

# HBase shell commands



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# Agenda

Verify Hadoop & HBase processes

HBase shell

List all tables

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Insert data into table

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Get data/ versioned data from table

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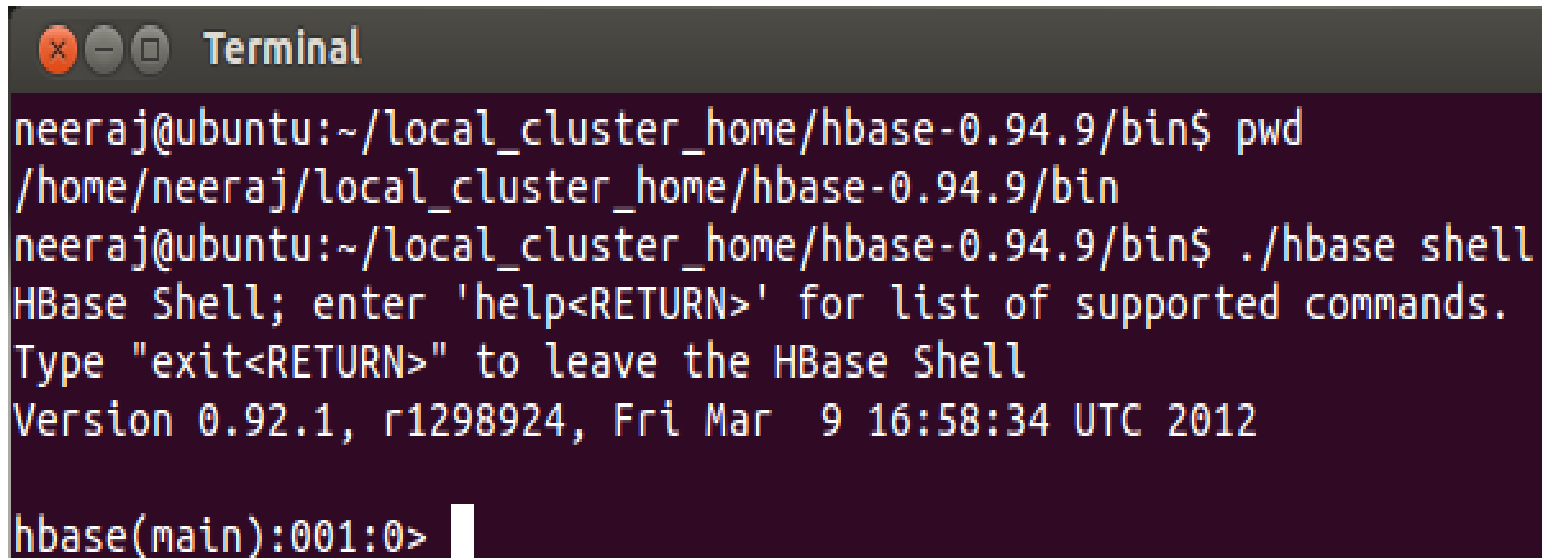
# Verify Hadoop & HBase processes

jps

```
Terminal
neeraj@ubuntu:~/local_cluster_home/hbase-0.94.9/bin$ jps
13017 JobTracker
17789 Jps
12521 NameNode
13222 TaskTracker
12723 DataNode
17522 HRegionServer
17199 HQuorumPeer
12927 SecondaryNameNode
17274 HMaster
neeraj@ubuntu:~/local_cluster_home/hbase-0.94.9/bin$
```

# Hbase shell

`./hbase shell`

A terminal window titled "Terminal" with standard Ubuntu window controls (close, minimize, maximize). The terminal shows a user named "neeraj" at a machine named "ubuntu" in the directory "~/local\_cluster\_home/hbase-0.94.9/bin". The user runs the "pwd" command, which returns the full path. Then, the user runs "./hbase shell", which enters the HBase Shell. The shell displays instructions on how to use it, including a list of supported commands and how to exit. It also shows the HBase version (0.92.1) and the commit ID (r1298924) along with the date and time (Fri Mar 9 16:58:34 UTC 2012). The prompt changes to "hbase(main):001:0>".

```
neeraj@ubuntu:~/local_cluster_home/hbase-0.94.9/bin$ pwd
/home/neeraj/local_cluster_home/hbase-0.94.9/bin
neeraj@ubuntu:~/local_cluster_home/hbase-0.94.9/bin$ ./hbase shell
HBase Shell; enter 'help<RETURN>' for list of supported commands.
Type "exit<RETURN>" to leave the HBase Shell
Version 0.92.1, r1298924, Fri Mar  9 16:58:34 UTC 2012

hbase(main):001:0>
```

