Course: MMDS

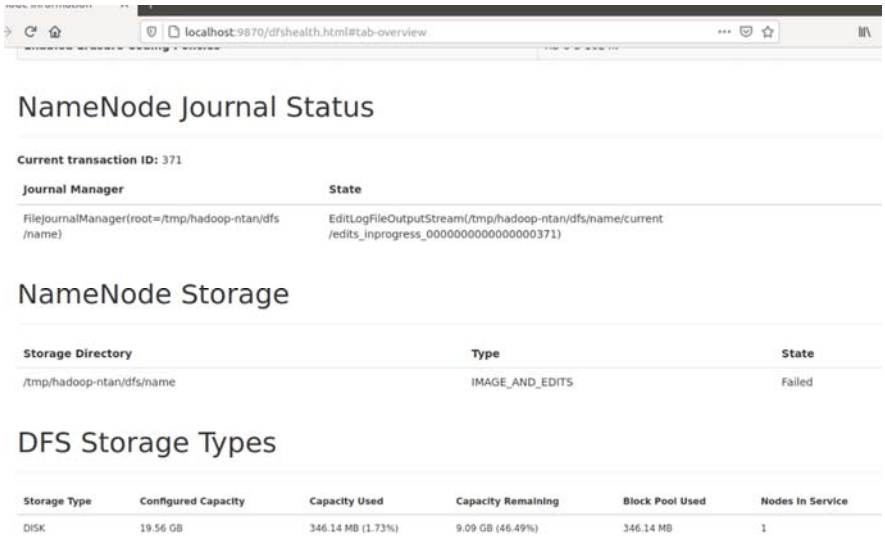
Lab 01

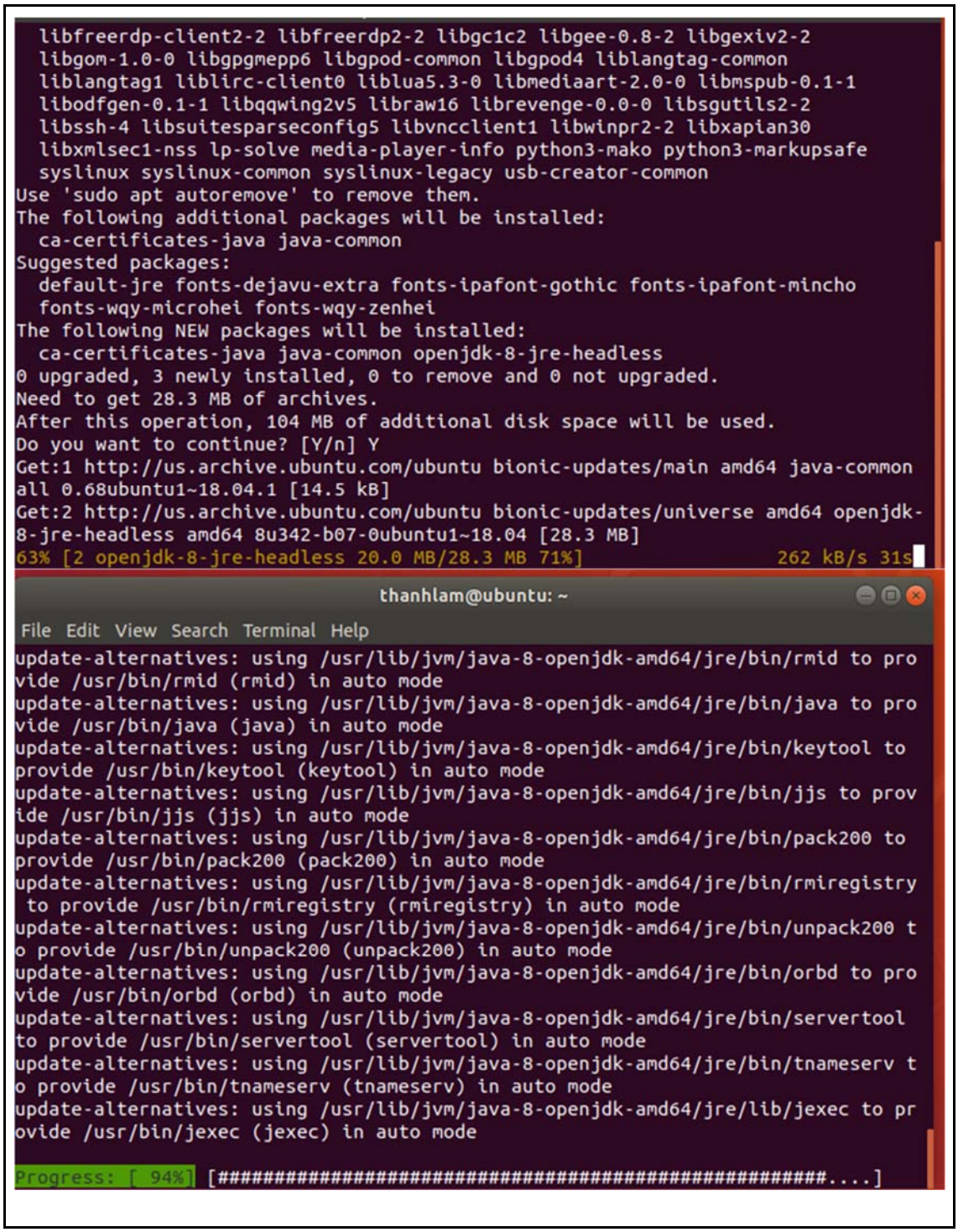
Set up Hadoop

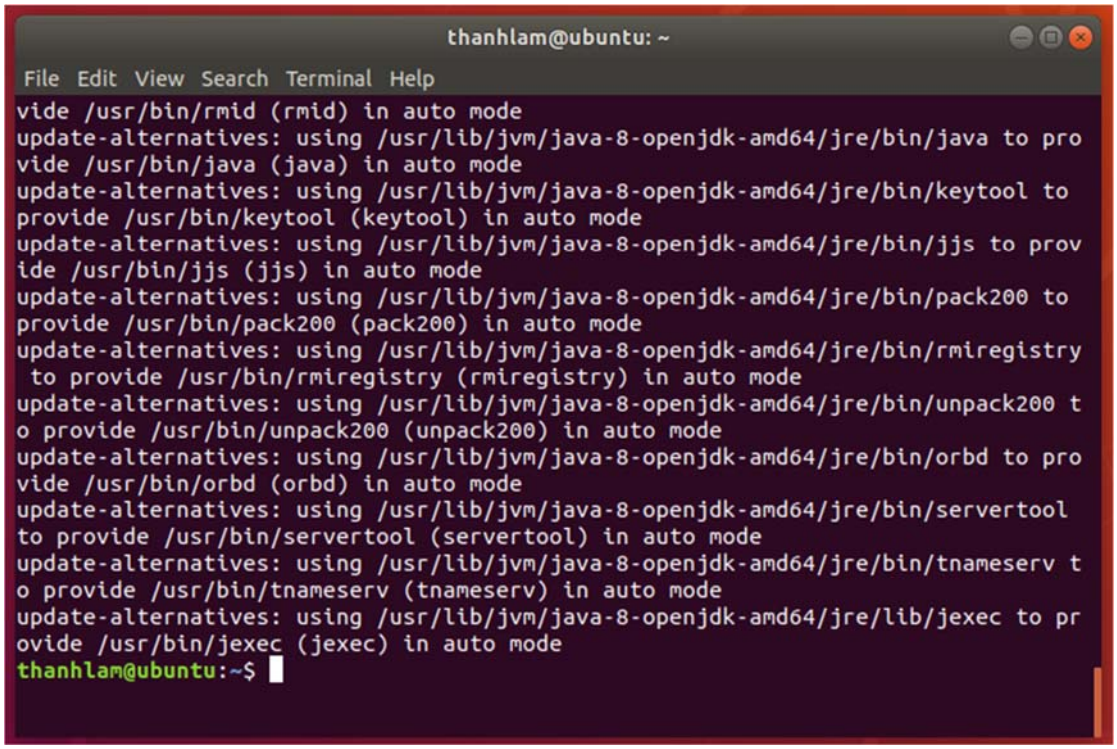
Fill answers of the questions below in the given tables.
Your screenshots must contain commands for required operations.

