

HBase Installation

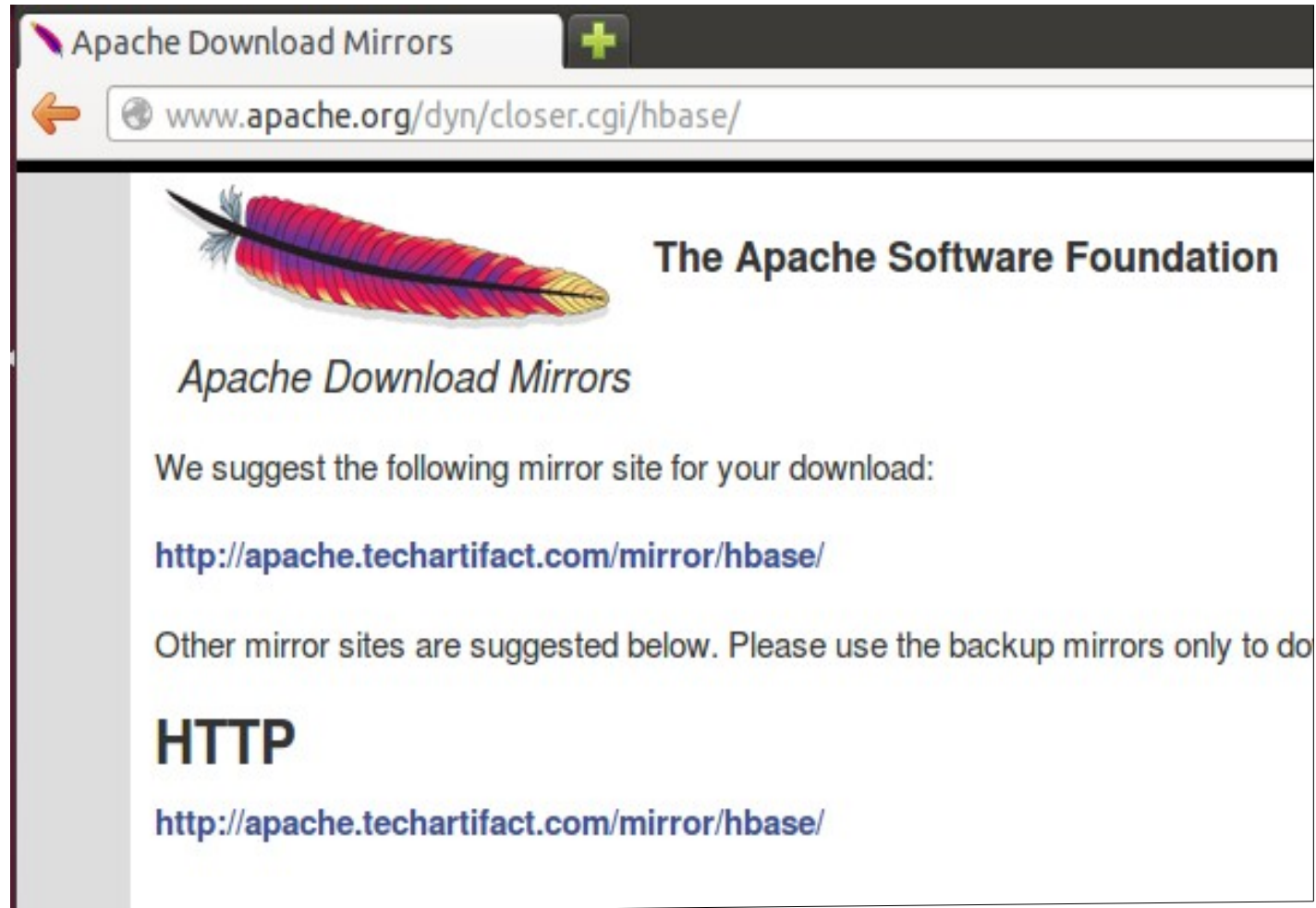


Agenda

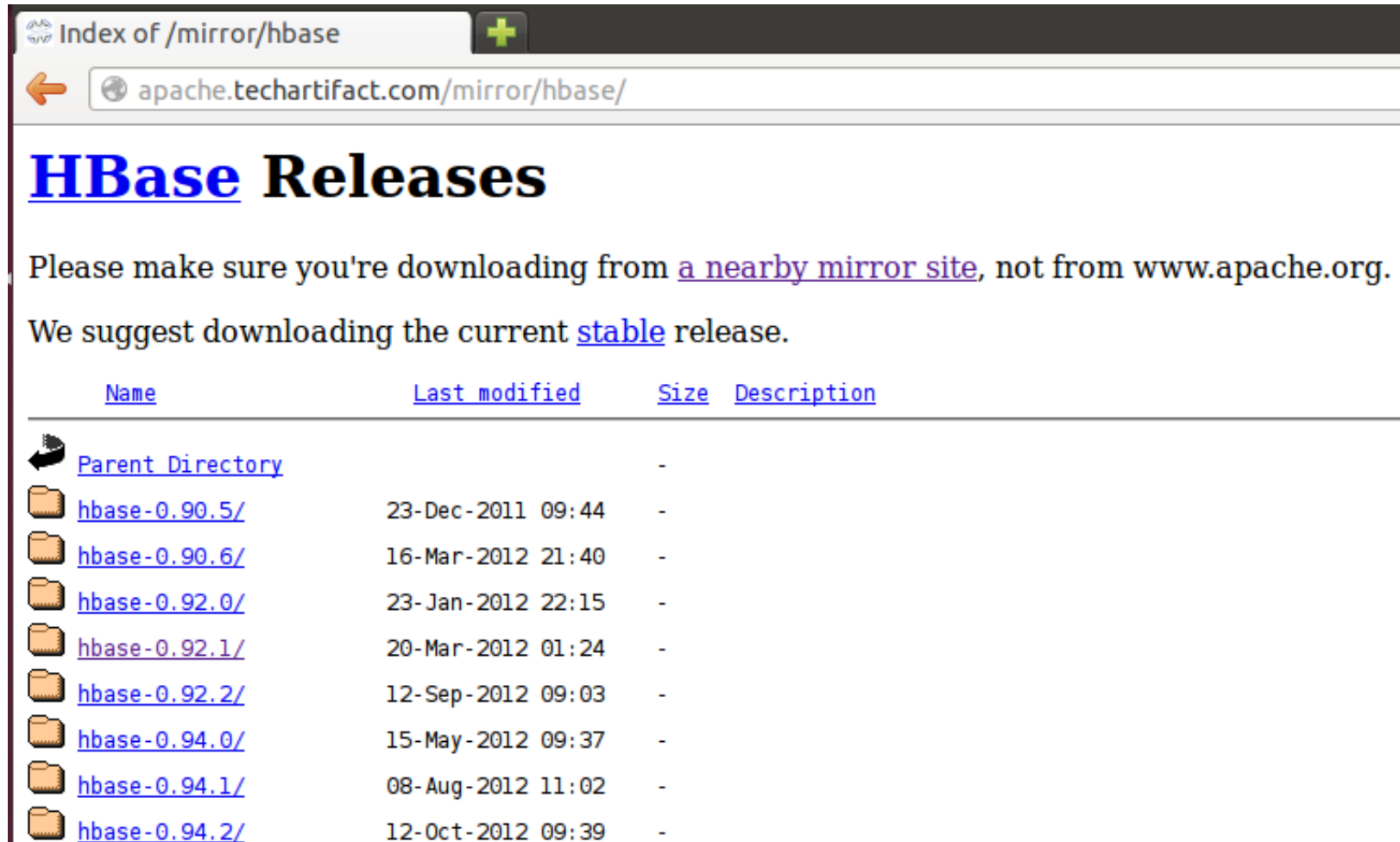
- | Download HBase
- ▯ Select Stable version.
- ▯ Download the tar file.
- ▯ Unzip the tar.gz file.
- ▯ Modify hadoop-env.sh file.
- ▯ Modify hbase-site.xml file.
- ▯ Start Hadoop.
- ▯ Verify that Hadoop is running.
- ▯ Start Hbase.
- ▯ Verify Hadoop & HBase processes.
- ▯ View HBase on browser.