# List all tables

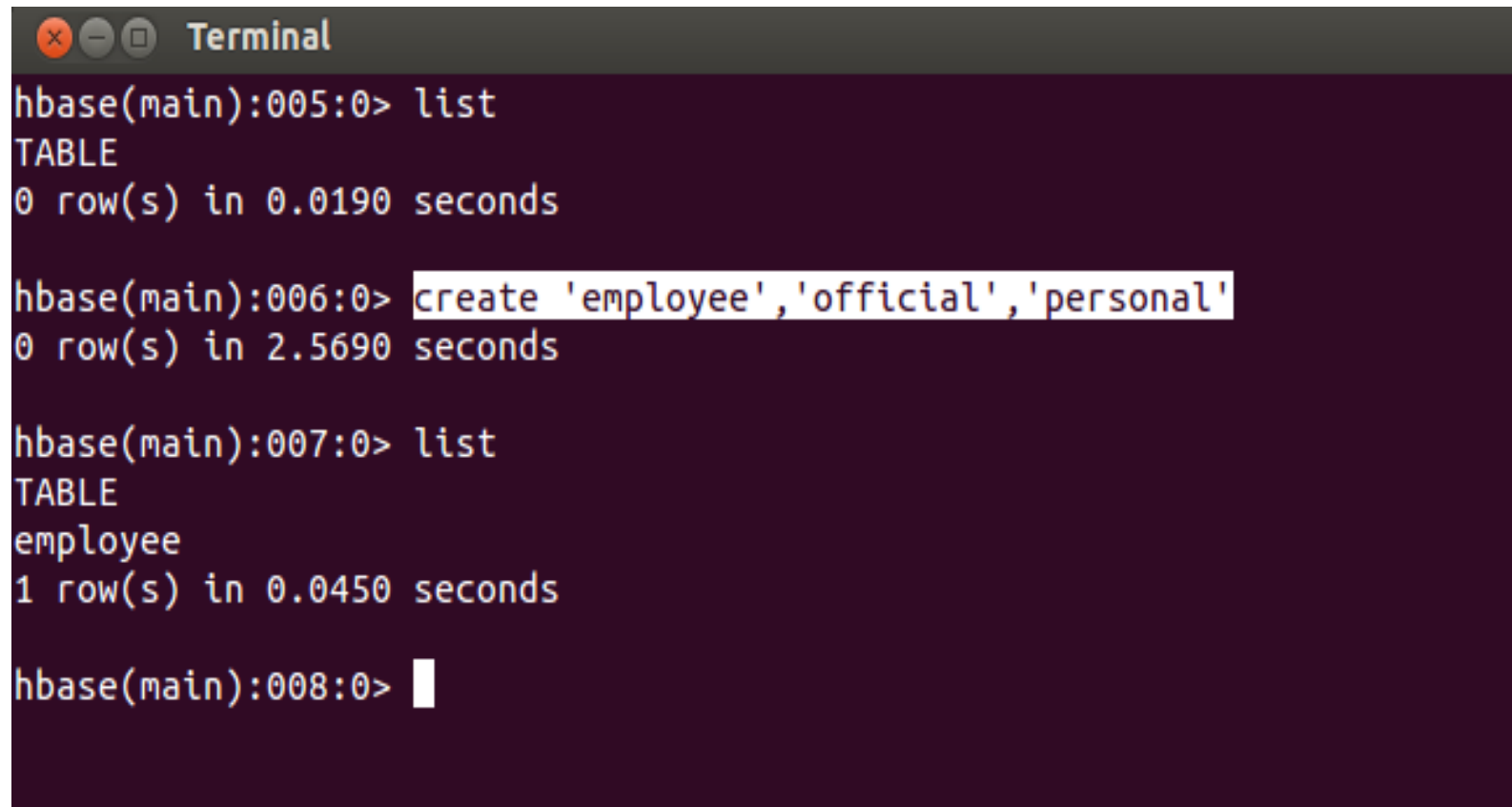
list

```
Terminal
hbase(main):002:0> list
TABLE
employee
1 row(s) in 0.0270 seconds

hbase(main):003:0> 
```