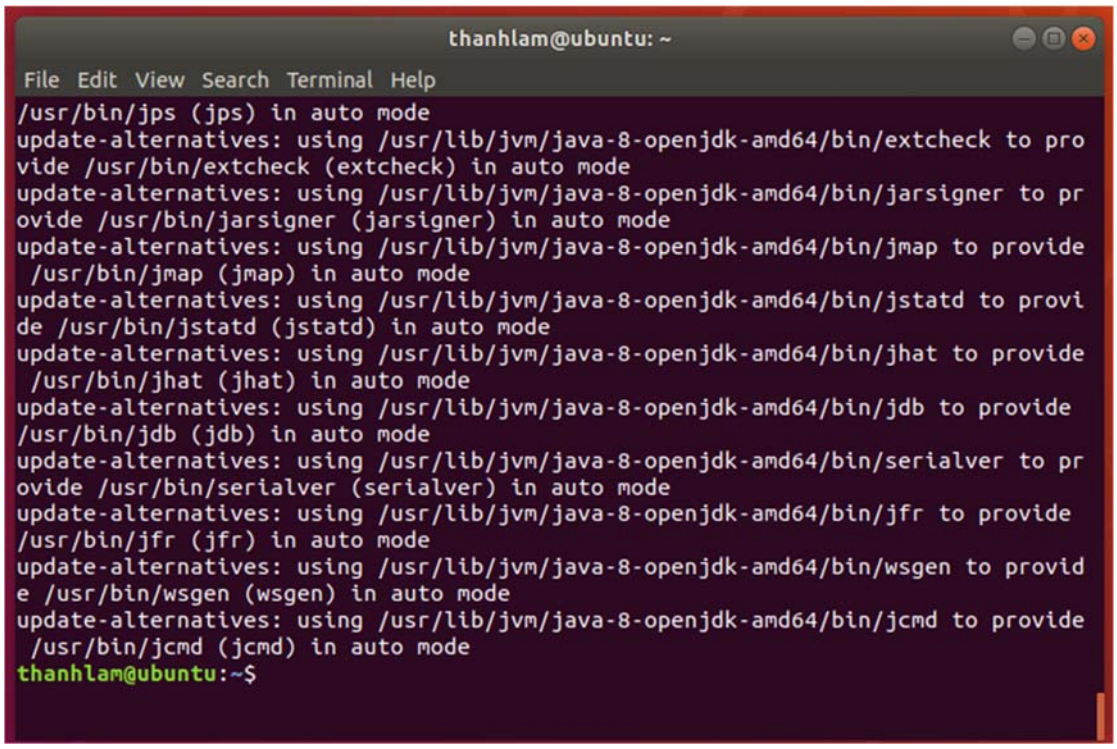
Question 1:

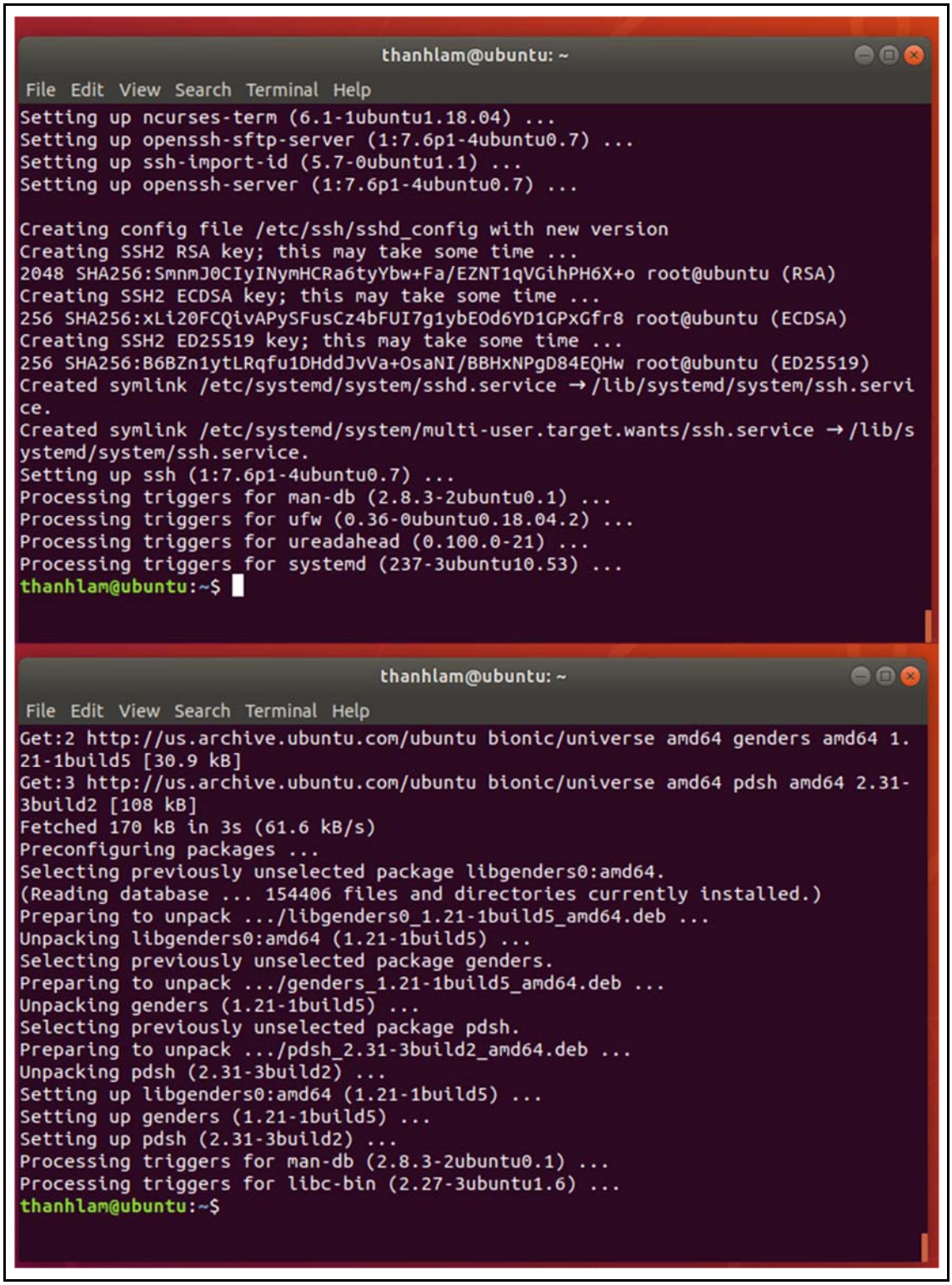
Set up Hadoop following this tutorial and then take a screenshot of the hdfs-site (localhost:9870) which shows information for NameNode Journal Status, NameNode Storage, DFS Storage Types (Overview page).
For example,




