Subject : Software Laboratory VI Class: BE IT
Experiment No: 2

Aim : Study of NoSQL Databases such as **Hbase/ Hive/ Cassendra/ DynamoDB**

Hbase installation
Steps:
Download Hbase from http://www.us.apache.org/dist/hbase/stable/hbase-1.1.2-bin.tar.gz
Copy and extract hbase-1.1.2-bin.tar.gz in home folder
Rename the extracted folder name from **hbase-1.1.2** to **hbase**

find whether ubuntu is 32 bit (i686) or 64 bit (x86_64)
uname -i

gedit ~/hbase/conf/hbase-env.sh
add following lines at the end

for 32 bit ubuntu
export JAVA_HOME=/usr/lib/jvm/java-7-openjdk-**i386**

#for 64 bit ubuntu
export JAVA_HOME=/usr/lib/jvm/java-7-openjdk-**amd64**

save and exit the file

 # Pseudo-Distributed Local Install
In this, HBase still runs completely on a single host, but each HBase daemon (HMaster, HRegionServer, and Zookeeper) runs as a separate process.

Steps:
get your user name
whoami
remember your user name, we'll use it in the next step

gedit ~/hbase/conf/hbase-site.xml

```
<configuration>
<property>
<name>hbase.cluster.distributed</name>
<value>true</value>
</property>
<property>
   <name>hbase.rootdir</name>
   <value>hdfs://localhost:1234/hbase_data</value>
 </property>
 <property>
   <name>hbase.zookeeper.property.dataDir</name>
   <value>/home/your_user_name/hbase/zookeeper</value>
 </property>
</configuration>
```

Save and exit the file

sudo gedit /etc/hosts
# Change the address 127.0.1.1 to 127.0.0.1
# Save and exit the file

start dfs (if not already started)
~/hadoop/sbin/start-dfs.sh
jps

start hbase
~/hbase/bin/start-hbase.sh

jps

Check the HBase directory in HDFS

~/hadoop/bin/hadoop fs -ls /hbase_data

Hbase master's web page.

http://localhost:16010

Connect to hbase
~/hbase/bin/hbase shell

It'll have output like this
hbase(main):001:0>

Display hbase Shell Help
hbase(main):001:0> help

Create a table (cf : column family)
hbase(main):001:0> create 'table1', 'cf'
0 row(s) in 0.4170 seconds

=> Hbase::Table - table1

List Information About your Table
hbase(main):002:0> list 'table1'
TABLE

table1

1 row(s) in 0.0180 seconds

=> ["table1"]

Put data into your table
hbase(main):003:0> put 'table1', 'row1', 'cf:a', 'value1'
0 row(s) in 0.0850 seconds

hbase(main):004:0> put 'table1', 'row2', 'cf:b', 'value2'

0 row(s) in 0.0110 seconds

hbase(main):005:0> put 'table1', 'row3', 'cf:c', 'value3'

0 row(s) in 0.0100 seconds

Scan the table for all data at once

```
hbase(main):006:0> scan 'table1'
ROW                    COLUMN+CELL
 row1                  column=cf:a, timestamp=1421762485768, value=value1
 row2                  column=cf:b, timestamp=1421762491785, value=value2
 row3                  column=cf:c, timestamp=1421762496210, value=value3
3 row(s) in 0.0230 seconds
```

Get a single row of data

```
hbase(main):007:0> get 'table1', 'row1'
COLUMN                 CELL
 cf:a                  timestamp=1421762485768, value=value1
1 row(s) in 0.0350 seconds
```

Disable a table

```
hbase(main):008:0> disable 'table1'
0 row(s) in 1.1820 seconds
hbase(main):009:0> enable 'table1'
0 row(s) in 0.1770 seconds
```

Disable the table again if you tested the enable command above:

```
hbase(main):010:0> disable 'table1'
0 row(s) in 1.1820 seconds
```

Drop the table

```
hbase(main):011:0> drop 'table1'
0 row(s) in 0.1370 seconds
```

Exit the hbase shell

```
hbase(main):011:0>  quit
```

Stop hbase

```
~/hbase/bin/stop-hbase.sh
jps
```

 # Stop hadoop

```
~/hadoop/sbin/stop-dfs.sh
jps
```

Reference : http://hbase.apache.org/book.html#quickstart

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