# Create table

create <table name>, <column family 1>, <column family 2> ..<column family n>

A terminal window titled "Terminal" with standard macOS window controls (red, yellow, green buttons). The terminal shows a sequence of HBase commands and their outputs. The first command is 'list', which returns 'TABLE' and '0 row(s) in 0.0190 seconds'. The second command is 'create 'employee','official','personal'', which is highlighted with a white background; it returns '0 row(s) in 2.5690 seconds'. The third command is 'list', which returns 'TABLE', 'employee', and '1 row(s) in 0.0450 seconds'. The fourth command is a prompt 'hbase(main):008:0>' with a white cursor block.

```
Terminal
hbase(main):005:0> list
TABLE
0 row(s) in 0.0190 seconds

hbase(main):006:0> create 'employee','official','personal'
0 row(s) in 2.5690 seconds

hbase(main):007:0> list
TABLE
employee
1 row(s) in 0.0450 seconds

hbase(main):008:0> █
```

# RDBMS table vs HBase table

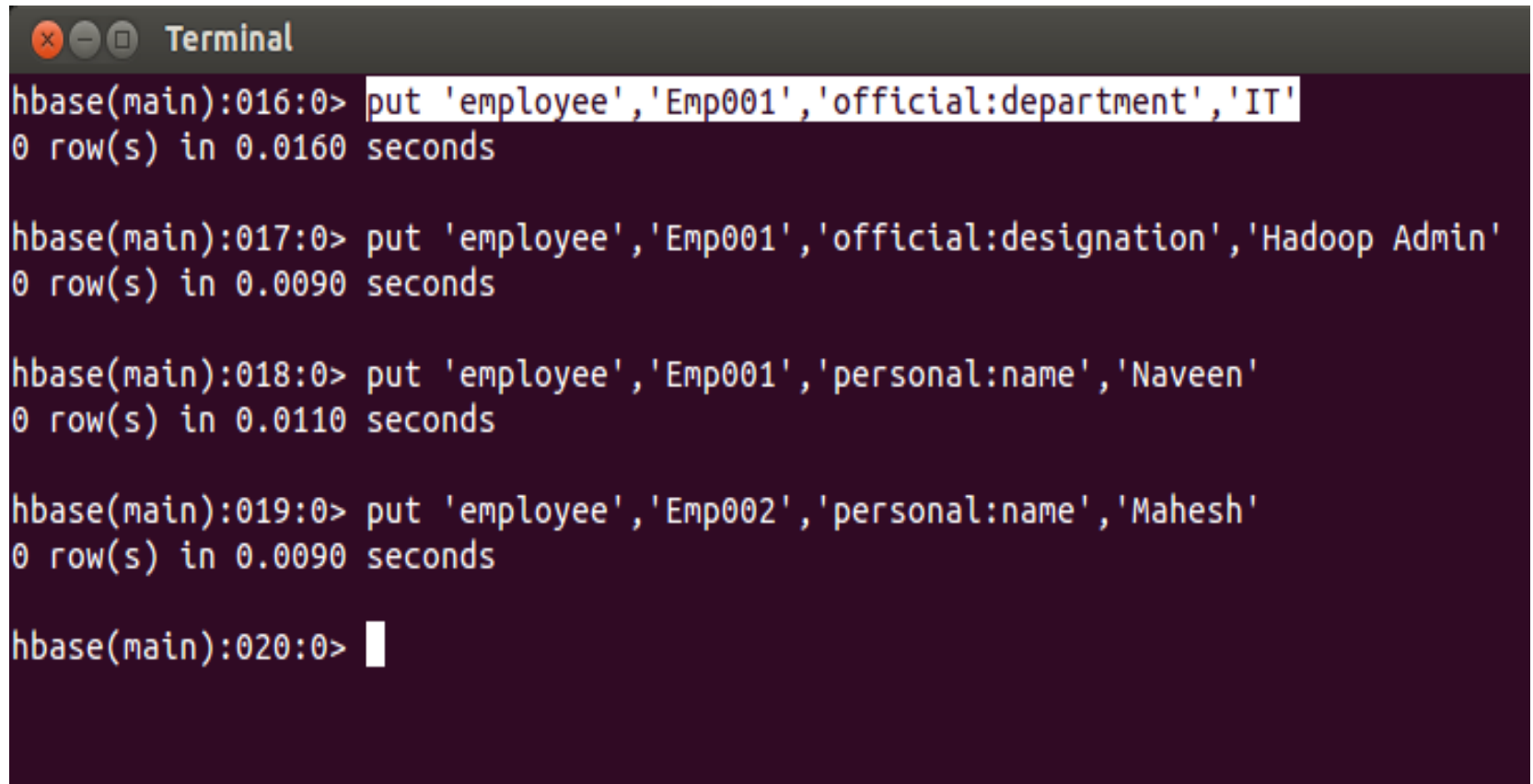
Key	Value		
	official		personal
	department	designation	name
Emp001	IT	Hadoop Admin	Naveen
Emp002			Mahesh

```
hbase(main):017:0> scan 'employee'
ROW          COLUMN+CELL
Emp001      column=official:department, timestamp=1366042568512, value=IT
Emp001      column=official:designation, timestamp=1366042654784, value=Hadoop Admin
Emp001      column=personal:name, timestamp=1366042592684, value=Naveen
Emp002      column=personal:name, timestamp=1366042679251, value=Mahesh
2 row(s) in 0.0370 seconds

hbase(main):018:0> █
```