Download HBase









<http://www.apache.org/dyn/closer.cgi/hbase/>



Select Stable version



The screenshot shows a web browser window with the address bar displaying `apache.techartifact.com/mirror/hbase/`. The page title is "Index of /mirror/hbase". The main heading is "HBase Releases" in a large, bold, blue font. Below the heading, there is a paragraph of text: "Please make sure you're downloading from [a nearby mirror site](#), not from `www.apache.org`. We suggest downloading the current [stable](#) release." Below this text is a table with four columns: "Name", "Last modified", "Size", and "Description". The table lists several HBase releases, each with a folder icon, a link to the release directory, the date and time of the last modification, and a hyphen in the size column. The releases listed are: "Parent Directory", "hbase-0.90.5/", "hbase-0.90.6/", "hbase-0.92.0/", "hbase-0.92.1/", "hbase-0.92.2/", "hbase-0.94.0/", "hbase-0.94.1/", and "hbase-0.94.2/".


Name	Last modified	Size	Description
 Parent Directory		-	
 hbase-0.90.5/	23-Dec-2011 09:44	-	
 hbase-0.90.6/	16-Mar-2012 21:40	-	
 hbase-0.92.0/	23-Jan-2012 22:15	-	
 hbase-0.92.1/	20-Mar-2012 01:24	-	
 hbase-0.92.2/	12-Sep-2012 09:03	-	
 hbase-0.94.0/	15-May-2012 09:37	-	
 hbase-0.94.1/	08-Aug-2012 11:02	-	
 hbase-0.94.2/	12-Oct-2012 09:39	-	