libfreerdp-client2-2 libfreerdp2-2 libgc1c2 libgee-0.8-2 libgexiv2-2
libgom-1.0-0 libgpgmepp6 libgpod-common libgpod4 liblangtag-common
liblangtag1 liblirc-client0 liblua5.3-0 libmediaart-2.0-0 libmspub-0.1-1
libodfgen-0.1-1 libqqwing2v5 libraw16 librevenge-0.0-0 libsgutils2-2
libssh-4 libsuitesparseconfig5 libvncclient1 libwinpr2-2 libxapian30
libxmlsec1-nss lp-solve media-player-info python3-mako python3-markupsafe
syslinux syslinux-common syslinux-legacy usb-creator-common
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
ca-certificates-java java-common
Suggested packages:
default-jre fonts-dejavu-extra fonts-ipafont-gothic fonts-ipafont-mincho
fonts-wqy-microhei fonts-wqy-zenhei
The following NEW packages will be installed:
ca-certificates-java java-common openjdk-8-jre-headless
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 28.3 MB of archives.
After this operation, 104 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://us.archive.ubuntu.com/ubuntu bionic-updates/main amd64 java-common all 0.68ubuntu1~18.04.1 [14.5 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu bionic-updates/universe amd64 openjdk-8-jre-headless amd64 8u342-b07-0ubuntu1~18.04 [28.3 MB]
63% [2 openjdk-8-jre-headless 20.0 MB/28.3 MB 71%] 262 kB/s 31s
thanhlam@ubuntu: ~
File Edit View Search Terminal Help
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/rmid to provide /usr/bin/rmid (rmid) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/java to provide /usr/bin/java (java) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/keytool to provide /usr/bin/keytool (keytool) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/jjs to provide /usr/bin/jjs (jjs) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/pack200 to provide /usr/bin/pack200 (pack200) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/rmiregistry to provide /usr/bin/rmiregistry (rmiregistry) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/unpack200 to provide /usr/bin/unpack200 (unpack200) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/orbd to provide /usr/bin/orbd (orbd) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/servertool to provide /usr/bin/servertool (servertool) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/tnameserv to provide /usr/bin/tnameserv (tnameserv) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/lib/jexec to provide /usr/bin/jexec (jexec) in auto mode
Progress: [94%] [###....]

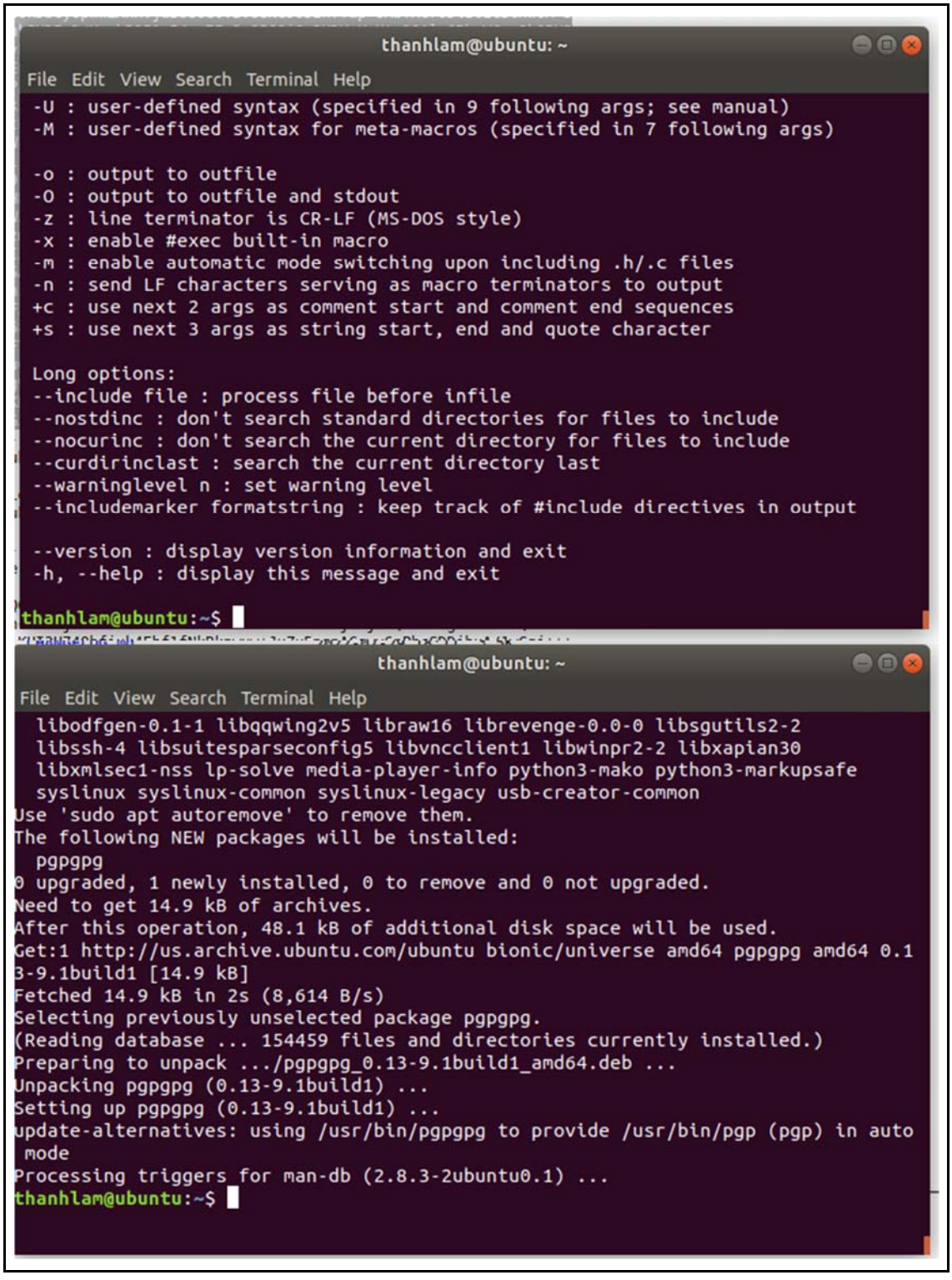

thanhlam@ubuntu: ~
File Edit View Search Terminal Help
vide /usr/bin/rmid (rmid) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/java to pro
vide /usr/bin/java (java) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/keytool to
provide /usr/bin/keytool (keytool) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/jjs to prov
ide /usr/bin/jjs (jjs) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/pack200 to
provide /usr/bin/pack200 (pack200) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/rmiregistry
to provide /usr/bin/rmiregistry (rmiregistry) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/unpack200 t
o provide /usr/bin/unpack200 (unpack200) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/orbd to pro
vide /usr/bin/orbd (orbd) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/servertool
to provide /usr/bin/servertool (servertool) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/bin/tnameserv t
o provide /usr/bin/tnameserv (tnameserv) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/jre/lib/jexec to pr
ovide /usr/bin/jexec (jexec) in auto mode
thanhlam@ubuntu:~$