# Insert data into table

put <table name>, <key>, <column family : qualifier>, <value>

A terminal window titled "Terminal" with standard window control buttons (close, minimize, maximize) on the left. The terminal displays four HBase 'put' commands and their execution times. The first command is highlighted with a white background. The commands insert data into an 'employee' table for keys 'Emp001' and 'Emp002', with columns for department, designation, and name.

```
hbase(main):016:0> put 'employee','Emp001','official:department','IT'
0 row(s) in 0.0160 seconds

hbase(main):017:0> put 'employee','Emp001','official:designation','Hadoop Admin'
0 row(s) in 0.0090 seconds

hbase(main):018:0> put 'employee','Emp001','personal:name','Naveen'
0 row(s) in 0.0110 seconds

hbase(main):019:0> put 'employee','Emp002','personal:name','Mahesh'
0 row(s) in 0.0090 seconds

hbase(main):020:0> 
```



# Scan a table

scan <<table name>>

```
Terminal
hbase(main):020:0> list
TABLE
employee
1 row(s) in 0.0360 seconds

hbase(main):021:0> scan 'employee'
ROW                                COLUMN+CELL
Emp001                             column=official:department, timestamp=1374760781410, value=IT
Emp001                             column=official:designation, timestamp=1374760785280, value=Hadoop Admin
Emp001                             column=personal:name, timestamp=1374760790340, value=Naveen
Emp002                             column=personal:name, timestamp=1374760832157, value=Mahesh
2 row(s) in 0.0260 seconds

hbase(main):022:0> 
```

# Get data from table

get <<table name>>, <<row key>>

```
Terminal
hbase(main):022:0> scan 'employee'
ROW                                COLUMN+CELL
  Emp001                          column=official:department, timestamp=1374760781410, value=IT
  Emp001                          column=official:designation, timestamp=1374760785280, value=Hadoop Admin
  Emp001                          column=personal:name, timestamp=1374760790340, value=Naveen
  Emp002                          column=personal:name, timestamp=1374760832157, value=Mahesh
2 row(s) in 0.0280 seconds

hbase(main):023:0> get 'employee', 'Emp001'
COLUMN                            CELL
  official:department             timestamp=1374760781410, value=IT
  official:designation            timestamp=1374760785280, value=Hadoop Admin
  personal:name                   timestamp=1374760790340, value=Naveen
3 row(s) in 0.0160 seconds

hbase(main):024:0> get 'employee', 'Emp001', 'official'
COLUMN                            CELL
  official:department             timestamp=1374760781410, value=IT
  official:designation            timestamp=1374760785280, value=Hadoop Admin
2 row(s) in 0.0260 seconds

hbase(main):025:0> get 'employee', 'Emp001', 'official:department'
COLUMN                            CELL
  official:department             timestamp=1374760781410, value=IT
1 row(s) in 0.0060 seconds

hbase(main):026:0> 
```

