STEP BY STEP HADOOP AND HIVE INSTALLATION

Important Note **- The following steps are to install a specific version of Ubuntu, Hadoop, Java and Hive. The steps will vary if you are using other versions.**

I will be installing Hadoop 1.2.1 and Hive 0.14 as these versions are best suited for learning purposes.

Step 1 – If you are using Linux OS directly go to Installing Hadoop .

For Windows:

Download the Virtual box from this link

https://www.virtualbox.org/wiki/Downloads

Click on Windows host to download.

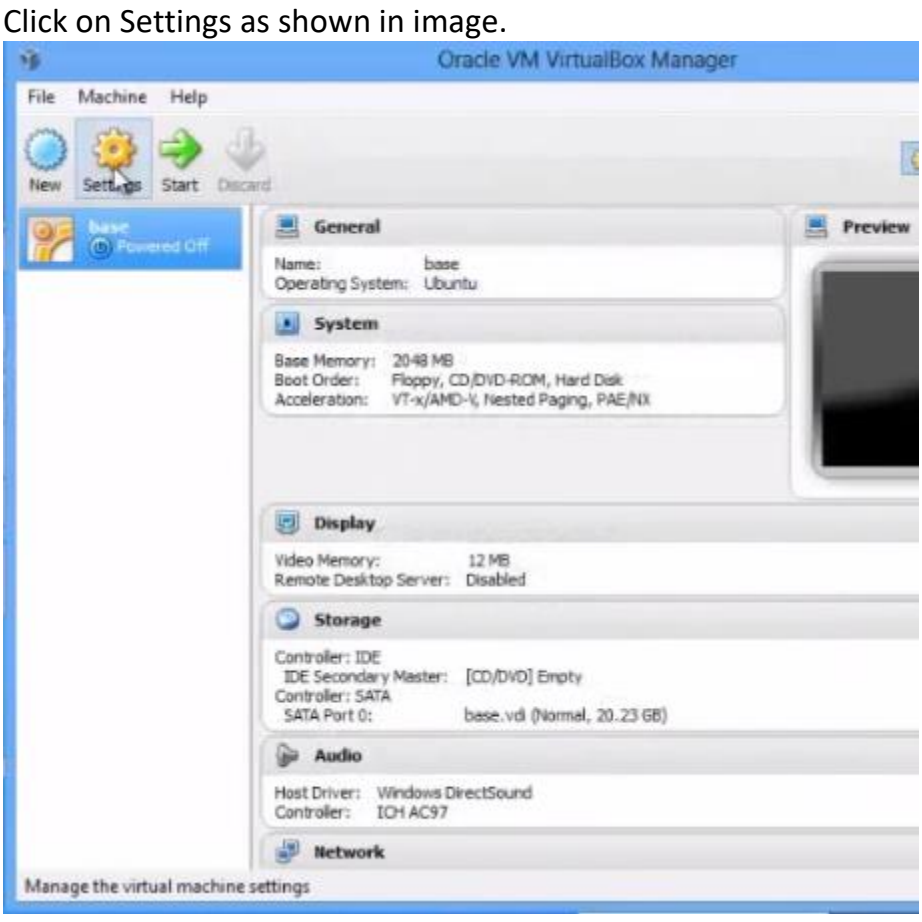
Step 2 - Download UBUNTU LTS 64 bit from below link. Note that it should be LTS and 64 bit. I downloaded the Ubuntu LTS 12.04 (preferable for this installation).

http://www.ubuntu.com/download/desktop

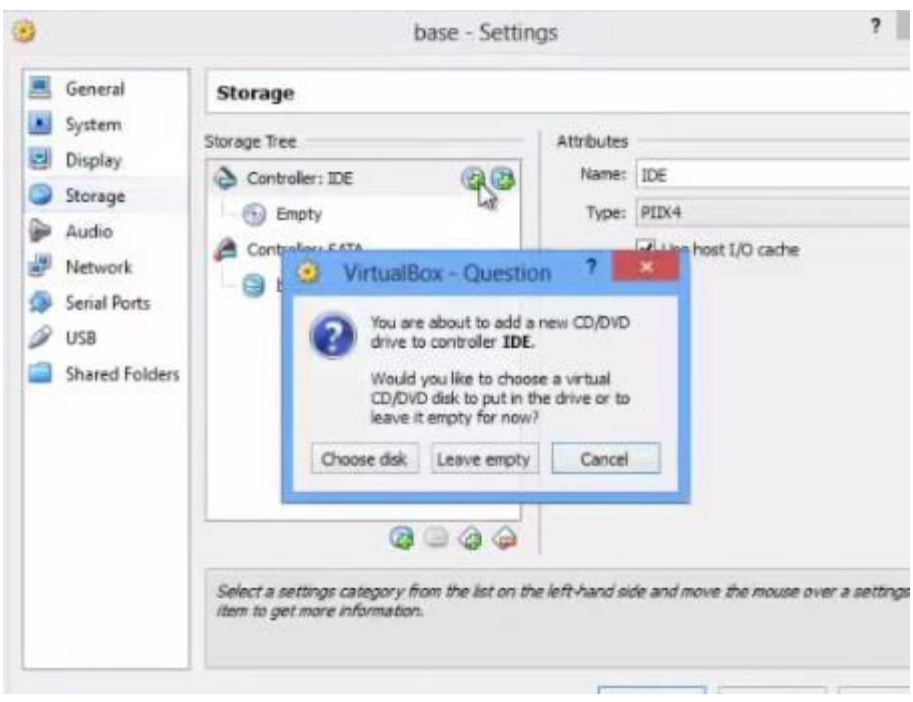
Installing Ubuntu on VM

Install Virtual box an open it .
Open the VM -- > New -- >Give any name
Choose the below options and click next everytime

- Keep the memory to 2 GB (recommended).
- Create a virtual hard drive now.
- VDI (VirtualBox Disk Image)
- Dynamically allocated
- Give the memory 20 GB (you can give more)
- Click on Settings as shown in image.