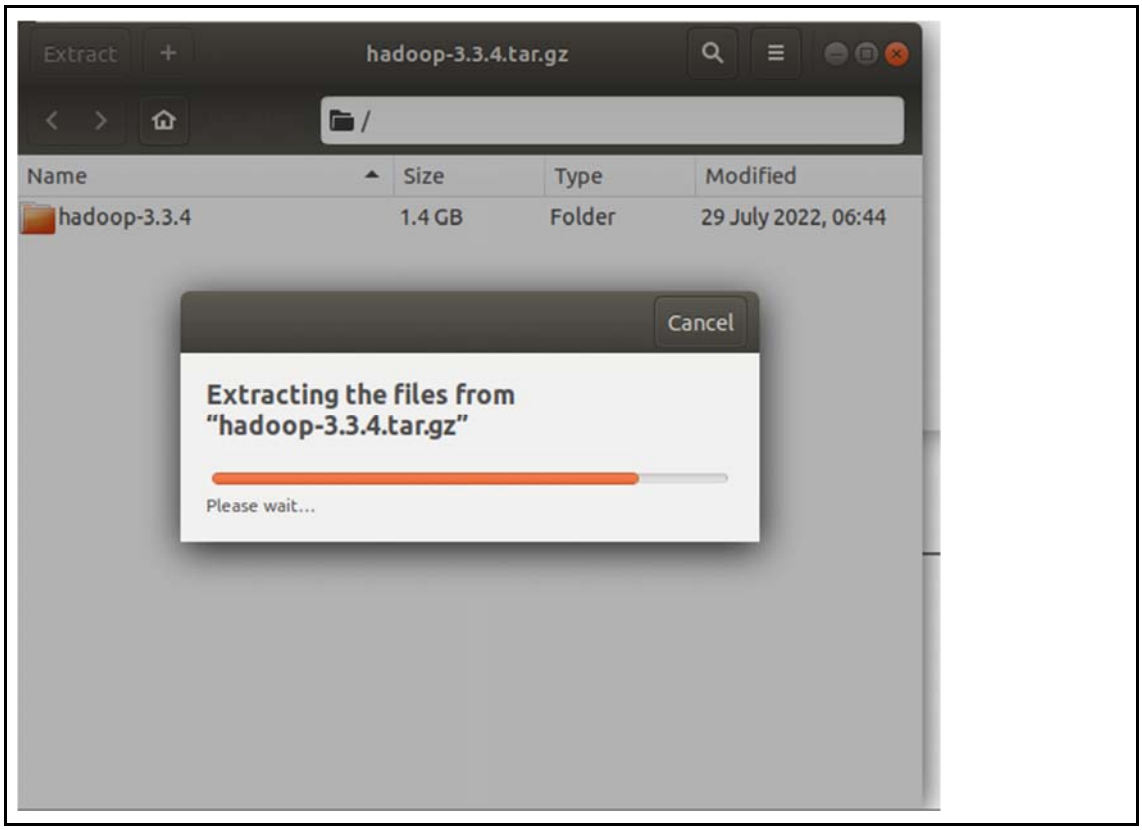

thanhlam@ubuntu: ~
File Edit View Search Terminal Help
/usr/bin/jps (jps) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/extcheck to pro
vide /usr/bin/extcheck (extcheck) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jarsigner to pr
ovide /usr/bin/jarsigner (jarsigner) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jmap to provide
/usr/bin/jmap (jmap) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jstatd to provi
de /usr/bin/jstatd (jstatd) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jhat to provide
/usr/bin/jhat (jhat) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jdb to provide
/usr/bin/jdb (jdb) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/serialver to pr
ovide /usr/bin/serialver (serialver) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jfr to provide
/usr/bin/jfr (jfr) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/wsgen to provid
e /usr/bin/wsgen (wsgen) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jcmd to provide
/usr/bin/jcmd (jcmd) in auto mode
thanhlam@ubuntu:~$

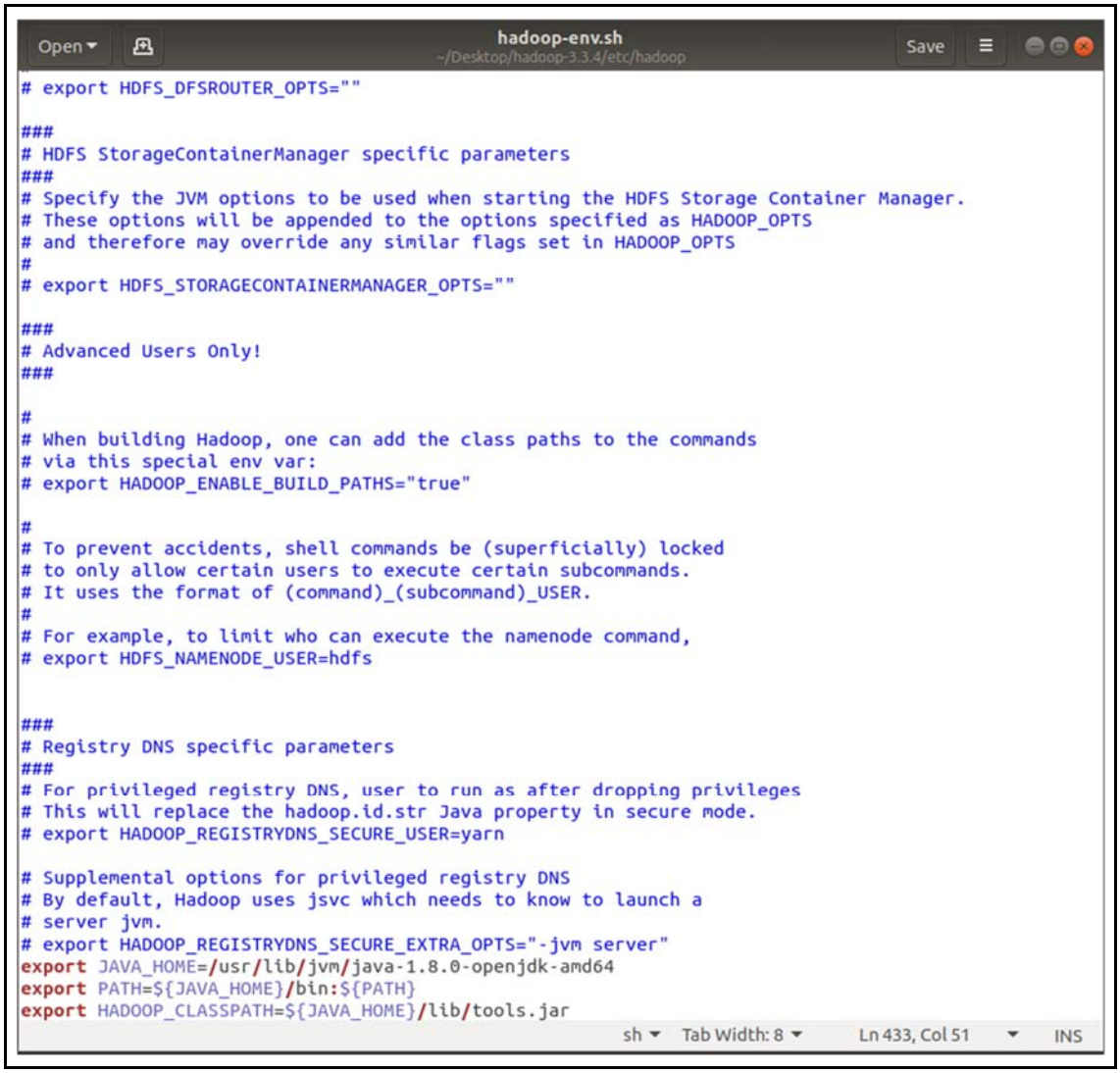

thanhlam@ubuntu: ~
File Edit View Search Terminal Help
Setting up ncurses-term (6.1-1ubuntu1.18.04) ...
Setting up openssh-sftp-server (1:7.6p1-4ubuntu0.7) ...
Setting up ssh-import-id (5.7-0ubuntu1.1) ...
Setting up openssh-server (1:7.6p1-4ubuntu0.7) ...
Creating config file /etc/ssh/sshd_config with new version
Creating SSH2 RSA key; this may take some time ...
2048 SHA256:SmnmJ0CIyINymHCRa6tyYbw+Fa/EZNT1qVGihPH6X+o root@ubuntu (RSA)
Creating SSH2 ECDSA key; this may take some time ...
256 SHA256:xLi20FCQivAPySFusCz4bFUI7g1ybEOd6YD1GPxGfr8 root@ubuntu (ECDSA)
Creating SSH2 ED25519 key; this may take some time ...
256 SHA256:B6BZn1ytLRqfu1DHddJvVa+OsaNI/BBHxNPgD84EQHw root@ubuntu (ED25519)
Created symlink /etc/systemd/system/sshd.service → /lib/systemd/system/ssh.service.
Created symlink /etc/systemd/system/multi-user.target.wants/ssh.service → /lib/systemd/system/ssh.service.
Setting up ssh (1:7.6p1-4ubuntu0.7) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for ufw (0.36-0ubuntu0.18.04.2) ...
Processing triggers for ureadahead (0.100.0-21) ...
Processing triggers for systemd (237-3ubuntu10.53) ...
thanhlam@ubuntu:~$
thanhlam@ubuntu: ~
File Edit View Search Terminal Help
Get:2 http://us.archive.ubuntu.com/ubuntu bionic/universe amd64 genders amd64 1.21-1build5 [30.9 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu bionic/universe amd64 pdsh amd64 2.31-3build2 [108 kB]
Fetched 170 kB in 3s (61.6 kB/s)
Preconfiguring packages ...
Selecting previously unselected package libgenders0:amd64.
(Reading database ... 154406 files and directories currently installed.)
Preparing to unpack .../libgenders0_1.21-1build5_amd64.deb ...
Unpacking libgenders0:amd64 (1.21-1build5) ...
Selecting previously unselected package genders.
Preparing to unpack .../genders_1.21-1build5_amd64.deb ...
Unpacking genders (1.21-1build5) ...
Selecting previously unselected package pdsh.
Preparing to unpack .../pdsh_2.31-3build2_amd64.deb ...
Unpacking pdsh (2.31-3build2) ...
Setting up libgenders0:amd64 (1.21-1build5) ...
Setting up genders (1.21-1build5) ...
Setting up pdsh (2.31-3build2) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
Processing triggers for libc-bin (2.27-3ubuntu1.6) ...
thanhlam@ubuntu:~$