# Get versioned data from table

get <table name>, < key>, <COLUMN>, <VERSIONS>

```
Terminal
hbase(main):056:0> list
TABLE
employee
1 row(s) in 0.0320 seconds

hbase(main):057:0> get 'employee','Emp002'
COLUMN          CELL
personal:name    timestamp=1374771046292, value=Mahesh
1 row(s) in 0.0110 seconds

hbase(main):058:0> put 'employee','Emp002','personal:name','Naresh'
0 row(s) in 0.0070 seconds

hbase(main):059:0> get 'employee','Emp002'
COLUMN          CELL
personal:name    timestamp=1374771061064, value=Naresh
1 row(s) in 0.0110 seconds

hbase(main):060:0> get 'employee','Emp002', COLUMN => 'personal', VERSIONS => 2
COLUMN          CELL
personal:name    timestamp=1374771061064, value=Naresh
personal:name    timestamp=1374771046292, value=Mahesh
2 row(s) in 0.0100 seconds

hbase(main):061:0> █
```

# Disable a table

disable <<table name>>

```
Terminal
hbase(main):026:0> list
TABLE
employee
1 row(s) in 0.0250 seconds

hbase(main):027:0> scan 'employee'
ROW                                COLUMN+CELL
Emp001                            column=official:department, timestamp=1374760781410, value=IT
Emp001                            column=official:designation, timestamp=1374760785280, value=Hadoop Admin
Emp001                            column=personal:name, timestamp=1374760790340, value=Naveen
Emp002                            column=personal:name, timestamp=1374760832157, value=Mahesh
2 row(s) in 0.0140 seconds

hbase(main):028:0> disable 'employee'
0 row(s) in 4.4050 seconds

hbase(main):029:0> scan 'employee'
ROW                                COLUMN+CELL

ERROR: org.apache.hadoop.hbase.client.RetriesExhaustedException: Failed after attempts=7, exceptions:
Thu Jul 25 21:57:56 IST 2013, org.apache.hadoop.hbase.client.ScannerCallable@5e854128, org.apache.hadoop.hbase.NotServingRegionException: org.apache.hadoop.hbase.NotServingRegionException: Region is not online: employee,,1374760772736.bffff2c501f90b5feb0130395cb4cfb84.
    at org.apache.hadoop.hbase.regionserver.HRegionServer.getRegion(HRegionServer.java:2833)
    at org.apache.hadoop.hbase.regionserver.HRegionServer.openScanner(HRegionServer.java:2060)
    at sun.reflect.GeneratedMethodAccessor18.invoke(Unknown Source)
    at sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.lang.reflect.Method.invoke(Method.java:601)
    at org.apache.hadoop.hbase.ipc.WritableRpcEngine$Server.call(WritableRpcEngine.java:364)
    at org.apache.hadoop.hbase.ipc.HBaseServer$Handler.run(HBaseServer.java:1326)
```

# Enable a table

enable <table name>

```
Terminal
hbase(main):030:0> list
TABLE
employee
1 row(s) in 0.0270 seconds

hbase(main):031:0> enable 'employee'
0 row(s) in 2.8090 seconds

hbase(main):032:0> scan 'employee'
ROW                                COLUMN+CELL
Emp001                             column=official:department, timestamp=1374760781410, value=IT
Emp001                             column=official:designation, timestamp=1374760785280, value=Hadoop Admin
Emp001                             column=personal:name, timestamp=1374760790340, value=Naveen
Emp002                             column=personal:name, timestamp=1374760832157, value=Mahesh
2 row(s) in 0.0430 seconds

hbase(main):033:0> 
```

# Delete data from table

delete <table name>, <key>, <column family : qualifier>

```
Terminal
hbase(main):035:0> scan 'employee'
ROW                COLUMN+CELL
Emp001             column=official:department, timestamp=1374760781410, value=IT
Emp001             column=official:designation, timestamp=1374760785280, value=Hadoop Admin
Emp001             column=personal:name, timestamp=1374760790340, value=Naveen
Emp002             column=personal:name, timestamp=1374760832157, value=Mahesh
2 row(s) in 0.0270 seconds

hbase(main):036:0> delete 'employee','Emp001','official:department'
0 row(s) in 0.0090 seconds

hbase(main):037:0> scan 'employee'
ROW                COLUMN+CELL
Emp001             column=official:designation, timestamp=1374760785280, value=Hadoop Admin
Emp001             column=personal:name, timestamp=1374760790340, value=Naveen
Emp002             column=personal:name, timestamp=1374760832157, value=Mahesh
2 row(s) in 0.0180 seconds

hbase(main):038:0> 
```