Download the tar file

Hbase-0.92.1.tar.gz

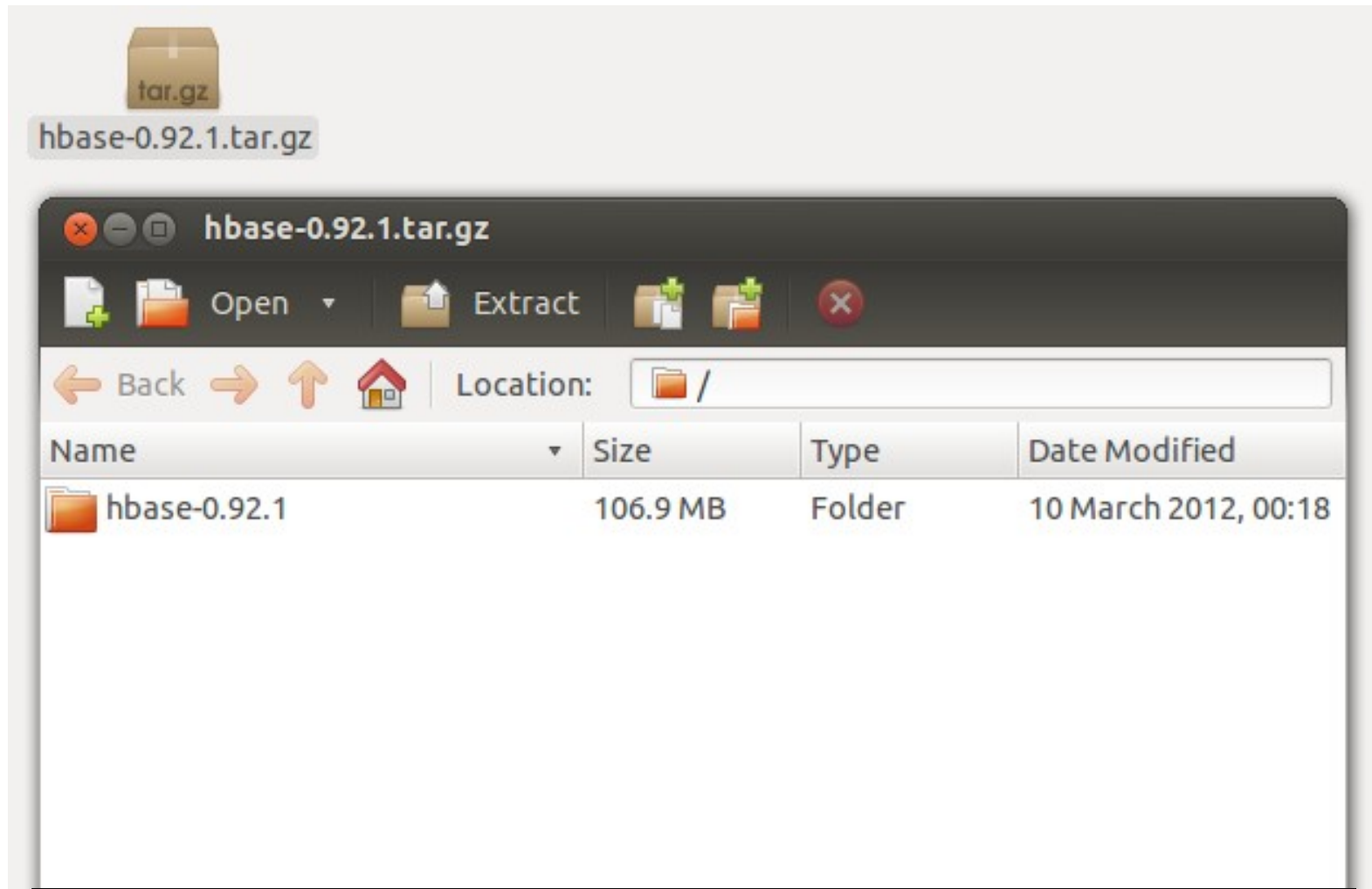


The screenshot shows a web browser window with the address bar displaying `apache.techartifact.com/mirror/hbase/hbase-0.92.1/`. The page title is "Index of /mirror/hbase/hbase-0.92.1". Below the title is a table with columns: Name, Last modified, Size, and Description. The table lists several files, including the parent directory and several tar.gz files with their corresponding .asc and .md5 files. The file `hbase-0.92.1.tar.gz` is highlighted with a red arrow icon.

Name	Last modified	Size	Description
Parent Directory	-	-	-
 hbase-0.92.1-security.tar.gz	18-Mar-2012 01:49	42M	
 hbase-0.92.1-security.tar.gz.asc	18-Mar-2012 01:49	487	
 hbase-0.92.1-security.tar.gz.mds	18-Mar-2012 01:49	1.2K	
 hbase-0.92.1.tar.gz	18-Mar-2012 01:49	42M	
 hbase-0.92.1.tar.gz.asc	18-Mar-2012 01:49	487	
 hbase-0.92.1.tar.gz.mds	18-Mar-2012 01:49	958	

Unzip the tar.gz file

Double click the tar file



Modify hadoop-env.sh file

Add the following lines to HBASE_HOME/conf/hbase-env.sh

```
export JAVA_HOME=/usr
```

```
export HBASE_HOME=/home/neeraj/local_cluster_home/hbase-0.92.1
```

```
export HBASE_CLASSPATH=/home/neeraj/local_cluster_home/hadoop-1.0.3/conf
```

Modify hbase-site.xml file

Add the following in hbase-site.xml file

```
<configuration>
  <property>
    <name>hbase.cluster.distributed</name>
    <value>true</value>
  </property>

  <property>
    <name>hbase.rootdir</name>
    <value>hdfs://master:9000/hbase</value>
    <description>The directory shared by RegionServers. </description>
  </property>

  <property>
    <name>dfs.replication</name>
    <value>1</value>
    <description>The replication count for HLog and HFile storage. Should
    not be greater than HDFS datanode count
    </description>
  </property>
</configuration>
```


