

Ubuntu 64-bit - VMware Workstation 12 Player (Non-commercial use only)

Player ▾ | [Icons] [Icons] [Icons] [Icons] [Icons]

Applications Places [Icons] [Icons] 5:41 PM [Icon]

ysf@ubuntu: ~

File Edit View Search Terminal Help

```
ysf@ubuntu:~$ echo $JAVA_HOME
/usr/local/lib/jdk1.8.0_121
ysf@ubuntu:~$ ssh localhost
ssh: connect to host localhost port 22: Connection refused
```

Ubuntu 64-bit - VMware Workstation 12 Player (Non-commercial use only)

Player ▾ | [Icons] [Icons] [Icons] [Icons] [Icons]

Applications Places [Icons] [Icons] 5:48 PM [Icon]

ysf@ubuntu: ~

File Edit View Search Terminal Help

```
ysf@ubuntu:~$ sudo apt-get update
[sudo] password for ysf:
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [102 kB]
Hit:2 http://us.archive.ubuntu.com/ubuntu xenial InRelease
Get:3 http://us.archive.ubuntu.com/ubuntu xenial-updates InRelease [102 kB]
Hit:4 http://us.archive.ubuntu.com/ubuntu xenial-backports InRelease
Hit:5 http://ppa.launchpad.net/embrosyn/cinnamon/ubuntu xenial InRelease
Fetched 204 kB in 0s (250 kB/s)
Reading package lists... Done
ysf@ubuntu:~$ sudo apt-get install openssh-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  ncurses-term openssh-client openssh-sftp-server ssh-import-id
Suggested packages:
  ssh-askpass libpam-ssh keychain monkeysphere rssh molly-guard
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
The following packages will be upgraded:
  openssh-client
1 upgraded, 4 newly installed, 0 to remove and 322 not upgraded.
Need to get 636 kB/1,223 kB of archives.
After this operation, 5,145 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

```
ysf@ubuntu: ~  
File Edit View Search Terminal Help  
ysf@ubuntu:~$ ssh localhost  
The authenticity of host 'localhost (127.0.0.1)' can't be established.  
ECDSA key fingerprint is SHA256:mjoEQ19oUDu9dDqge+BuftI0350Rmw0GXYh/a7M9Tgo.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added 'localhost' (ECDSA) to the list of known hosts.  
ysf@localhost's password: █
```

[hadoop.apache.org/docs/r2.7.3/hadoop-project-dist/hadoop-common/SingleCluster.html#Setup\\_passphraseless\\_ssh](https://hadoop.apache.org/docs/r2.7.3/hadoop-project-dist/hadoop-common/SingleCluster.html#Setup_passphraseless_ssh)

If you cannot ssh to localhost without a passphrase, execute the following commands:

```
$ ssh-keygen -t rsa -P '' -f ~/.ssh/id_rsa  
$ cat ~/.ssh/id_rsa.pub >> ~/.ssh/authorized_keys  
$ chmod 0600 ~/.ssh/authorized_keys
```

```
ysf@ubuntu:~$ ssh-keygen -t rsa -P '' -f ~/.ssh/id_rsa  
Generating public/private rsa key pair.  
Your identification has been saved in /home/ysf/.ssh/id_rsa.  
Your public key has been saved in /home/ysf/.ssh/id_rsa.pub.  
The key fingerprint is:  
SHA256:zFn6xtq07u/dgWRt6g9lv8W3rcYYPKA7u0msEBsWXws ysf@ubuntu  
The key's randomart image is:  
+---[RSA 2048]---+  
|  
| . E . .  
| o = = . .  
| + . S. o o =  
| . + ..o * *..  
| o o.= o .=  
| . oo* .o.+B  
| . =*=ooo+=o  
+-----[SHA256]-----+  
ysf@ubuntu:~$ cat ~/.ssh/id_rsa.pub >> ~/.ssh/authorized_keys  
ysf@ubuntu:~$ chmod 0600 ~/.ssh/authorized_keys  
ysf@ubuntu:~$ ssh localhost  
Welcome to Ubuntu 16.04.1 LTS (GNU/Linux 4.4.0-31-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
300 packages can be updated.  
117 updates are security updates.  
  