# Delete table

disable <table name>

drop <table name>

```
Terminal
hbase(main):065:0> list
TABLE
employee
1 row(s) in 0.0300 seconds

hbase(main):066:0> disable 'employee'
0 row(s) in 2.4710 seconds

hbase(main):067:0> drop 'employee'
0 row(s) in 1.7330 seconds

hbase(main):068:0> list
TABLE
0 row(s) in 0.0130 seconds

hbase(main):069:0> 
```

# Count the no. of rows in a table

Count <table name>

```
Terminal
hbase(main):061:0> list
TABLE
employee
1 row(s) in 0.0240 seconds

hbase(main):062:0> scan 'employee'
ROW                                COLUMN+CELL
Emp001                             column=official:department, timestamp=1374770595616, value=IT
Emp001                             column=official:designation, timestamp=1374760785280, value=Hadoop Admin
Emp001                             column=personal:name, timestamp=1374760790340, value=Naveen
Emp002                             column=personal:name, timestamp=1374771061064, value=Naresh
2 row(s) in 0.0240 seconds

hbase(main):063:0> count 'employee'
2 row(s) in 0.0140 seconds

hbase(main):064:0> 
```



# Help command in Hbase

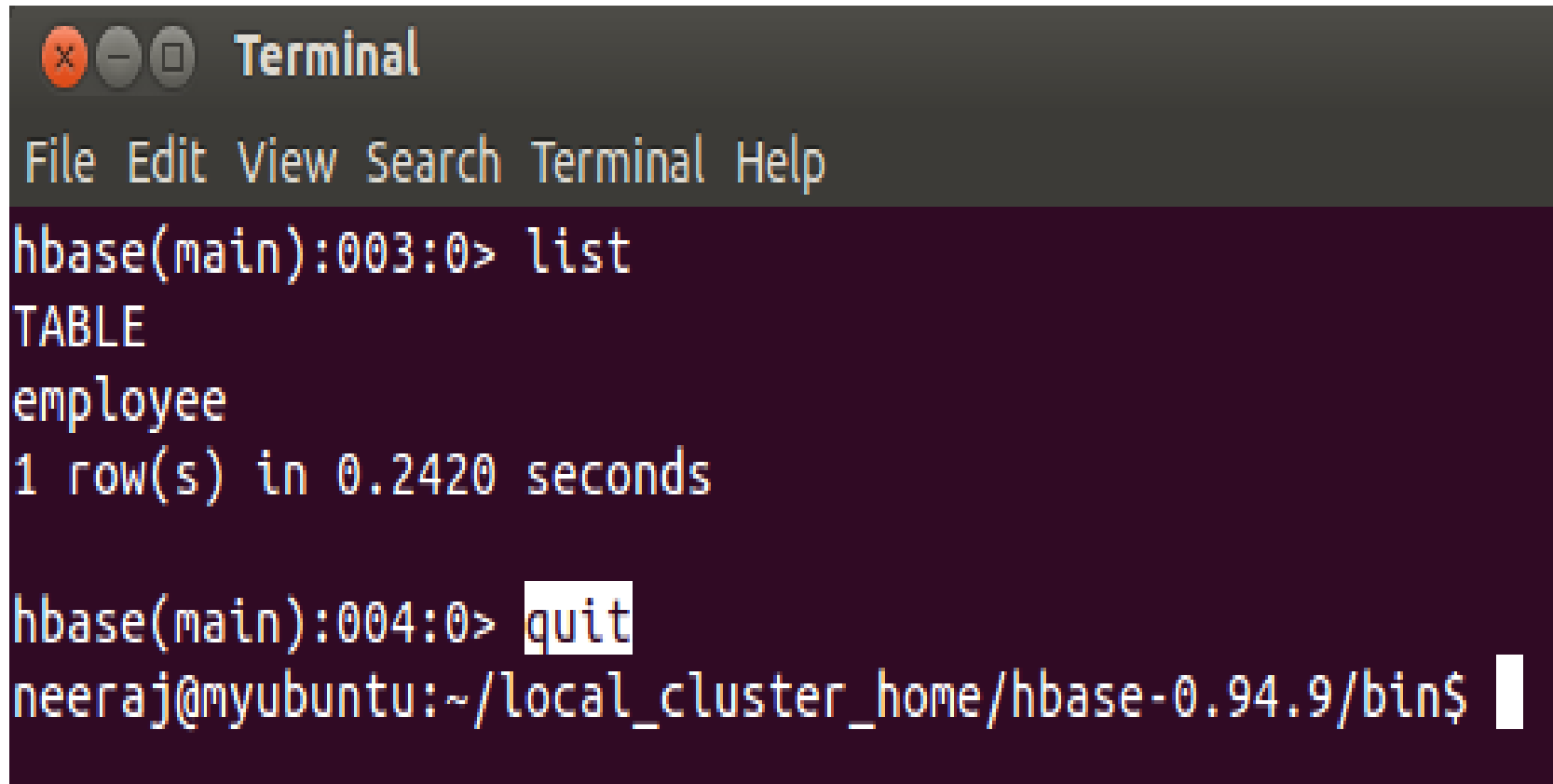
help 'create'

```
Terminal
hbase(main):064:0> help 'create'
Create table; pass table name, a dictionary of specifications per
column family, and optionally a dictionary of table configuration.
Dictionaries are described below in the GENERAL NOTES section.
Examples:

hbase> create 't1', {NAME => 'f1', VERSIONS => 5}
hbase> create 't1', {NAME => 'f1'}, {NAME => 'f2'}, {NAME => 'f3'}
hbase> # The above in shorthand would be the following:
hbase> create 't1', 'f1', 'f2', 'f3'
hbase> create 't1', {NAME => 'f1', VERSIONS => 1, TTL => 2592000, BLOCKCACHE => true}
hbase> create 't1', 'f1', {SPLITS => ['10', '20', '30', '40']}
hbase> create 't1', 'f1', {SPLITS_FILE => 'splits.txt'}
hbase(main):065:0> 
```