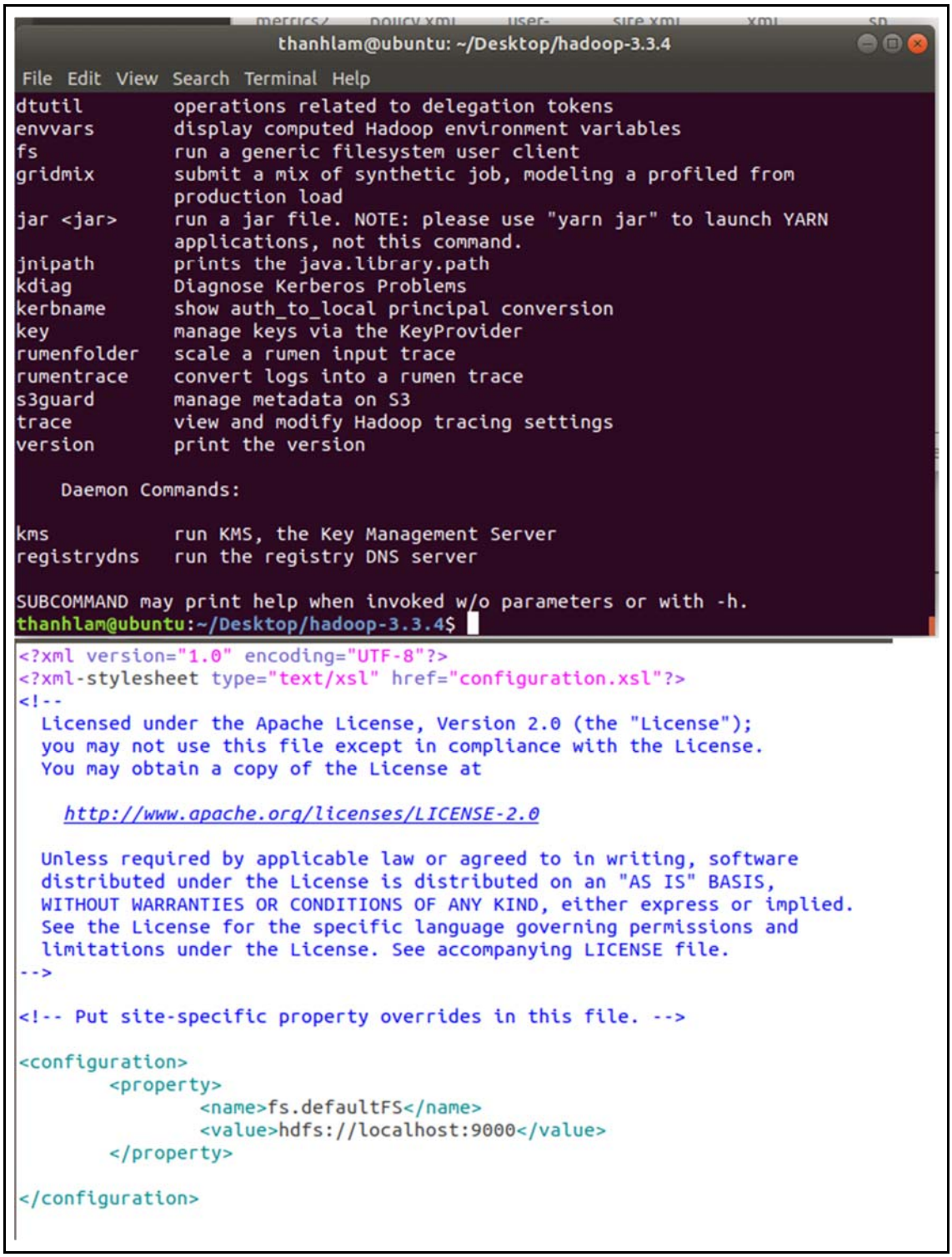
```
thanhlam@ubuntu:~$ ssh-keygen -t rsa -P '' -f ~/.ssh/id_rsa
Generating public/private rsa key pair.
Created directory '/home/thanhlam/.ssh'.
Your identification has been saved in /home/thanhlam/.ssh/id_rsa.
Your public key has been saved in /home/thanhlam/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:btkdKosoKIQ1uRpvGsam70oeCao4oft5CTmR6Uj2XC0 thanhlam@ubuntu
The key's randomart image is:
+---[RSA 2048]----+
|                 |
|                 |
|   +  .          |
| oB  E .         |
|=+o=. . S   .    |
|O.Bo   . o o .   |
|=& o .  = o .    |
|#.=.o. o o       |
|O@=o. . .        |
+----[SHA256]-----+
thanhlam@ubuntu:~$ cat ~/.ssh/id_rsa.pub >> ~/.ssh/authorized_keys
thanhlam@ubuntu:~$ chmod 0600 ~/.ssh/authorized_keys
thanhlam@ubuntu:~$
```

```
thanhlam@ubuntu: ~
File  Edit  View  Search  Terminal  Help
  libgom-1.0-0 libgpgmepp6 libgpod-common libgpod4 liblangtag-common
  liblangtag1 liblirc-client0 liblua5.3-0 libmediaart-2.0-0 libmspub-0.1-1
  libodfgen-0.1-1 libqqwing2v5 libraw16 librevenge-0.0-0 libsgutils2-2
  libssh-4 libsuitesparseconfig5 libvncclient1 libwinpr2-2 libxapian30
  libxmlsec1-nss lp-solve media-player-info python3-mako python3-markupsafe
  syslinux syslinux-common syslinux-legacy usb-creator-common
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  gpp
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 46.7 kB of archives.
After this operation, 99.3 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu bionic/universe amd64 gpp amd64 2.24-3
build1 [46.7 kB]
Fetched 46.7 kB in 2s (24.1 kB/s)
Selecting previously unselected package gpp.
(Reading database ... 154448 files and directories currently installed.)
Preparing to unpack .../gpp_2.24-3build1_amd64.deb ...
Unpacking gpp (2.24-3build1) ...
Setting up gpp (2.24-3build1) ...
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
thanhlam@ubuntu:~$
```