Last login: Mon Jan 23 17:50:55 2017 from 127.0.0.1  
ysf@ubuntu:~$ █
```

Apache Hadoop Releases - Mozilla Firefox

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hadoop.apache.org/releases.htm Search

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## Download

Hadoop is released as source code tarballs with corresponding binary tarballs for convenience. The downloads are distributed via mirror sites and should be checked for tampering using GPG or SHA-256.

Version	Release Date	Tarball	GPG	SHA-256
<a href="#">3.0.0-alpha1</a>	03 September, 2016	<a href="#">source</a>	<a href="#">signature</a>	<a href="#">checksum file</a>
		<a href="#">binary</a>	<a href="#">signature</a>	<a href="#">checksum file</a>
<a href="#">2.7.3</a>	25 August, 2016	<a href="#">source</a>	<a href="#">signature</a>	<a href="#">227785DC 6E3E6EF8..</a>
		<a href="#">binary</a>	<a href="#">signature</a>	<a href="#">D489DF38 08244B90..</a>

[www.apache.org/dyn/c.../hadoop-2.7.3.tar.gz](http://www.apache.org/dyn/c.../hadoop-2.7.3.tar.gz)

Extract archive

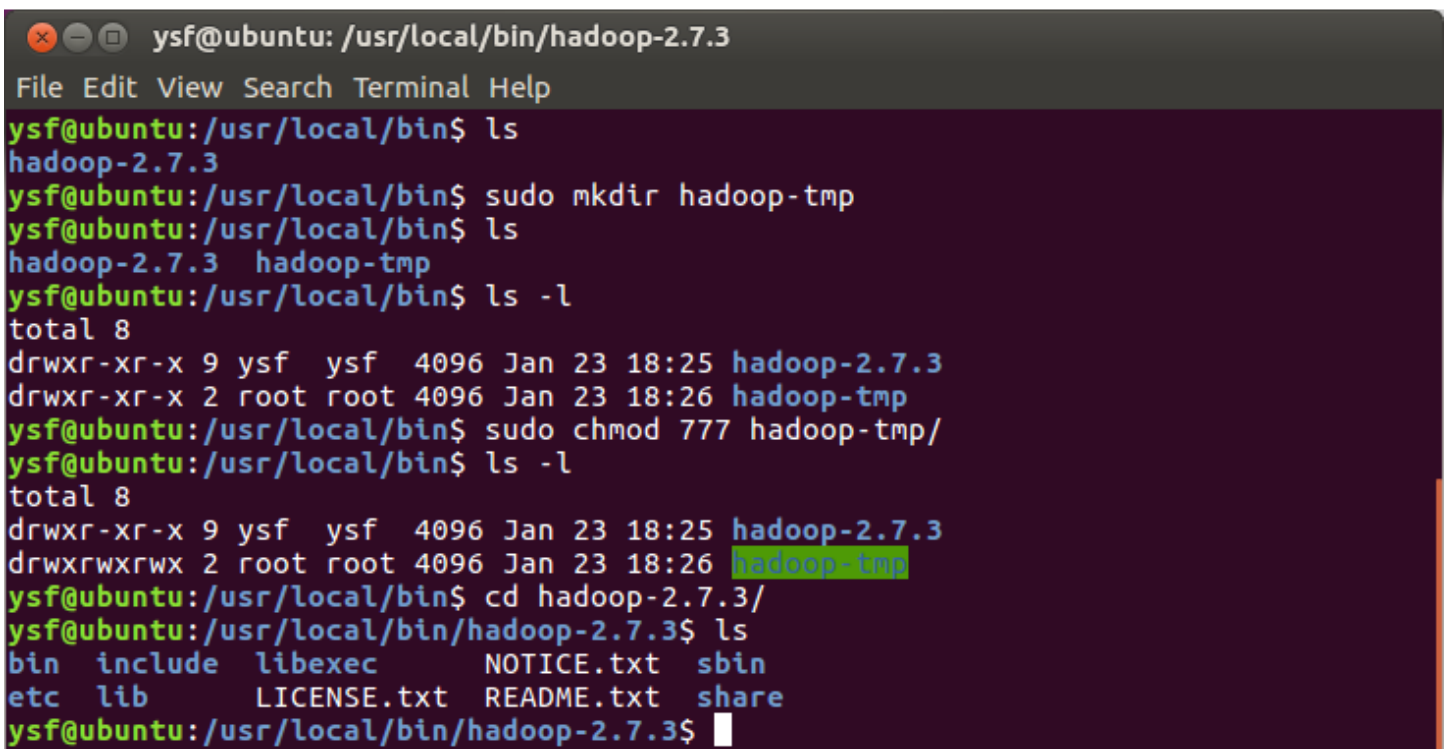
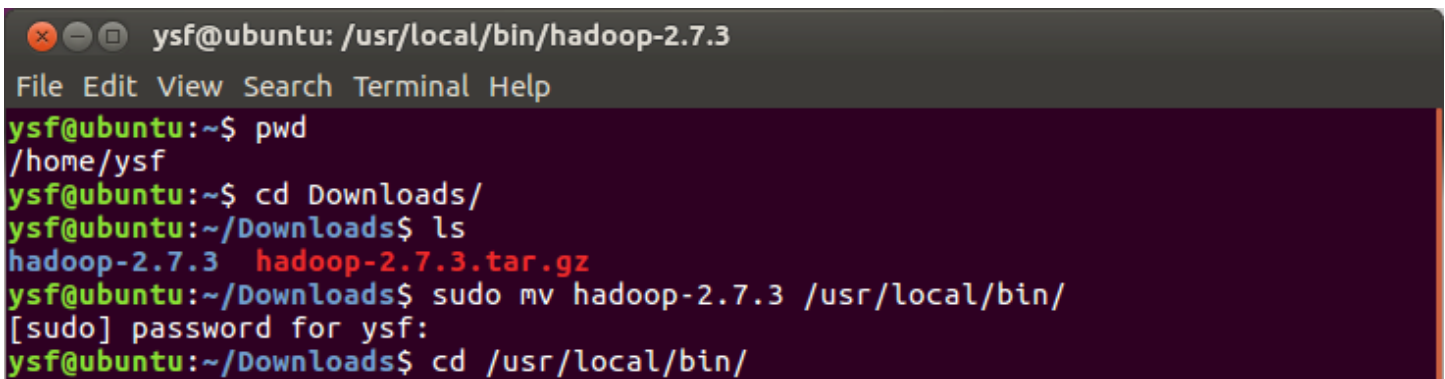
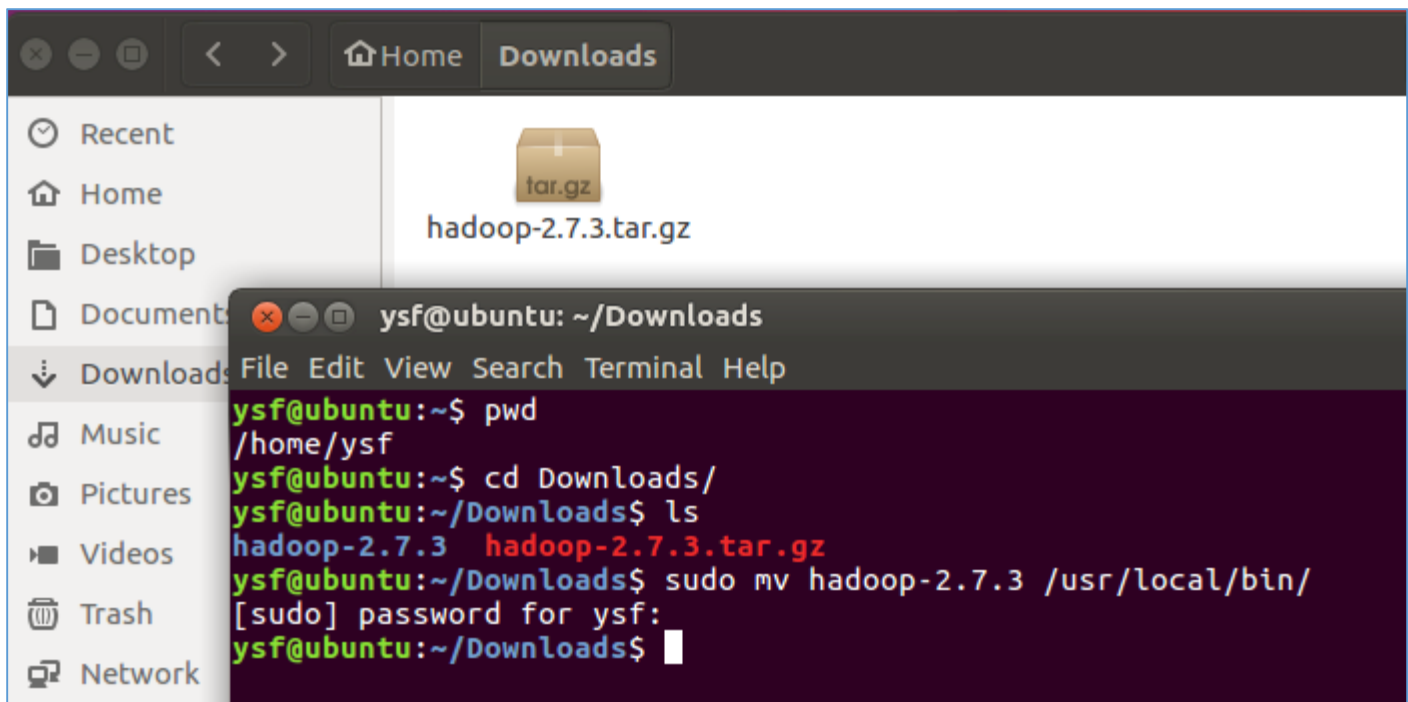
Extracting the files from "hadoop-2.7.3.tar.gz"

Please wait...

Cancel

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hadoop-2.7.3 hadoop-2.7.3.tar.gz





