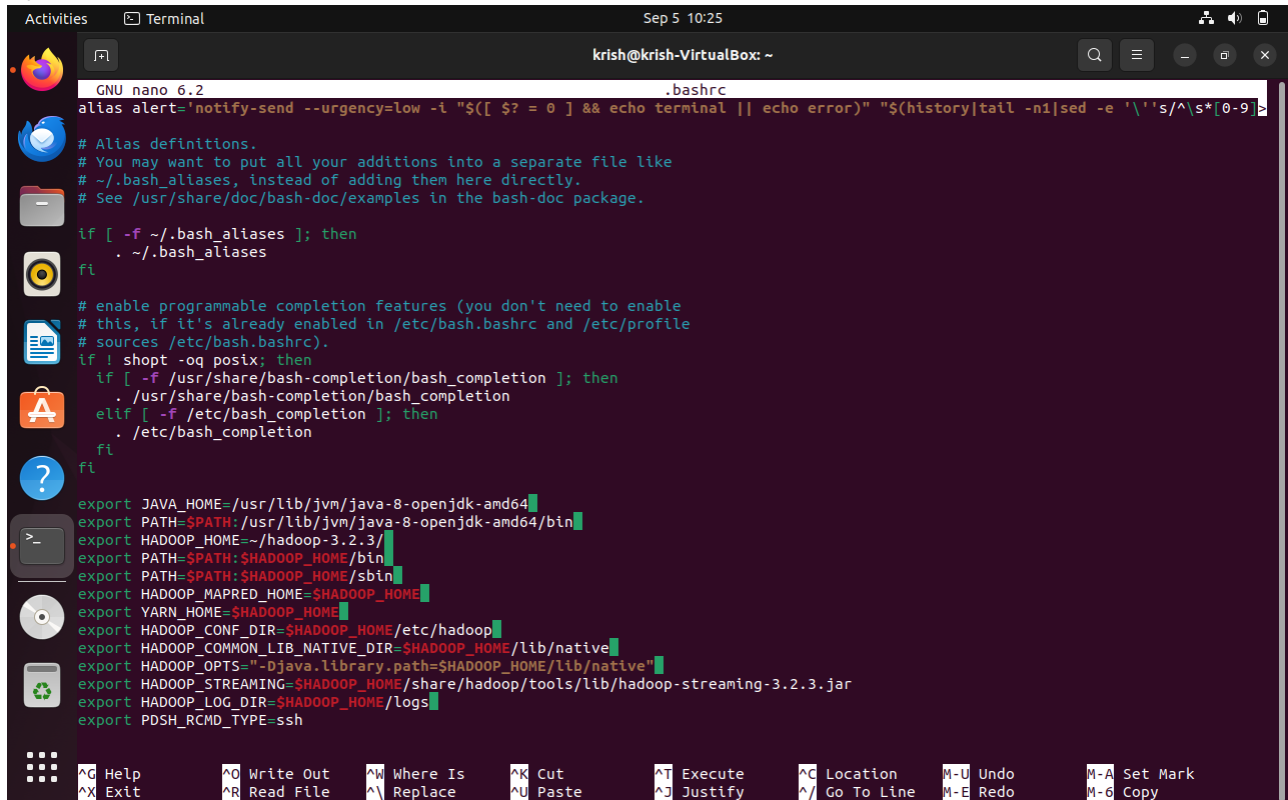**Exp No: 1 Downloading and installing Hadoop, Understanding different Hadoop modes, Startup scripts, Configuration files.**

