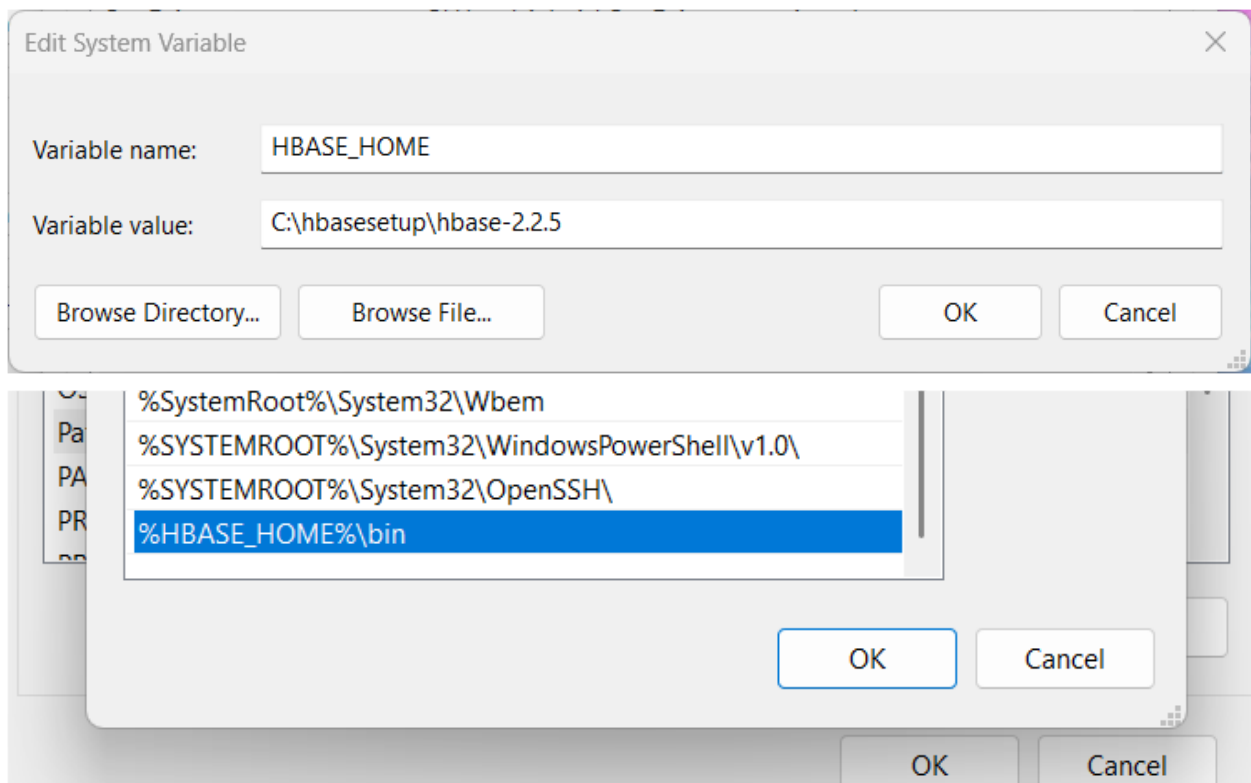
```

```
hbase-site.xml
File Edit View

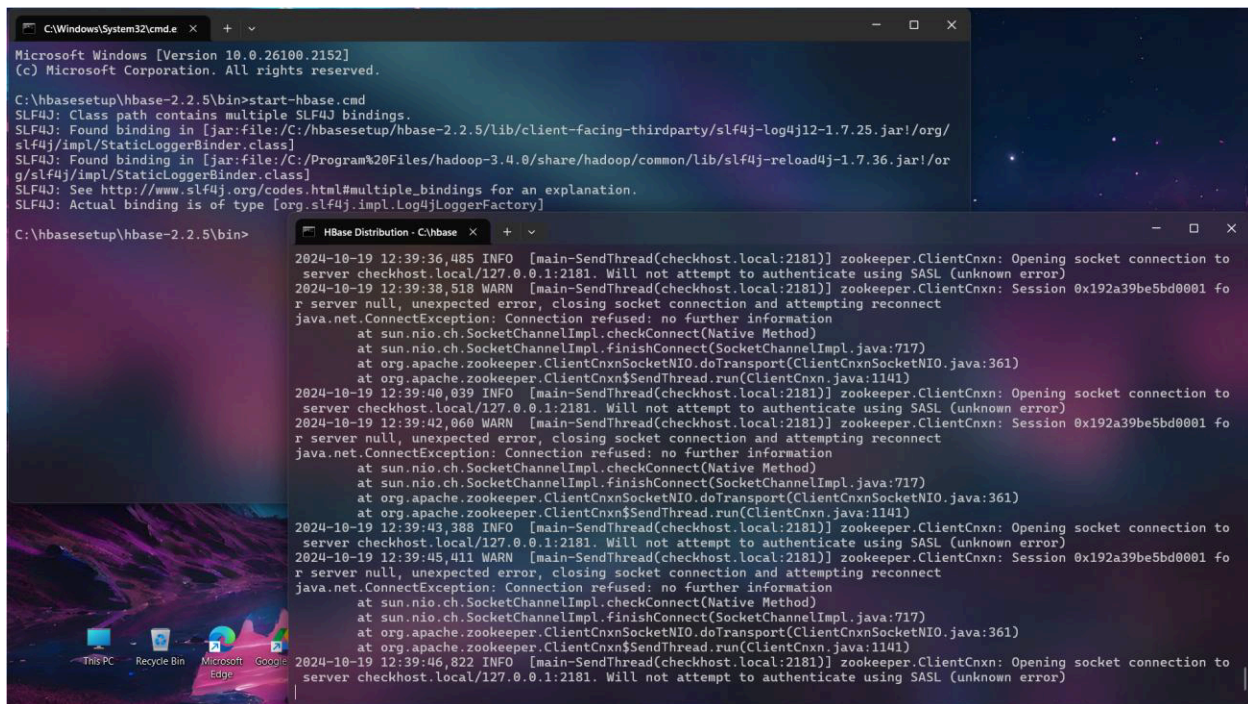
See also https://hbase.apache.org/book.html#standalone_dist
-->
<property>
  <name>hbase.cluster.distributed</name>
  <value>false</value>
</property>
<property>
  <name>hbase.tmp.dir</name>
  <value>./tmp</value>
</property>
<property>
  <name>hbase.unsafe.stream.capability.enforce</name>
  <value>false</value>
</property>
<property>
  <name>hbase.rootdir</name>
  <value>file:///C:/hbase/hbase-2.2.5/hbase</value>
</property>
<property>
  <name>hbase.zookeeper.property.dataDir</name>
  <value>C:/hbase/hbase-2.2.5/zookeeper</value>
</property>
<property>
  <name>hbase.zookeeper.quorum</name>
  <value>localhost</value>
</property>
</configuration>

Ln 66, Col 17 2,642 characters 100% Unix (LF) UTF-8
```

6-Set the HBase environment variables and it too path as well.



7-Open command prompt and navigate to the hbase bin folder. Run the command start-hbase.cmd to start hbase

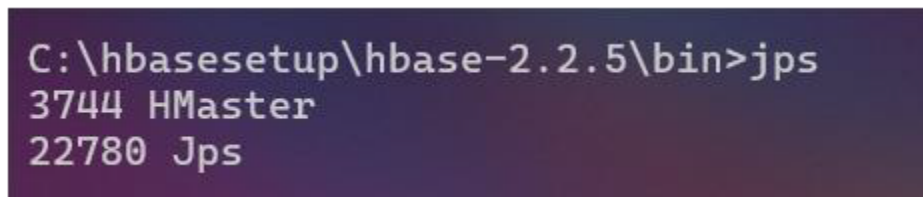


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.26100.2152]
(c) Microsoft Corporation. All rights reserved.

C:\hbase\hbase-2.2.5\bin>start-hbase.cmd
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/C:/hbase\hbase-2.2.5\lib\client-facing-thirdparty\slf4j-log4j12-1.7.25.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/C:/Program%20Files/hadoop-3.4.0/share/hadoop/common/lib/slf4j-reload4j-1.7.36.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.slf4j.impl.Log4jLoggerFactory]

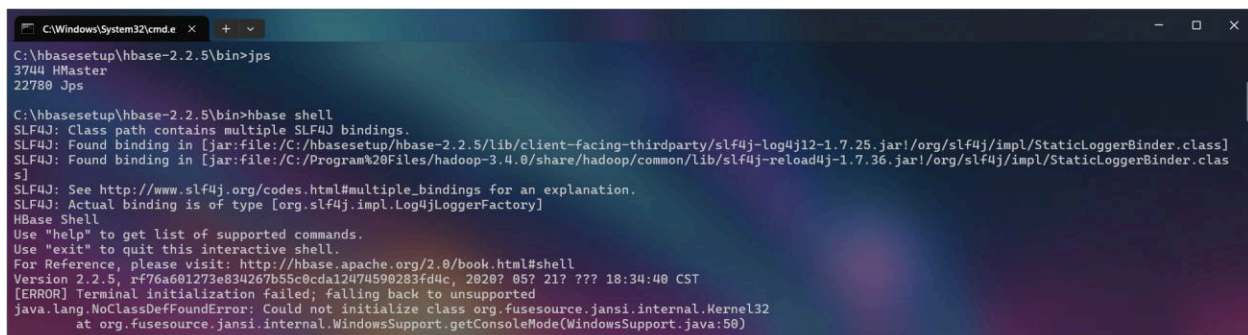
C:\hbase\hbase-2.2.5\bin>
HBase Distribution - C:\hbase
2024-10-19 12:39:36,485 INFO [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Opening socket connection to server checkhost.local/127.0.0.1:2181. Will not attempt to authenticate using SASL (unknown error)
2024-10-19 12:39:38,518 WARN [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Session 0x192a39be5bd0001 for server null, unexpected error, closing socket connection and attempting reconnect
java.net.ConnectException: Connection refused: no further information