```

ysf@ubuntu:/usr/local/bin$ ls
hadoop-2.7.3
ysf@ubuntu:/usr/local/bin$ sudo mkdir hadoop-tmp
ysf@ubuntu:/usr/local/bin$ ls
hadoop-2.7.3  hadoop-tmp
ysf@ubuntu:/usr/local/bin$ ls -l
total 8
drwxr-xr-x 9 ysf ysf 4096 Jan 23 18:25 hadoop-2.7.3
drwxr-xr-x 2 root root 4096 Jan 23 18:26 hadoop-tmp
ysf@ubuntu:/usr/local/bin$ sudo chmod 777 hadoop-tmp/
ysf@ubuntu:/usr/local/bin$ ls -l
total 8
drwxr-xr-x 9 ysf ysf 4096 Jan 23 18:25 hadoop-2.7.3
drwxrwxrwx 2 root root 4096 Jan 23 18:26 hadoop-tmp
ysf@ubuntu:/usr/local/bin$ cd hadoop-2.7.3/
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3$ ls
bin  include  libexec      NOTICE.txt  sbin
etc  lib       LICENSE.txt  README.txt   share
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3$ cd etc/hadoop/
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop$ ls
capacity-scheduler.xml  httpfs-env.sh          mapred-env.sh
configuration.xsl       httpfs-log4j.properties mapred-queues.xml.template
container-executor.cfg  httpfs-signature.secret mapred-site.xml.template
core-site.xml           httpfs-site.xml        slaves
hadoop-env.cmd          kms-acls.xml           ssl-client.xml.example
hadoop-env.sh           kms-env.sh             ssl-server.xml.example
hadoop-metrics2.properties kms-log4j.properties  yarn-env.cmd
hadoop-metrics.properties kms-site.xml           yarn-env.sh
hadoop-policy.xml       log4j.properties      yarn-site.xml
hdfs-site.xml           mapred-env.cmd
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop$ sudo nano hadoop-env.sh

```

```

ysf@ubuntu: ~
File Edit View Search Terminal Help
ysf@ubuntu:~$ echo $JAVA_HOME
/usr/local/lib/jdk1.8.0_121
ysf@ubuntu:~$

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop
File Edit View Search Terminal Help
GNU nano 2.5.3 File: hadoop-env.sh Mo

# Limitations under the License.

# Set Hadoop-specific environment variables here.

# The only required environment variable is JAVA_HOME. All others are
# optional. When running a distributed configuration it is best to
# set JAVA_HOME in this file, so that it is correctly defined on
# remote nodes.

# The java implementation to use.
export JAVA_HOME=/usr/local/lib/jdk1.8.0_121

```

```
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop
File Edit View Search Terminal Help
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop$ ls
capacity-scheduler.xml      httpfs-env.sh              mapred-env.sh
configuration.xml           httpfs-log4j.properties    mapred-queues.xml.template
container-executor.cfg      httpfs-signature.secret    mapred-site.xml.template
core-site.xml               httpfs-site.xml            slaves
hadoop-env.cmd              kms-acls.xml               ssl-client.xml.example
hadoop-env.sh               kms-env.sh                 ssl-server.xml.example
hadoop-metrics2.properties kms-log4j.properties      yarn-env.cmd
hadoop-metrics.properties  kms-site.xml               yarn-env.sh
hadoop-policy.xml           log4j.properties          yarn-site.xml
hdfs-site.xml               mapred-env.cmd
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop$ sudo nano core-site.xml
```

**XML CONFIG FILE CONTENTS COULD BE COPY-PASTED FROM THE FOLLOWING URL:**

<http://hadoop.apache.org/docs/r2.7.3/hadoop-project-dist/hadoop-common/SingleCluster.html>