$ nano ~/.bashrc
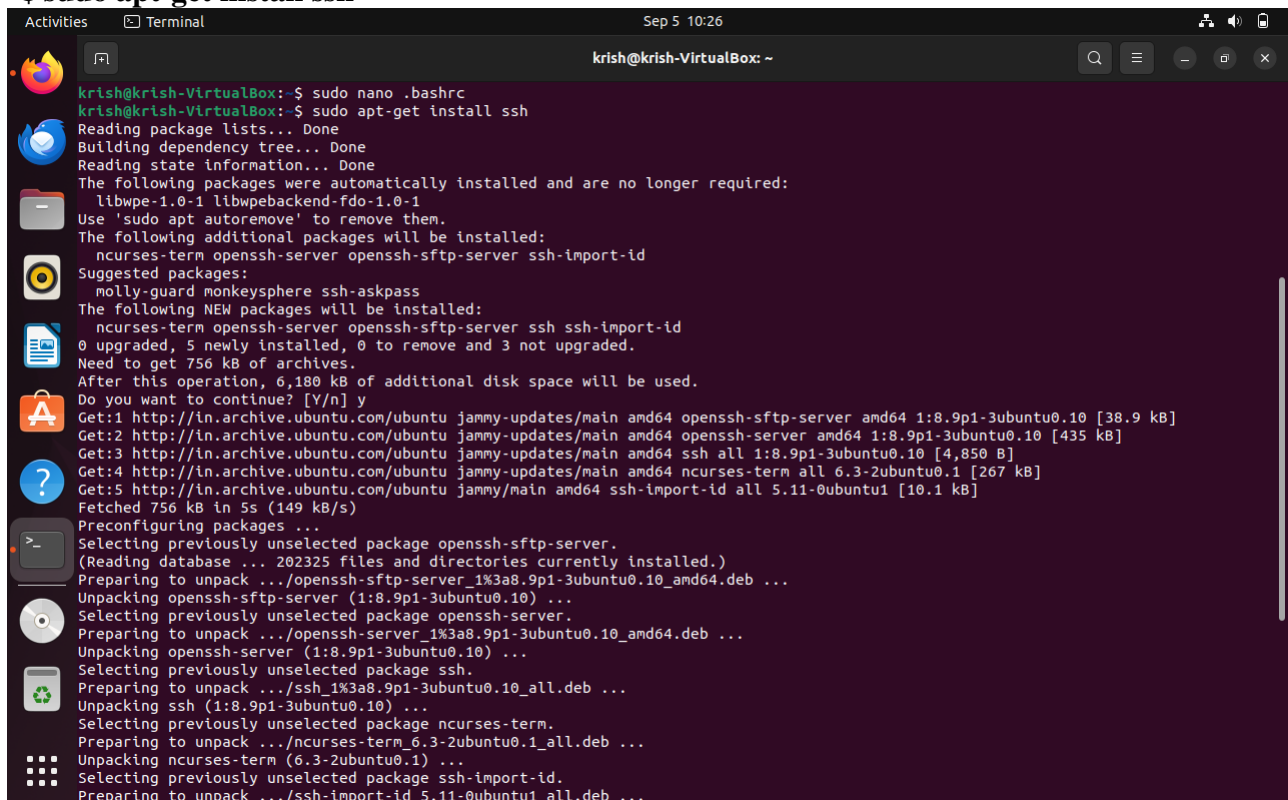


```
GNU nano 6.2                                    .bashrc
alias alert='notify-send --urgency=low -i "$([ $? = 0 ] && echo terminal || echo error)" "$(history|tail -n1|sed -e '\''s/^\s*[0-9]>

# Alias definitions.
# You may want to put all your additions into a separate file like
# ~/.bash_aliases, instead of adding them here directly.
# See /usr/share/doc/bash-doc/examples in the bash-doc package.

if [ -f ~/.bash_aliases ]; then
    . ~/.bash_aliases
fi

# enable programmable completion features (you don't need to enable
# this, if it's already enabled in /etc/bash.bashrc and /etc/profile
# sources /etc/bash.bashrc).
if ! shopt -oq posix; then
  if [ -f /usr/share/bash-completion/bash_completion ]; then
    . /usr/share/bash-completion/bash_completion
  elif [ -f /etc/bash_completion ]; then
    . /etc/bash_completion
  fi
fi

export JAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64
export PATH=$PATH:/usr/lib/jvm/java-8-openjdk-amd64/bin
export HADOOP_HOME=~/hadoop-3.2.3/
export PATH=$PATH:$HADOOP_HOME/bin
export PATH=$PATH:$HADOOP_HOME/sbin
export HADOOP_MAPRED_HOME=$HADOOP_HOME
export YARN_HOME=$HADOOP_HOME
export HADOOP_CONF_DIR=$HADOOP_HOME/etc/hadoop
export HADOOP_COMMON_LIB_NATIVE_DIR=$HADOOP_HOME/lib/native
export HADOOP_OPTS="-Djava.library.path=$HADOOP_HOME/lib/native"
export HADOOP_STREAMING=$HADOOP_HOME/share/hadoop/tools/lib/hadoop-streaming-3.2.3.jar
export HADOOP_LOG_DIR=$HADOOP_HOME/logs
export PDSH_RCMD_TYPE=ssh

^G Help        ^O Write Out    ^W Where Is    ^K Cut      ^T Execute    ^C Location   M-U Undo    M-A Set Mark
^X Exit        ^R Read File    ^\ Replace     ^U Paste    ^J Justify    ^/ Go To Line M-E Redo    M-6 Copy
```
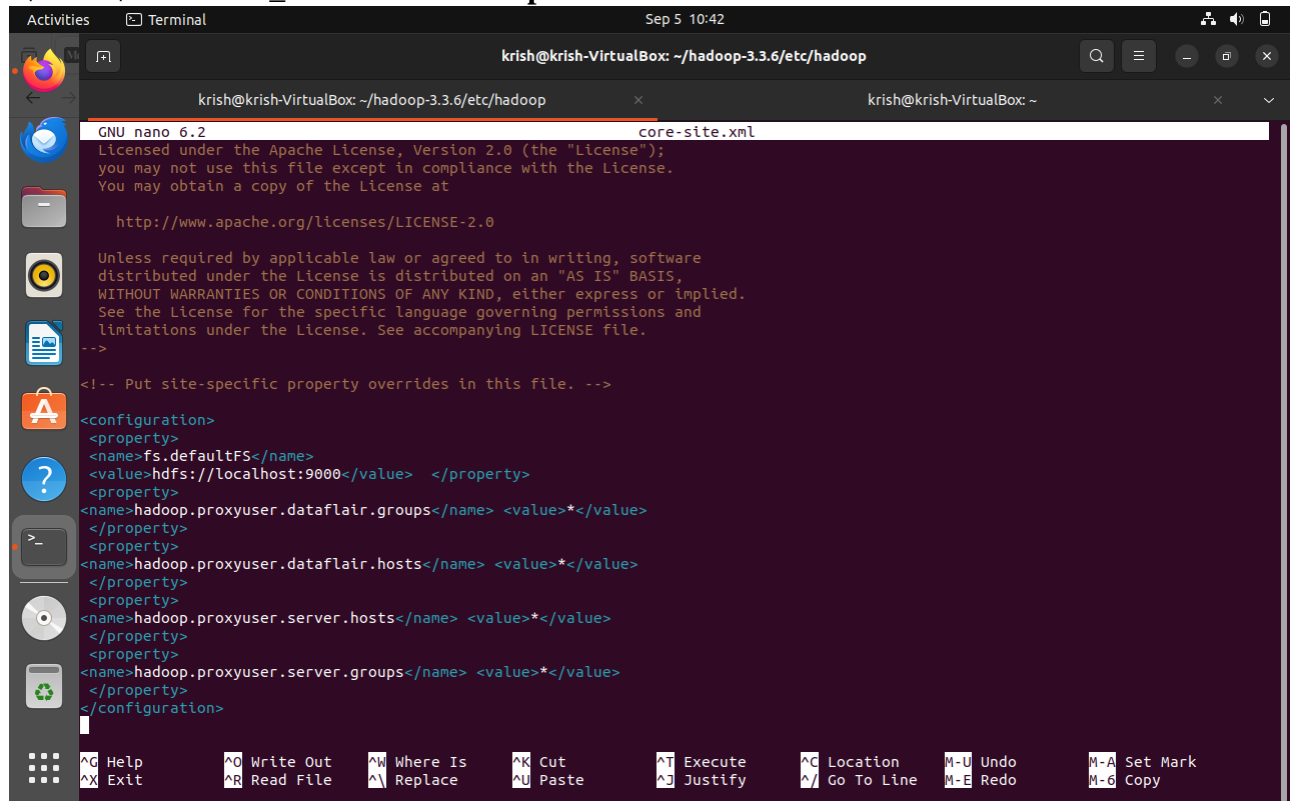
$ sudo apt-get install ssh


```