Start Hadoop

`./start-all.sh`

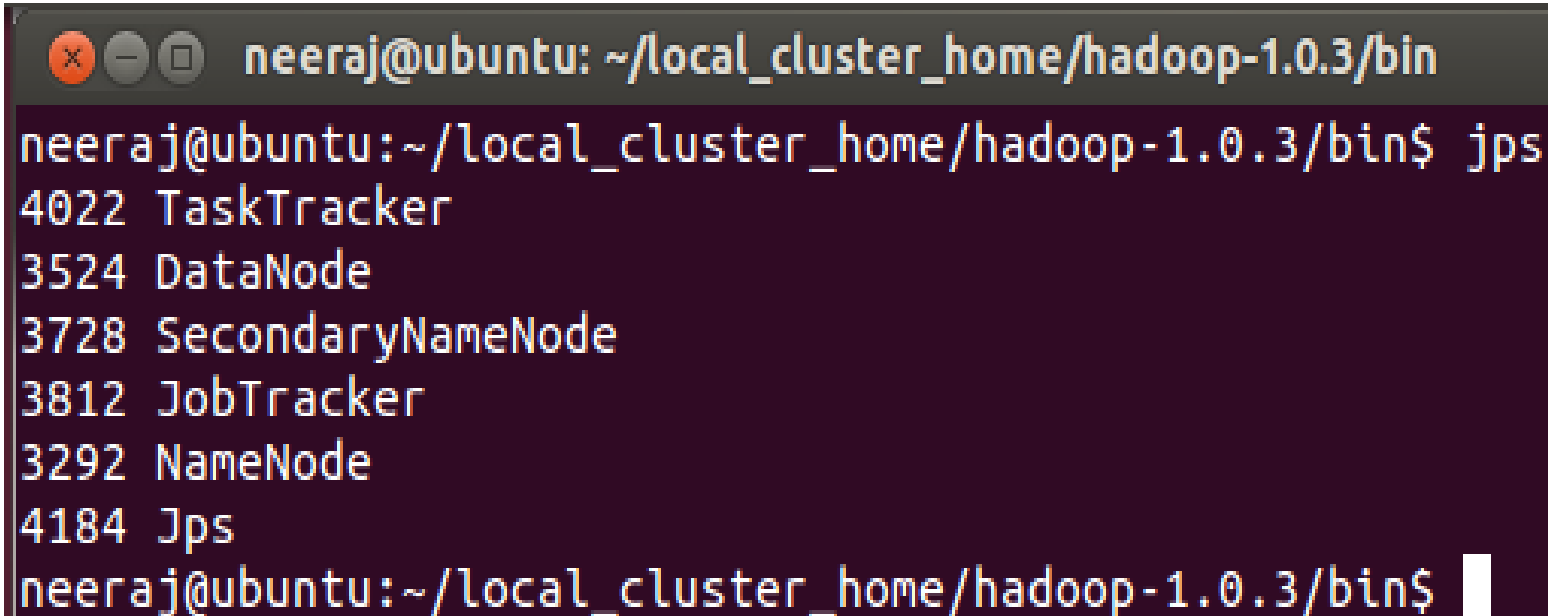
```
neeraj@ubuntu: ~/local_cluster_home/hadoop-1.0.3/bin

neeraj@ubuntu:~/local_cluster_home/hadoop-1.0.3/bin$ ./start-all.sh
Warning: $HADOOP_HOME is deprecated.

starting namenode, logging to /home/neeraj/local_cluster_home/hadoop-1.0.3/logs/hadoop-
localhost: Warning: $HADOOP_HOME is deprecated.
localhost:
localhost: starting datanode, logging to /home/neeraj/local_cluster_home/hadoop-1.0.3/l
ubuntu.out
localhost: Warning: $HADOOP_HOME is deprecated.
localhost:
localhost: starting secondarynamenode, logging to /home/neeraj/local_cluster_home/hadoo
secondarynamenode-ubuntu.out
starting jobtracker, logging to /home/neeraj/local_cluster_home/hadoop-1.0.3/logs/hadoo
out
localhost: Warning: $HADOOP_HOME is deprecated.
localhost:
localhost: starting tasktracker, logging to /home/neeraj/local_cluster_home/hadoop-1.0.
acker-ubuntu.out
neeraj@ubuntu:~/local_cluster_home/hadoop-1.0.3/bin$
```