thanhlam@ubuntu: ~
File Edit View Search Terminal Help
-U : user-defined syntax (specified in 9 following args; see manual)
-M : user-defined syntax for meta-macros (specified in 7 following args)
-o : output to outfile
-O : output to outfile and stdout
-z : line terminator is CR-LF (MS-DOS style)
-x : enable #exec built-in macro
-m : enable automatic mode switching upon including .h/.c files
-n : send LF characters serving as macro terminators to output
+c : use next 2 args as comment start and comment end sequences
+s : use next 3 args as string start, end and quote character
Long options:
--include file : process file before infile
--nostdinc : don't search standard directories for files to include
--nocurinc : don't search the current directory for files to include
--curdirinclast : search the current directory last
--warninglevel n : set warning level
--includemarker formatstring : keep track of #include directives in output
--version : display version information and exit
-h, --help : display this message and exit
thanhlam@ubuntu:~$
thanhlam@ubuntu: ~
File Edit View Search Terminal Help
libodfgen-0.1-1 libqqwing2v5 libraw16 librevenge-0.0-0 libsgutils2-2
libssh-4 libsuitesparseconfig5 libvncclient1 libwinpr2-2 libxapian30
libxmlsec1-nss lp-solve media-player-info python3-mako python3-markupsafe
syslinux syslinux-common syslinux-legacy usb-creator-common
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
pgpgpg
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 14.9 kB of archives.
After this operation, 48.1 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu bionic/universe amd64 pgpgpg amd64 0.1
3-9.1build1 [14.9 kB]
Fetched 14.9 kB in 2s (8,614 B/s)
Selecting previously unselected package pgpgpg.
(Reading database ... 154459 files and directories currently installed.)
Preparing to unpack .../pgpgpg_0.13-9.1build1_amd64.deb ...
Unpacking pgpgpg (0.13-9.1build1) ...
Setting up pgpgpg (0.13-9.1build1) ...
update-alternatives: using /usr/bin/pgpgpg to provide /usr/bin/pgp (pgp) in auto
mode
Processing triggers for man-db (2.8.3-2ubuntu0.1) ...
thanhlam@ubuntu:~$

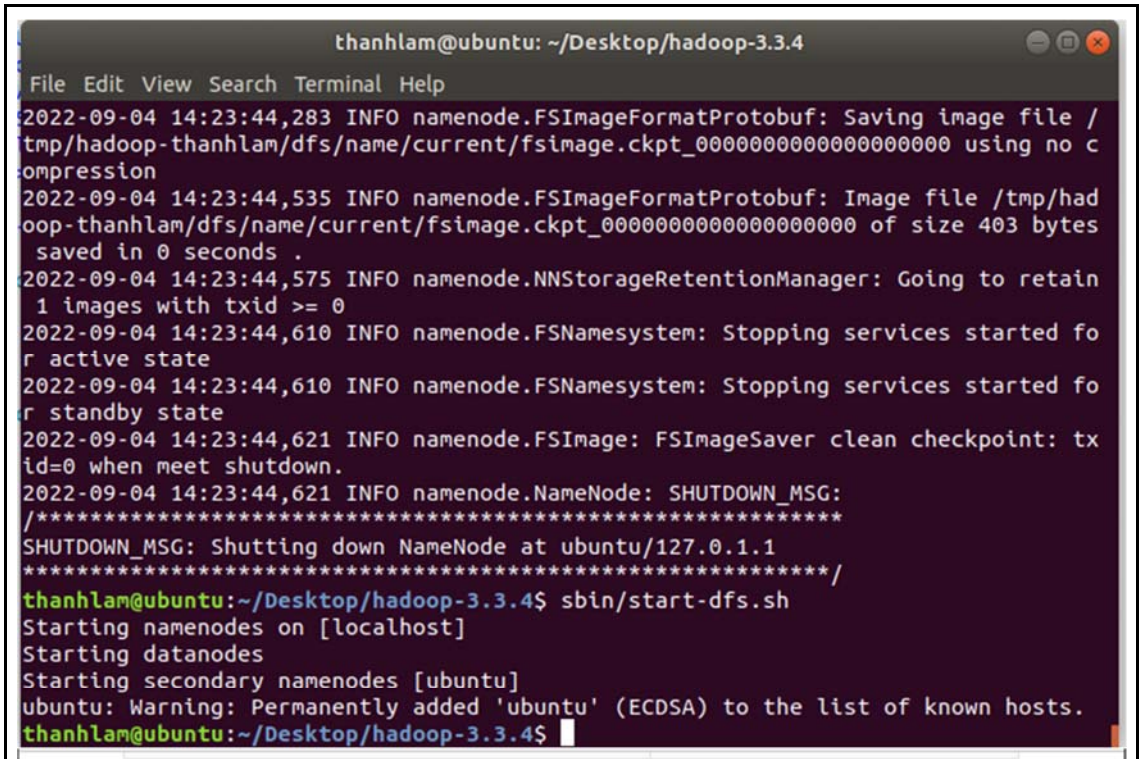

Extract
hadoop-3.3.4.tar.gz
/
Name
Size
Type
Modified
hadoop-3.3.4
1.4 GB
Folder
29 July 2022, 06:44
Cancel
Extracting the files from "hadoop-3.3.4.tar.gz"
Please wait...


Open
hadoop-env.sh
~/Desktop/hadoop-3.3.4/etc/hadoop
Save
export HDFS_DFSROUTER_OPTS=""
###
HDFS StorageContainerManager specific parameters
###
Specify the JVM options to be used when starting the HDFS Storage Container Manager.
These options will be appended to the options specified as HADOOP_OPTS
and therefore may override any similar flags set in HADOOP_OPTS
#
export HDFS_STORAGECONTAINERMANAGER_OPTS=""
###
Advanced Users Only!
###
#
When building Hadoop, one can add the class paths to the commands
via this special env var:
export HADOOP_ENABLE_BUILD_PATHS="true"
#
To prevent accidents, shell commands be (superficially) locked
to only allow certain users to execute certain subcommands.
It uses the format of (command)_(subcommand)_USER.
#
For example, to limit who can execute the namenode command,
export HDFS_NAMENODE_USER=hdfs
###
Registry DNS specific parameters
###
For privileged registry DNS, user to run as after dropping privileges
This will replace the hadoop.id.str Java property in secure mode.
export HADOOP_REGISTRYDNS_SECURE_USER=yarn
Supplemental options for privileged registry DNS
By default, Hadoop uses jsvc which needs to know to launch a
server jvm.
export HADOOP_REGISTRYDNS_SECURE_EXTRA_OPTS="-jvm server"
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-amd64
export PATH=${JAVA_HOME}/bin:${PATH}
export HADOOP_CLASSPATH=${JAVA_HOME}/lib/tools.jar
sh
Tab Width: 8
Ln 433, Col 51
INS


thanhlam@ubuntu: ~/Desktop/hadoop-3.3.4
File Edit View Search Terminal Help
dtutil operations related to delegation tokens
envvars display computed Hadoop environment variables
fs run a generic filesystem user client
gridmix submit a mix of synthetic job, modeling a profiled from production load
jar <jar> run a jar file. NOTE: please use "yarn jar" to launch YARN applications, not this command.
jnipath prints the java.library.path
kdiag Diagnose Kerberos Problems
kerbname show auth_to_local principal conversion
key manage keys via the KeyProvider
rumenfolder scale a rumen input trace
rumentrace convert logs into a rumen trace
s3guard manage metadata on S3
trace view and modify Hadoop tracing settings
version print the version
Daemon Commands:
kms run KMS, the Key Management Server
registrydns run the registry DNS server
SUBCOMMAND may print help when invoked w/o parameters or with -h.
thanhlam@ubuntu:~/Desktop/hadoop-3.3.4$
<?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>
<property>
<name>fs.defaultFS</name>
<value>hdfs://localhost:9000</value>
</property>
</configuration>

```
<?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>
        <property>
                <name>dfs.replication</name>
                <value>1</value>
        </property>
</configuration>
```

```
thanhlam@ubuntu: ~/Desktop/hadoop-3.3.4
File  Edit  View  Search  Terminal  Help
2022-09-04 14:23:43,861 INFO util.GSet: capacity      = 2^15 = 32768 entries
2022-09-04 14:23:43,963 INFO namenode.FSImage: Allocated new BlockPoolId: BP-217
928529-127.0.1.1-1662326623943
2022-09-04 14:23:44,118 INFO common.Storage: Storage directory /tmp/hadoop-thanh
lam/dfs/name has been successfully formatted.
2022-09-04 14:23:44,283 INFO namenode.FSImageFormatProtobuf: Saving image file /
tmp/hadoop-thanhlam/dfs/name/current/fsimage.ckpt_0000000000000000000 using no c
ompression
2022-09-04 14:23:44,535 INFO namenode.FSImageFormatProtobuf: Image file /tmp/had
oop-thanhlam/dfs/name/current/fsimage.ckpt_0000000000000000000 of size 403 bytes
 saved in 0 seconds .
2022-09-04 14:23:44,575 INFO namenode.NNStorageRetentionManager: Going to retain
 1 images with txid >= 0
2022-09-04 14:23:44,610 INFO namenode.FSNamesystem: Stopping services started fo
r active state
2022-09-04 14:23:44,610 INFO namenode.FSNamesystem: Stopping services started fo
r standby state
2022-09-04 14:23:44,621 INFO namenode.FSImage: FSImageSaver clean checkpoint: tx
id=0 when meet shutdown.
2022-09-04 14:23:44,621 INFO namenode.NameNode: SHUTDOWN_MSG:
/************************************************************
SHUTDOWN_MSG: Shutting down NameNode at ubuntu/127.0.1.1
************************************************************/
thanhlam@ubuntu:~/Desktop/hadoop-3.3.4$
```