krish@krish-VirtualBox:~$ sudo nano .bashrc
krish@krish-VirtualBox:~$ sudo apt-get install ssh
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
Suggested packages:
  molly-guard monkeysphere ssh-askpass
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh ssh-import-id
0 upgraded, 5 newly installed, 0 to remove and 3 not upgraded.
Need to get 756 kB of archives.
After this operation, 6,180 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 openssh-sftp-server amd64 1:8.9p1-3ubuntu0.10 [38.9 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 openssh-server amd64 1:8.9p1-3ubuntu0.10 [435 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 ssh all 1:8.9p1-3ubuntu0.10 [4,850 B]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 ncurses-term all 6.3-2ubuntu0.1 [267 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 ssh-import-id all 5.11-0ubuntu1 [10.1 kB]
Fetched 756 kB in 5s (149 kB/s)
Preconfiguring packages ...
Selecting previously unselected package openssh-sftp-server.
(Reading database ... 202325 files and directories currently installed.)
Preparing to unpack .../openssh-sftp-server_1%3a8.9p1-3ubuntu0.10_amd64.deb ...
Unpacking openssh-sftp-server (1:8.9p1-3ubuntu0.10) ...
Selecting previously unselected package openssh-server.
Preparing to unpack .../openssh-server_1%3a8.9p1-3ubuntu0.10_amd64.deb ...
Unpacking openssh-server (1:8.9p1-3ubuntu0.10) ...
Selecting previously unselected package ssh.
Preparing to unpack .../ssh_1%3a8.9p1-3ubuntu0.10_all.deb ...
Unpacking ssh (1:8.9p1-3ubuntu0.10) ...
Selecting previously unselected package ncurses-term.
Preparing to unpack .../ncurses-term_6.3-2ubuntu0.1_all.deb ...
Unpacking ncurses-term (6.3-2ubuntu0.1) ...
Selecting previously unselected package ssh-import-id.
Preparing to unpack .../ssh-import-id_5.11-0ubuntu1_all.deb ...
```