Verify that Hadoop is running

jps

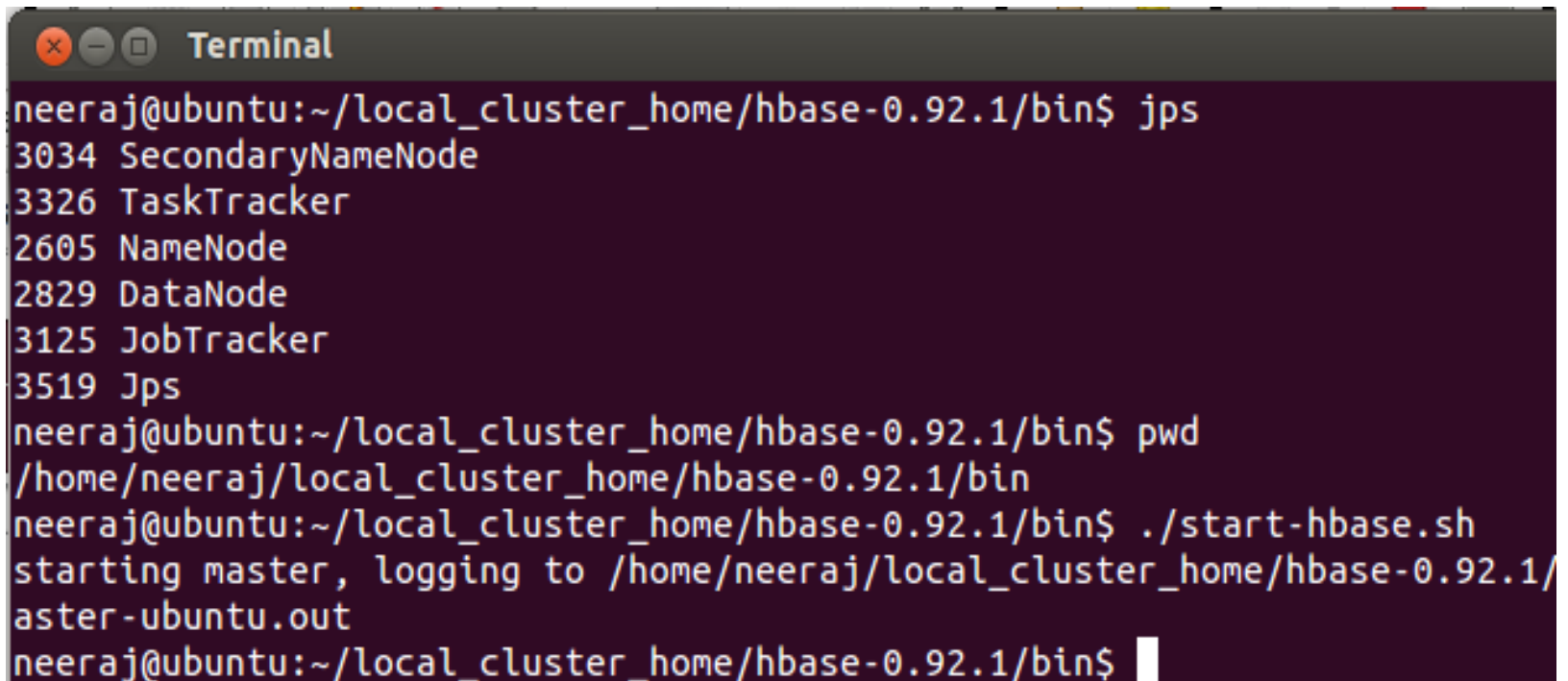


A terminal window with a dark background and light-colored text. The window title bar shows standard Linux window controls (close, minimize, maximize) and the text 'neeraj@ubuntu: ~/local_cluster_home/hadoop-1.0.3/bin'. The terminal content shows the command 'jps' being executed, followed by a list of running Hadoop processes: TaskTracker (PID 4022), DataNode (PID 3524), SecondaryNameNode (PID 3728), JobTracker (PID 3812), and NameNode (PID 3292). The prompt then returns to the shell.

```
neeraj@ubuntu: ~/local_cluster_home/hadoop-1.0.3/bin
neeraj@ubuntu:~/local_cluster_home/hadoop-1.0.3/bin$ jps
4022 TaskTracker
3524 DataNode
3728 SecondaryNameNode
3812 JobTracker
3292 NameNode
4184 Jps
neeraj@ubuntu:~/local_cluster_home/hadoop-1.0.3/bin$
```

