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Downloading and installing Hadoop, Understanding different Hadoop modes, Startup scripts, Configuration files.

Aim:

To Download and install Hadoop, Understanding different Hadoop modes, Startup scripts, Configuration files.

Procedure:

Step 1: Install java jdk 8

First of all you must install Java JDK 8 on your system. You can just type this command to install java jdk on your system.

sudo apt install openjdk-8-jdk

To check it's there cd /usr/lib/jvm

Step 2 : Add this configuration on you bash file

Now just open .bashrc file and paste these commands.

```
export JAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64
export PATH=$PATH:/usr/lib/jvm/java-8-openjdk-amd64/bin
export PATH=$PATH:$hADOOP_HOME/bin
export PATH=$PATH:$HADOOP_HOME/sbin
export PATH=$PATH:$HADOOP_HOME/sbin
export HADOOP_MAPRED_HOME=$HADOOP_HOME
export YARN_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
```

(ssh — secure shell — protocol used to securely connect to remote server/system — transfers data in encrypted form)

sudo apt-get install ssh

now go to hadoop.apache.org website download the tar file (hadoop.apache.org — download tar file of hadoop.)

tar -zxvf ~/Downloads/hadoop-3.2.3.tar.gz

(Extract the tar file)

cd hadoop-3.2.3/etc/hadoop

now open hadoop-env.hsudo nano hadoop-env.hJAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64 (set the path for JAVA_HOME)

Step 3: Add this file in core-site.xml

```
Now add this configuration in core-site.xml file. core-site.xml
```

Step 3: Add this file in hdfs-site.xml

</property>
</configuration>

Now add this configuration in hdfs-site.xml file.

```
hdfs-site.xml
<configuration>
<property>
<name>dfs.replication</name>
<value>1</value>
</property>
</configuration>
```

Step 4: Add this file in mapred-site.xml

</configuration>

Now add this configuration in mapred-site.xml file.

Step 4: Add this file in yarn-site.xml

```
Now add this configuration in yarn-site.xml file.
yarn-site.xml
<configuration>
cproperty>
<name>yarn.nodemanager.aux-services</name>
<value>mapreduce_shuffle</value>
</property>
cproperty>
<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 HOME</value>
</property>
</configuration>
ssh
ssh localhost
ssh-keygen -t rsa -P " -f ~/.ssh/id rsa
cat ~/.ssh/id rsa.pub >> ~/.ssh/authorized keys
chmod 0600 ~/.ssh/authorized keys
hadoop-3.2.3/bin/hdfs namenode -format
format the file system
export PDSH_RCMD_TYPE=ssh
```

Step 5: Start hadoop

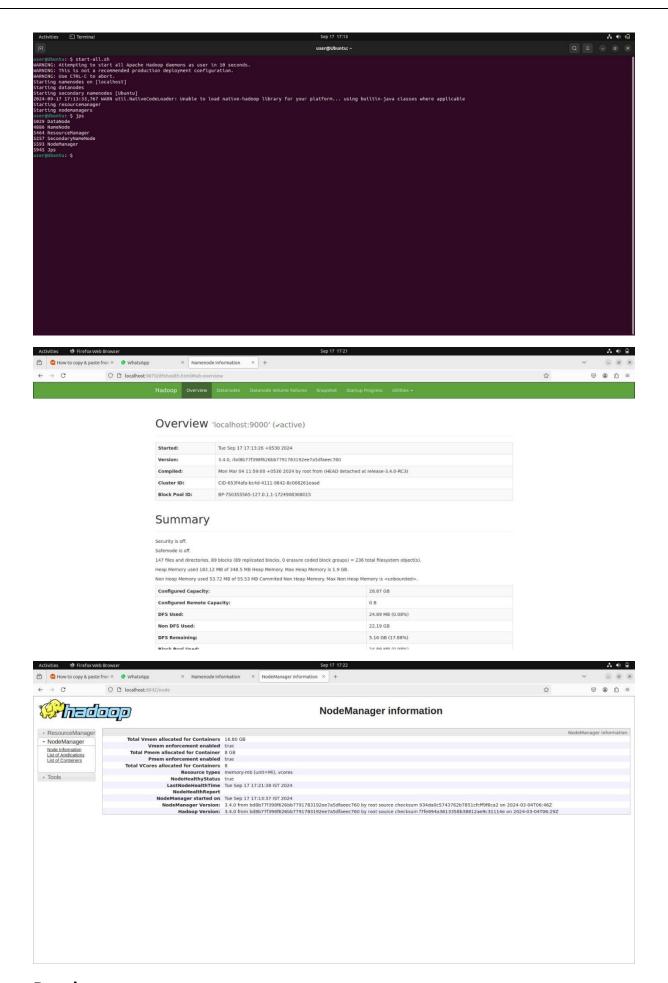
To start

start-all.sh(Start NameNode daemon and DataNode daemon)

This is how you can install hadoop on your ubuntu operating system and start using on your system.

Step 6: Check the status using jps

Jps



Result:

The step-by-step installation and configuration of Hadoop on Ubutu linux system have been successfully completed.