$nano $HADOOP_HOME/etc/hadoop/core-site.xml

```
Activities          Terminal                        Sep 5 10:42

                    krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop

    krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop    ×        krish@krish-VirtualBox: ~

  GNU nano 6.2                                core-site.xml
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  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>
 <property>
<name>hadoop.proxyuser.dataflair.groups</name> <value>*</value>
 </property>
 <property>
<name>hadoop.proxyuser.dataflair.hosts</name> <value>*</value>
 </property>
 <property>
<name>hadoop.proxyuser.server.hosts</name> <value>*</value>
 </property>
 <property>
<name>hadoop.proxyuser.server.groups</name> <value>*</value>
 </property>
</configuration>

^G Help      ^O Write Out  ^W Where Is   ^K Cut       ^T Execute   ^C Location   M-U Undo    M-A Set Mark
^X Exit      ^R Read File  ^\ Replace    ^U Paste     ^J Justify   ^/ Go To Line M-E Redo    M-6 Copy
```
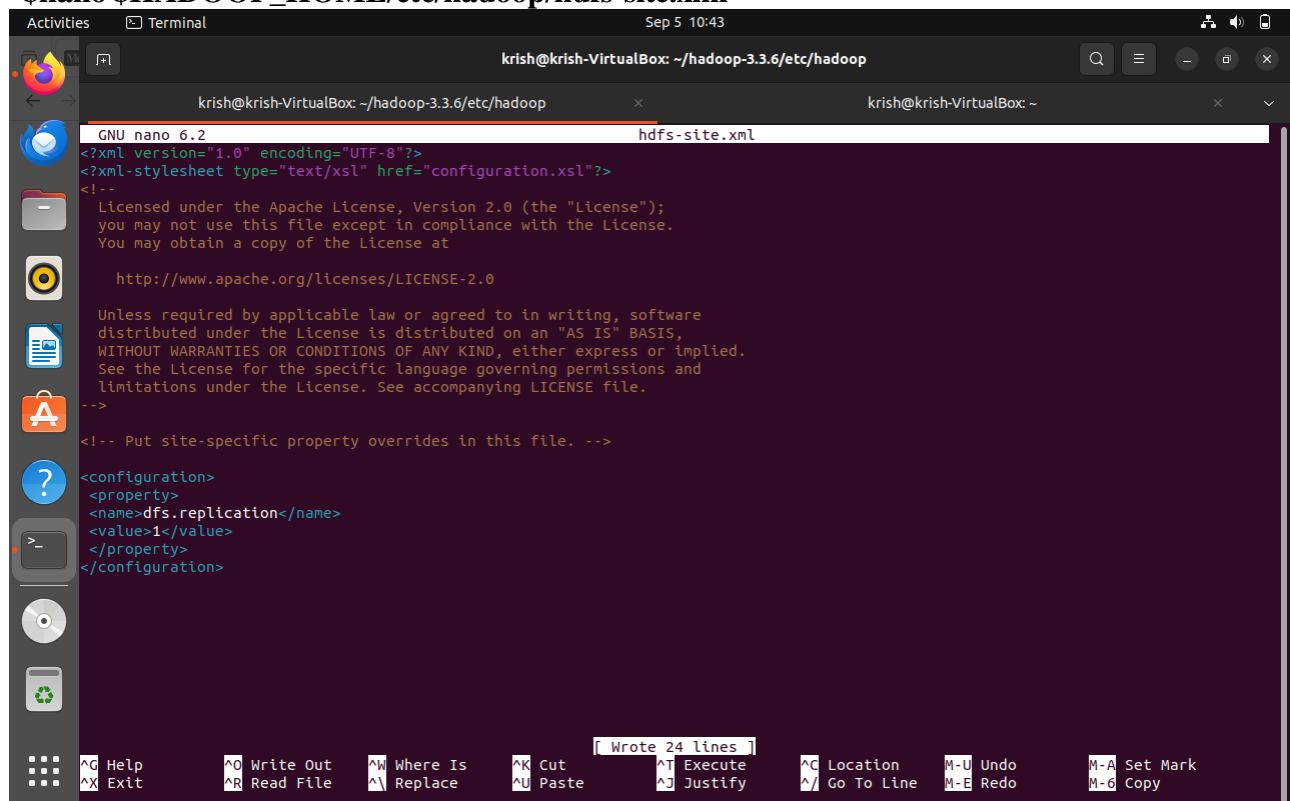
$nano $HADOOP_HOME/etc/hadoop/hdfs-site.xml

```
Activities          Terminal                        Sep 5 10:43

                    krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop

    krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop    ×        krish@krish-VirtualBox: ~

  GNU nano 6.2                                hdfs-site.xml
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<!--
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  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

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  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>

                              [ Wrote 24 lines ]
^G Help      ^O Write Out  ^W Where Is   ^K Cut       ^T Execute   ^C Location   M-U Undo    M-A Set Mark
^X Exit      ^R Read File  ^\ Replace    ^U Paste     ^J Justify   ^/ Go To Line M-E Redo    M-6 Copy
```
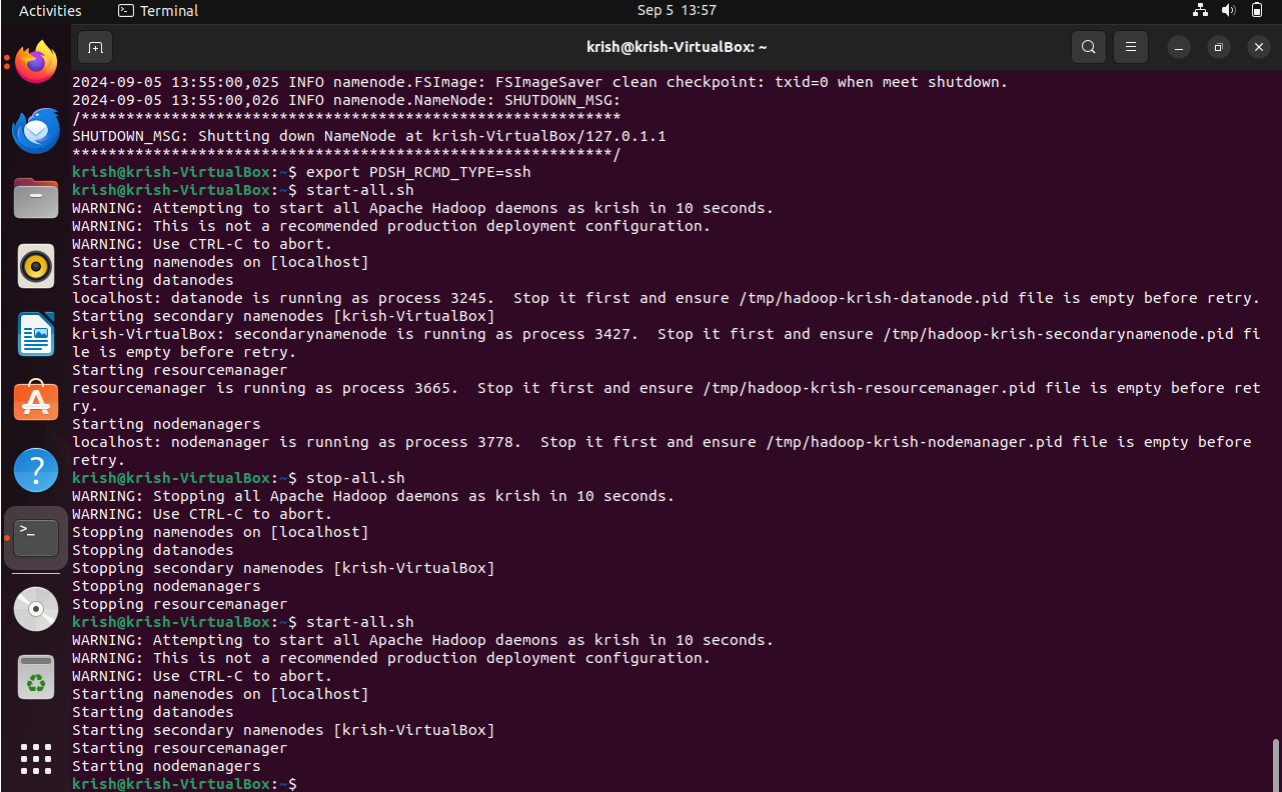
$nano $HADOOP_HOME/etc/hadoop/mapred-site.xml