Click Storage-- >Controlloer:IDE-- >Choose disk.



- Browse to the Ubuntu image downloaded and click OK.

- START the Virtual machine.

Note *** While running VM for the first time an error showing VT-x/AMD-V support may come. You have to change the BIOS settings to rectify this issue. This setting depend from PC to PC so I would recommend to google the issue and resolve it. It is fairly simple ,you have to edit 1 BIOS setting and restart.*

- If the error is not coming you will get a pop up where you have to select INSTALL UBUNTU.
- Click continue.
- Click on Erase disk and install Ubuntu. (Don't worry it will format only your dynamic memory selected i.e. 20 GB).
- Install Now
- Put your username and password.

- Restart and your Ubuntu is installed on VM.

Installing Hadoop

- Download Hadoop tar.gz
- You can download it from here http://www.apache.org/dyn/closer.cgi/hadoop/common/

Or you can google it and get a link . (My downloaded zip file was near 60 Mb).

- Create a new folder /home/hadoop
- Move the file hadoop-1.2.1.tar.gz to the folder /home/hadoop
- Open terminal and type cd /home/hadoop
- Extract the folder by typing tar xzf hadoop*tar.gz

Installing Java

Download these two files from this link
http://www.oracle.com/technetwork/java/javase/downloads/java-archive-downloads-javase7-521261.html

1.) jdk-7u40-linux-x64.tar (aprox 131 Mb) 2.) jre-7u40-linux-x64.tar (aprox 46 MB)
** Note – Download for only Linux 64 bit version.**

Open terminal and paste following commands

- sudo apt-get purge openjdk-*
- sudo mkdir -p /usr/local/java

- cd downloads (downloads = the folder where your java files are downloaded)
- sudo cp -r jdk-*.tar.gz /usr/local/java (moving jdk to /usr/local/java)
- sudo cp -r jre-*.tar.gz /usr/local/java (moving jre to /usr/local/java)

- cd /usr/local/java
- sudo tar xvzf jdk*.tar.gz (extracting jdk)
- sudo tar xvzf jre*.tar.gz (extracting jre)

Setting variables

- sudo gedit /etc/profile

Paste the following lines at the end of file and SAVE it.

```
JAVA_HOME=/usr/local/java/jdk1.7.0_40
PATH=$PATH:$JAVA_HOME/bin
JRE_HOME=/usr/local/java/jre1.7.0_40
PATH=$PATH:$JRE_HOME/bin
HADOOP_INSTALL=/home/hadoop/Hadoop/hadoop-1.2.1
PATH=$PATH:$HADOOP_INSTALL/bin
export JAVA_HOME
export JRE_HOME
export PATH
```

Again type or paste the following commands in terminal one by one

- sudo update-alternatives --install "/usr/bin/java" "java" "/usr/local/java/jre1.7.0_40/bin/java" 1

- sudo update-alternatives --install "/usr/bin/javac" "javac" "/usr/local/java/jdk1.7.0_40/bin/javac" 1

- sudo update-alternatives --install "/usr/bin/javaws" "javaws" "/usr/local/java/jre1.7.0_40/bin/javaws" 1

- sudo update-alternatives --set java /usr/local/java/jre1.7.0_40/bin/java

- sudo update-alternatives --set javac /usr/local/java/jdk1.7.0_40/bin/javac

- sudo update-alternatives --set javaws /usr/local/java/jre1.7.0_40/bin/javaws

Update the profile by typing this command.

- . /etc/profile

Installing Pseudo Distribution Mode
Open terminal and run the below commands

- sudo apt-get install ssh (to install ssh)
- sudo apt-get install rsync

Go to hadoop folder -- >conf -- > core-site.xml

Open the *core-site.xml* file and paste the following code in it. (Delete the lines which are already written)

```
<configuration>
<property>
<name>fs.default.name</name>
<value>hdfs://localhost:9000</value>
</property>
</configuration>
```

Open *hdfs-site.xml* and paste below lines. (Delete the lines which are already written)

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

Open *mapred-site.xml* and paste below lines. (Delete the lines which are already written)

```
<configuration>
<property>
<name>mapred.job.tracker</name>
<value>localhost:9001</value>
</property>
</configuration>
```

Open *hadoop-env.sh* and paste below line
** Do not delete any other line,Just paste it anywhere in the file**

```
export JAVA_HOME=/usr/local/java/jdk1.7.0_40
```

Setup password less ssh connectivity by:

- ssh-keygen -t dsa -P '' -f ~/.ssh/id_dsa
- cat ~/.ssh/id_dsa.pub >> ~/.ssh/authorized_keys

Confirm the password less connectivity by typing below command

- ssh localhost

Format the namenode by

- bin/hadoop namenode –format

Start the all the demons:

- bin/start–all.sh

Congratulations ! Your hadoop has been setup.

For creating Java Programs Download Eclipse and use it directly (I used Luna 64 bit version of it)