    at sun.nio.ch.SocketChannelImpl.checkConnect(Native Method)
    at sun.nio.ch.SocketChannelImpl.finishConnect(SocketChannelImpl.java:717)
    at org.apache.zookeeper.ClientCnxnSocketNIO.doTransport(ClientCnxnSocketNIO.java:361)
    at org.apache.zookeeper.ClientCnxn$SendThread.run(ClientCnxn.java:1141)
2024-10-19 12:39:40,039 INFO [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Opening socket connection to server checkhost.local/127.0.0.1:2181. Will not attempt to authenticate using SASL (unknown error)
2024-10-19 12:39:42,060 WARN [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Session 0x192a39be5bd0001 for server null, unexpected error, closing socket connection and attempting reconnect
java.net.ConnectException: Connection refused: no further information
    at sun.nio.ch.SocketChannelImpl.checkConnect(Native Method)
    at sun.nio.ch.SocketChannelImpl.finishConnect(SocketChannelImpl.java:717)
    at org.apache.zookeeper.ClientCnxnSocketNIO.doTransport(ClientCnxnSocketNIO.java:361)
    at org.apache.zookeeper.ClientCnxn$SendThread.run(ClientCnxn.java:1141)
2024-10-19 12:39:43,388 INFO [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Opening socket connection to server checkhost.local/127.0.0.1:2181. Will not attempt to authenticate using SASL (unknown error)
2024-10-19 12:39:45,411 WARN [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Session 0x192a39be5bd0001 for server null, unexpected error, closing socket connection and attempting reconnect
java.net.ConnectException: Connection refused: no further information
    at sun.nio.ch.SocketChannelImpl.checkConnect(Native Method)
    at sun.nio.ch.SocketChannelImpl.finishConnect(SocketChannelImpl.java:717)
    at org.apache.zookeeper.ClientCnxnSocketNIO.doTransport(ClientCnxnSocketNIO.java:361)
    at org.apache.zookeeper.ClientCnxn$SendThread.run(ClientCnxn.java:1141)
2024-10-19 12:39:46,822 INFO [main-SendThread(checkhost.local:2181)] zookeeper.ClientCnxn: Opening socket connection to server checkhost.local/127.0.0.1:2181. Will not attempt to authenticate using SASL (unknown error)
```