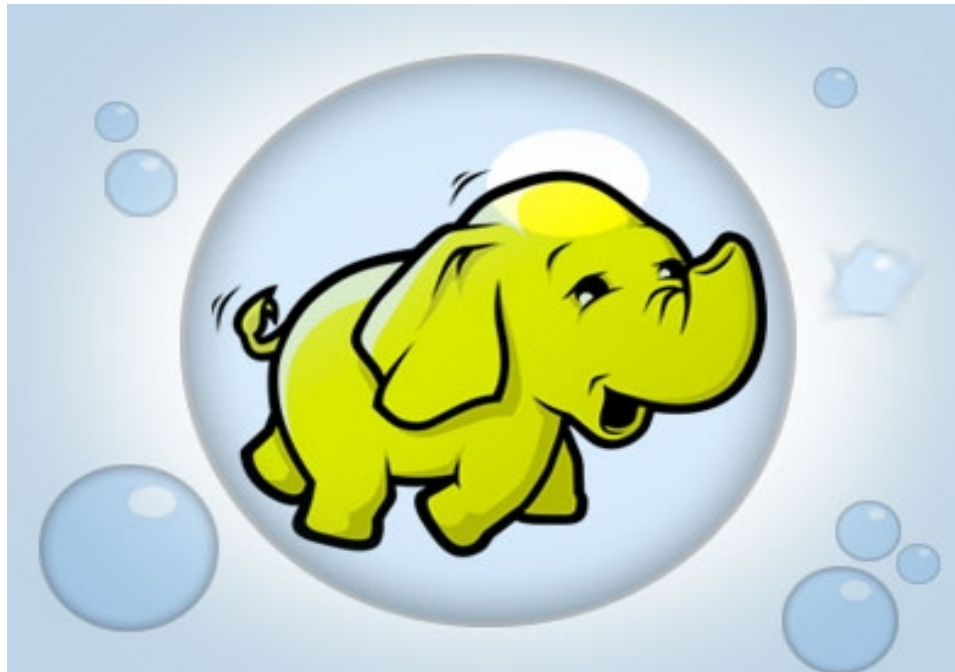
# Exit from HBase shell

quit

A screenshot of a Linux terminal window titled "Terminal". The window has a dark background with light-colored text. The terminal shows the HBase shell prompt "hbase(main):003:0>". The user enters the command "list", and the output shows "TABLE employee" followed by "1 row(s) in 0.2420 seconds". The user then enters the command "quit", which is highlighted with a white selection box. The prompt changes to "hbase(main):004:0>". Finally, the user exits the shell, and the prompt changes to "neeraj@myubuntu:~/local\_cluster\_home/hbase-0.94.9/bin\$".

```
Terminal
File Edit View Search Terminal Help
hbase(main):003:0> list
TABLE
employee
1 row(s) in 0.2420 seconds
hbase(main):004:0> quit
neeraj@myubuntu:~/local_cluster_home/hbase-0.94.9/bin$
```

...Thanks...



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