Activities   Terminal   Sep 5 10:43

krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop

krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop   ×   krish@krish-VirtualBox: ~

```
GNU nano 6.2                           mapred-site.xml
<?xml version="1.0"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<!--
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  you may not use this file except in compliance with the License.
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    http://www.apache.org/licenses/LICENSE-2.0

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  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>
```

[Wrote 28 lines]

| ^G Help | ^O Write Out | ^W Where Is | ^K Cut | ^T Execute | ^C Location | M-U Undo | M-A Set Mark |
| ^X Exit | ^R Read File | ^\ Replace | ^U Paste | ^J Justify | ^/ Go To Line | M-E Redo | M-6 Copy |

$nano $HADOOP_HOME/etc/hadoop/yarn-site.xml

Activities   Terminal   Sep 5 10:44

krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop

krish@krish-VirtualBox: ~/hadoop-3.3.6/etc/hadoop   ×   krish@krish-VirtualBox: ~

```
GNU nano 6.2                           yarn-site.xml
<?xml version="1.0"?>
<!--
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  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>
 <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,HADOOP_CONF_DIR,CLASSPATH_PREP END_DISTCACHE,HADOOP_YARN_HOME,HADOOP_MAPRED_HO>
 </property>
</configuration>
```

[Wrote 26 lines]

| ^G Help | ^O Write Out | ^W Where Is | ^K Cut | ^T Execute | ^C Location | M-U Undo | M-A Set Mark |
| ^X Exit | ^R Read File | ^\ Replace | ^U Paste | ^J Justify | ^/ Go To Line | M-E Redo | M-6 Copy |

$ start-all.sh

localhost:9870

localhost:8088