8-Using the command jps you can check that our HMaster is running.



```
C:\hbase\hbase-2.2.5\bin>jps
3744 HMaster
22780 Jps
```

9-Start the HBase Shell now with the command hbase shell. Initial startup may take some time.



```
C:\Windows\System32\cmd.exe
C:\hbase\hbase-2.2.5\bin>jps
3744 HMaster
22780 Jps

C:\hbase\hbase-2.2.5\bin>hbase shell
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/C:/hbase\hbase-2.2.5\lib\client-facing-thirdparty\slf4j-log4j12-1.7.25.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/C:/Program%20Files/hadoop-3.4.0/share/hadoop/common/lib/slf4j-reload4j-1.7.36.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.slf4j.impl.Log4jLoggerFactory]
HBase Shell
Use "help" to get list of supported commands.
Use "exit" to quit this interactive shell.
For Reference, please visit: http://hbase.apache.org/2.0/book.html#shell
Version 2.2.5, r7f6a601273e834267b55c8cda12474590283fd4c, 2020? 05? 21? ??? 18:34:40 CST
[ERROR] Terminal initialization failed; falling back to unsupported
java.lang.NoClassDefFoundError: Could not initialize class org.fusesource.jansi.internal.Werline32
    at org.fusesource.jansi.internal.WindowsSupport.getConsoleMode(WindowsSupport.java:50)
```

10-Your HBase Shell has been started. Ignore the warnings received while starting the shell.

```
C:\Windows\System32\cmd.exe x + v
at org.jruby.runtime.callsite.CachingCallSite.call(CachingCallSite.java:131)
at C_3a_.hbasesetup.hbase_minus_2_dot_2_dot_5_bin_hirb.invokeOther172:print_banner(C:\hbase\hbase-2.2.5\bin\hirb.rb:190)
at C_3a_.hbasesetup.hbase_minus_2_dot_2_dot_5_bin_hirb.RUBY$script(C:\hbase\hbase-2.2.5\bin\hirb.rb:190)
at java.lang.invoke.MethodHandle.invokeWithArguments(MethodHandle.java:627)
at org.jruby.ir.Compiler$1.load(Compiler.java:95)
at org.jruby.Ruby.runScript(Ruby.java:828)
at org.jruby.Ruby.runNormally(Ruby.java:747)
at org.jruby.Ruby.runNormally(Ruby.java:765)
at org.jruby.Ruby.runFromMain(Ruby.java:578)
at org.jruby.Main.doRunFromMain(Main.java:417)
at org.jruby.Main.internalRun(Main.java:385)
at org.jruby.Main.run(Main.java:232)
at org.jruby.Main.main(Main.java:284)

Took 0.0040 seconds
'stty' is not recognized as an internal or external command,
operable program or batch file.
hbase(main):001:0> |
```