Start HBase

`./start-hbase.sh`

A terminal window titled "Terminal" with standard Ubuntu window controls (close, minimize, maximize). The terminal shows the execution of the 'jps' command, which lists several Hadoop processes: SecondaryNameNode (PID 3034), TaskTracker (PID 3326), NameNode (PID 2605), DataNode (PID 2829), JobTracker (PID 3125), and Jps (PID 3519). Subsequently, the 'pwd' command is used to show the current directory as '/home/neeraj/local_cluster_home/hbase-0.92.1/bin'. Finally, the script './start-hbase.sh' is executed, resulting in the message 'starting master, logging to /home/neeraj/local_cluster_home/hbase-0.92.1/master-ubuntu.out'. The prompt returns to the shell.

```
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$ jps
3034 SecondaryNameNode
3326 TaskTracker
2605 NameNode
2829 DataNode
3125 JobTracker
3519 Jps
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$ pwd
/home/neeraj/local_cluster_home/hbase-0.92.1/bin
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$ ./start-hbase.sh
starting master, logging to /home/neeraj/local_cluster_home/hbase-0.92.1/
master-ubuntu.out
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$
```

Verify Hadoop & HBase processes

jps

```
Terminal
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$ pwd
/home/neeraj/local_cluster_home/hbase-0.92.1/bin
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$ jps
3034 SecondaryNameNode
5281 HMaster
3326 TaskTracker
5515 HRegionServer
5699 Jps
2605 NameNode
2829 DataNode
5219 HQuorumPeer
3125 JobTracker
neeraj@ubuntu:~/local_cluster_home/hbase-0.92.1/bin$
```

View HBase on browser

<http://master:60010>

HBase Master: localhost,60000,1350905024933 - Mozilla Firefox
File Edit View History Bookmarks Tools Help
HBase Master: localhost,6000...
localhost:60010/master-status

Master: localhost:60000

[Local logs](#), [Thread Dump](#), [Log Level](#), [Debug dump](#)

Attributes

Attribute Name	Value	Description
HBase Version	0.92.1, r1298924	HBase version and revision
HBase Compiled	Fri Mar 9 16:58:34 UTC 2012, jenkins	When HBase version was compiled and by whom
Hadoop Version	1.0.3, r1335192	Hadoop version and revision
Hadoop Compiled	Tue May 8 20:31:25 UTC 2012, hortonfo	When Hadoop version was compiled and by whom
HBase Root Directory	hdfs://localhost:9000/hbase	Location of HBase home directory
HBase Cluster ID	56340f34-3696-43fd-9040-908d49f3de80	Unique identifier generated for each HBase cluster
Load average	3	Average number of regions per regionserver. Naive computation.
Zookeeper Quorum	localhost:2181	Addresses of all registered ZK servers. For more, see zk dump .
Coprocessors	[]	Coprocessors currently loaded loaded by the master
HMaster Start Time	Mon Oct 22 16:53:45 IST 2012	Date stamp of when this HMaster was started
HMaster Active Time	Mon Oct 22 16:53:45 IST 2012	Date stamp of when this HMaster became active

View HBase on browser

Tables

Catalog Table	Description
-ROOT-	The -ROOT- table holds references to all .META. regions.
.META.	The .META. table holds references to all User Table regions

1 table(s) in set. [\[Details\]](#)

User Table	Description
sample_table	{NAME => 'sample_table', FAMILIES => [{NAME => 'cf1', MIN_VERSIONS => '0'}, {NAME => 'cf2', MIN_VERSIONS => '0'}]}

Region Servers

	ServerName	Start time	Load
	localhost,60020,1350905026004	Mon Oct 22 16:53:46 IST 2012	requestsPerSecond=0, numberOfOnlineRegions=3, usedHeapMB=34, max
Total:	servers: 1		requestsPerSecond=0, numberOfOnlineRegions=3

Load is requests per second and count of regions loaded

Dead Region Servers

View HBase on browser

Table: sample_table - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Table: sample_table +
localhost:60010/table.jsp?name=sample_table

Table: sample_table

[Master](#), [Local logs](#), [Thread Dump](#), [Log Level](#)

Table Attributes

Attribute Name	Value	Description
Enabled	true	Is the table enabled

Table Regions

Name	Region Server	Start Key	End Key	Requests
sample_table,,1350905150377.4ddfc1ab83ddd5a0bcd3f65a98cda1a7.	localhost:60030			0

Regions by Region Server

Region Server	Region Count
http://localhost:60030/	1

...Thanks...