NameNode Journal Status

Current transaction ID: 3

Journal Manager	State
FileJournalManager(root=/tmp/hadoop-thanhlam/dfs/name)	EditLogFileOutputStream(/tmp/hadoop-thanhlam/dfs/name/current/edits_inprogress_0000000000000000003)

NameNode Storage

Storage Directory	Type	State
/tmp/hadoop-thanhlam/dfs/name	IMAGE_AND_EDITS	Active

DFS Storage Types

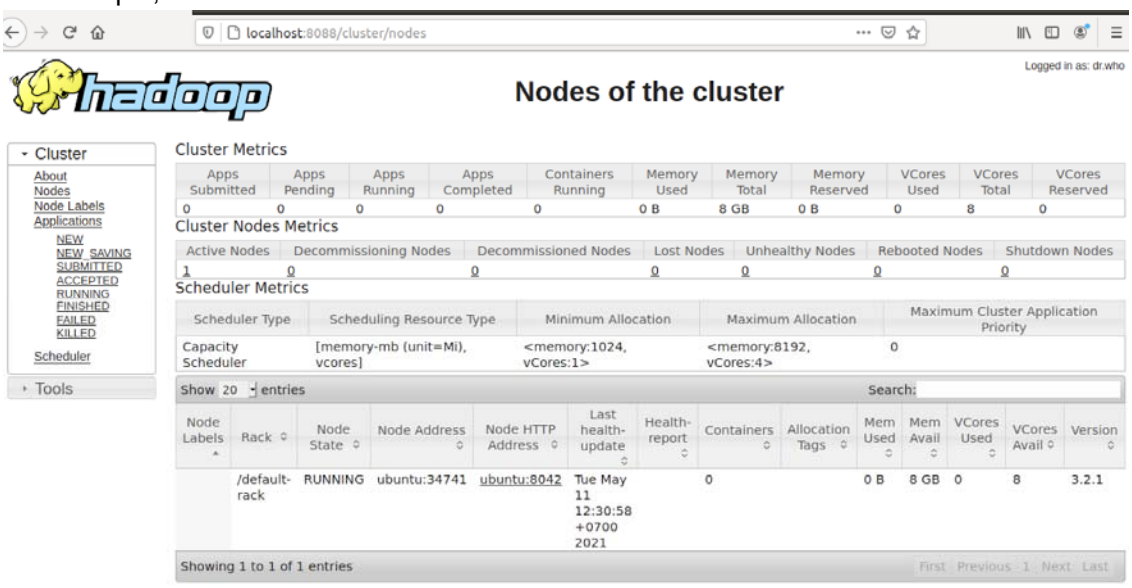
Storage Type	Configured Capacity	Capacity Used	Capacity Remaining	Block Pool Used	Nodes In Service
DISK	19.52 GB	24 KB (0%)	9.14 GB (46.82%)	24 KB	1

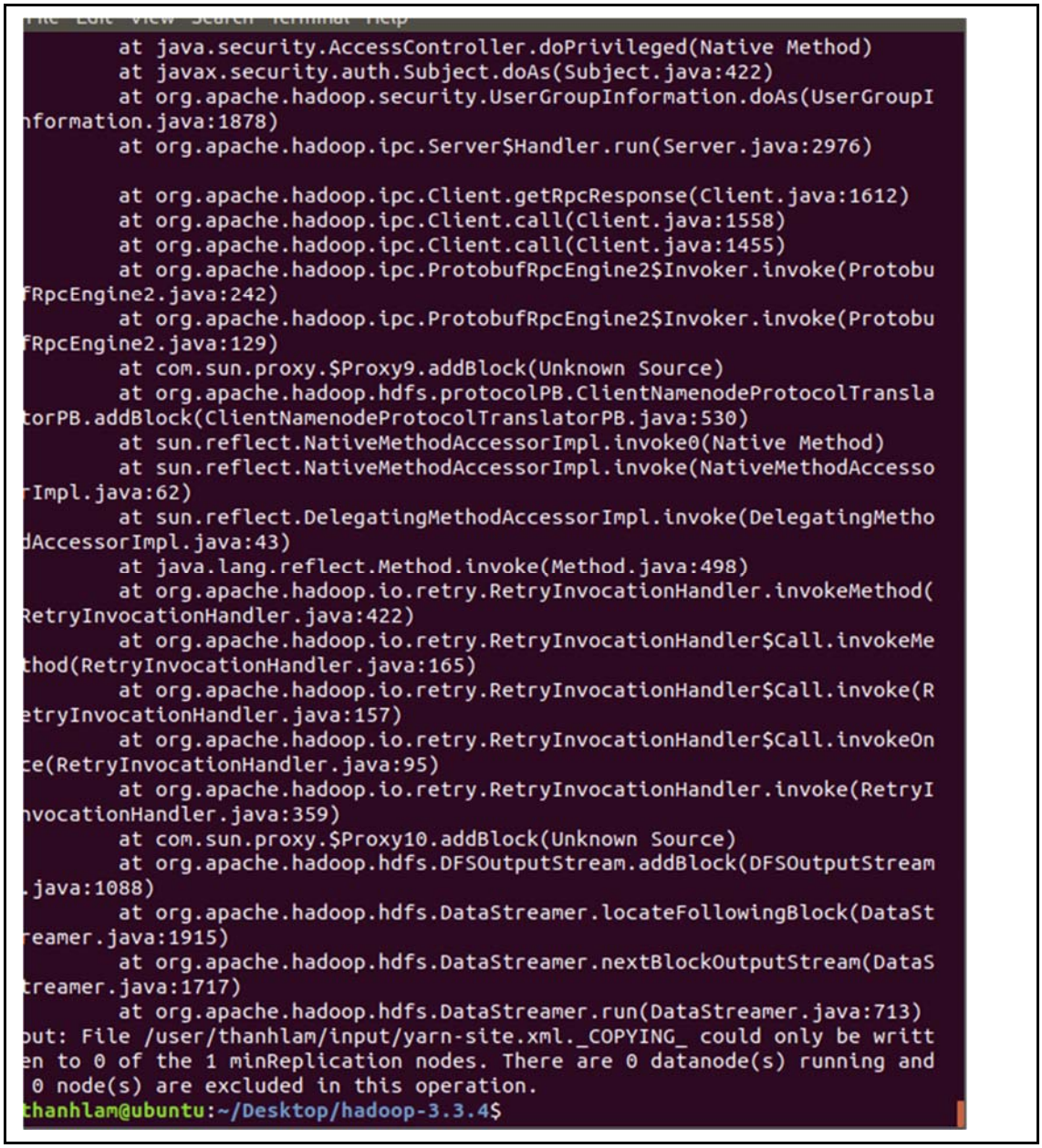
Hadoop,
2022.

```
thanhlam@ubuntu:~/Desktop/hadoop-3.3.4$ sbin/stop-dfs.sh
Stopping namenodes on [localhost]
Stopping datanodes
Stopping secondary namenodes [ubuntu]
```

Question 2:

Set up Hadoop following this tutorial and then take a screenshot of the yarn-site (localhost:8088) which shows information for nodes (http://localhost:8088/cluster/nodes).
For example,

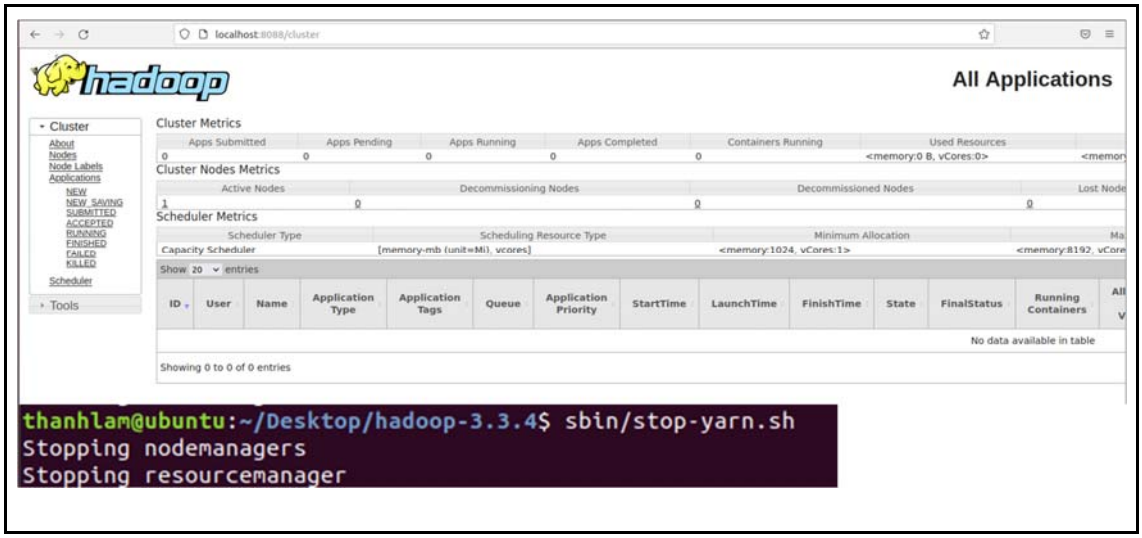



at java.security.AccessController.doPrivileged(Native Method)
at javax.security.auth.Subject.doAs(Subject.java:422)
at org.apache.hadoop.security.UserGroupInformation.doAs(UserGroupI
nformation.java:1878)
at org.apache.hadoop.ipc.Server$Handler.run(Server.java:2976)
at org.apache.hadoop.ipc.Client.getRpcResponse(Client.java:1612)
at org.apache.hadoop.ipc.Client.call(Client.java:1558)
at org.apache.hadoop.ipc.Client.call(Client.java:1455)
at org.apache.hadoop.ipc.ProtobufRpcEngine2$Invoker.invoke(Protobu
fRpcEngine2.java:242)
at org.apache.hadoop.ipc.ProtobufRpcEngine2$Invoker.invoke(Protobu
fRpcEngine2.java:129)
at com.sun.proxy.$Proxy9.addBlock(Unknown Source)
at org.apache.hadoop.hdfs.protocolPB.ClientNamenodeProtocolTransla
torPB.addBlock(ClientNamenodeProtocolTranslatorPB.java:530)
at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccesso
rImpl.java:62)
at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMetho
dAccessorImpl.java:43)
at java.lang.reflect.Method.invoke(Method.java:498)
at org.apache.hadoop.io.retry.RetryInvocationHandler.invokeMethod(
RetryInvocationHandler.java:422)
at org.apache.hadoop.io.retry.RetryInvocationHandler$Call.invokeMe
thod(RetryInvocationHandler.java:165)
at org.apache.hadoop.io.retry.RetryInvocationHandler$Call.invoke(R
etryInvocationHandler.java:157)
at org.apache.hadoop.io.retry.RetryInvocationHandler$Call.invokeOn
ce(RetryInvocationHandler.java:95)
at org.apache.hadoop.io.retry.RetryInvocationHandler.invoke(RetryI
nvocationHandler.java:359)
at com.sun.proxy.$Proxy10.addBlock(Unknown Source)
at org.apache.hadoop.hdfs.DFSOutputStream.addBlock(DFSOutputStream
.java:1088)
at org.apache.hadoop.hdfs.DataStreamer.locateFollowingBlock(DataSt
reamer.java:1915)
at org.apache.hadoop.hdfs.DataStreamer.nextBlockOutputStream(DataS
treamer.java:1717)
at org.apache.hadoop.hdfs.DataStreamer.run(DataStreamer.java:713)
put: File /user/thanhlam/input/yarn-site.xml._COPYING_ could only be writt
en to 0 of the 1 minReplication nodes. There are 0 datanode(s) running and
0 node(s) are excluded in this operation.
thanhlam@ubuntu:~/Desktop/hadoop-3.3.4$

```
<?xml version="1.0"?>
<?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>
        <property>
                <name>mapreduce.framework.name</name>
                <value>yarn</value>
                </property>
                <property>
                <name>mapreduce.application.classpath</name>
                <value>$HADOOP_MAPRED_HOME/share/hadoop/mapreduce/*:
$HADOOP_MAPRED_HOME/share/hadoop/mapreduce/lib/*</value>
        </property>
</configuration>
```

```
<?xml version="1.0"?>
<!--
  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.
-->
<configuration>

<!-- Site specific YARN configuration properties -->
        <property>
        <name>yarn.nodemanager.aux-services</name>
        <value>mapreduce_shuffle</value>
        </property>
        <property>
        <name>yarn.nodemanager.env-whitelist</name>
        <value>JAVA_HOME,HADOOP_COMMON_HOME,HADOOP_HDFS_HOME,HADOO
P_CONF_DIR,CLASSPATH_PREPEND_DISTCACHE,HADOOP_YARN_HOME,HA
DOOP_MAPRED_HOME</value>
        </property>
</configuration>
```

```
thanhlam@ubuntu:~/Desktop/hadoop-3.3.4$ sbin/start-yarn.sh
Starting resourcemanager
Starting nodemanagers
```


localhost:8088/cluster
hadoop
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
0
0
0
0
0
<memory:0 B, vCores:0>
Cluster Nodes Metrics
Active Nodes
Decommissioning Nodes
Decommissioned Nodes
Lost Node
1
0
0
0
Scheduler Metrics
Scheduler Type
Scheduling Resource Type
Minimum Allocation
Capacity Scheduler
[memory-mb (unit=Mi), vcores]
<memory:1024, vCores:1>
Show 20 entries
ID
User
Name
Application Type
Application Tags
Queue
Application Priority
StartTime
LaunchTime
FinishTime
State
FinalStatus
Running Containers
No data available in table
Showing 0 to 0 of 0 entries
thanhlam@ubuntu:~/Desktop/hadoop-3.3.4$ sbin/stop-yarn.sh
Stopping nodemanagers
Stopping resourcemanager

Submission Notice

- Export your answer file as pdf
- Rename the pdf following the format:

  <student number>_HoTen.pdf

  E.g: **123456_NguyenThanhAn.pdf**

  If you have not been assigned a student number yet, then use 123456 instead.
- Careless mistakes in filename, format, question order, etc. are not accepted (0 pts).