```
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop
File Edit View Search Terminal Help
GNU nano 2.5.3          File: core-site.xml          Modified

-->

<!-- Put site-specific property overrides in this file. -->

<configuration>
  <property>
    <name>fs.defaultFS</name>
    <value>hdfs://localhost:9000</value>
  </property>
  <property>
    <name>hadoop.tmp.dir</name>
    <value>/usr/local/bin/hadoop-tmp</value>
  </property>
</configuration>

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text ^T To Spell  ^ Go To Line
```

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop

File Edit View Search Terminal Help

ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop\$ sudo nano hdfs-site.xml

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop

File Edit View Search Terminal Help

GNU nano 2.5.3

File: hdfs-site.xml

Modified

<!-- Put site-specific property overrides in this file. -->

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

^G Get Help   ^O Write Out   ^W Where Is   ^K Cut Text   ^J Justify   ^C Cur Pos  
^X Exit   ^R Read File   ^\ Replace   ^U Uncut Text   ^T To Spell   ^ \_ Go To Line

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop

File Edit View Search Terminal Help

ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop\$ ls mapred-site\*

ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop\$ sudo mv mapred-site.xml.template mapred-site.xml

ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop\$ ls mapred-site\*

mapred-site.xml

ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/etc/hadoop\$ sudo nano mapred-site.xml

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop

File Edit View Search Terminal Help

GNU nano 2.5.3

File: mapred-site.xml

Modified

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See the License for the specific language governing permissions and  
limitations under the License. See accompanying LICENSE file.

-->

<!-- Put site-specific property overrides in this file. -->

```
<configuration>
  <property>
    <name>mapreduce.framework.name</name>
    <value>yarn</value>
  </property>
</configuration>
```

^G Get Help   ^O Write Out   ^W Where Is   ^K Cut Text   ^J Justify   ^C Cur Pos   ^Y Prev Page  
^X Exit   ^R Read File   ^\ Replace   ^U Uncut Text   ^T To Spell   ^ \_ Go To Line   ^V Next Page



```

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop
File Edit View Search Terminal Help
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop$ ls mapred-site*
mapred-site.xml
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop$ sudo nano mapred-site.xml
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop$ ls yarn-*
yarn-env.cmd yarn-env.sh yarn-site.xml
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop$ sudo nano yarn-site.xml

```

```

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop
File Edit View Search Terminal Help
GNU nano 2.5.3 File: yarn-site.xml Modified

See the License for the specific language governing permissions and
limitations under the License. See accompanying LICENSE file.
-->
<configuration>
  <property>
    <name>yarn.nodemanager.aux-services</name>
    <value>mapreduce_shuffle</value>
  </property>
</configuration>

^G Get Help      ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify
^X Exit          ^R Read File    ^\ Replace      ^U Uncut Text   ^T To Spell

```

```

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin
File Edit View Search Terminal Help
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc/hadoop$ cd ../
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/etc$ cd ../
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3$ ls
bin  include  libexec    NOTICE.txt  sbin
etc  lib       LICENSE.txt README.txt   share
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3$ cd bin
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin$ ls
container-executor  hdfs      mapred.cmd      yarn
hadoop              hdfs.cmd  rcc              yarn.cmd
hadoop.cmd          mapred    test-container-executor
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin$ ./hadoop namenode -format

```

```

17/01/23 18:57:13 INFO namenode.FSImageFormatProtobuf: Image file /usr/local/
bin/hadoop-tmp/dfs/name/current/fsimage.ckpt_000000000000000000 of size 350
bytes saved in 0 seconds.
17/01/23 18:57:13 INFO namenode.NNStorageRetentionManager: Going to retain 1
images with txid >= 0
17/01/23 18:57:13 INFO util.ExitUtil: Exiting with status 0
17/01/23 18:57:13 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at ubuntu/127.0.1.1
*****/
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin$

```



```

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
17/01/23 18:57:13 INFO util.ExitUtil: Exiting with status 0
17/01/23 18:57:13 INFO namenode.NameNode: SHUTDOWN_MSG:
/*****
SHUTDOWN_MSG: Shutting down NameNode at ubuntu/127.0.1.1
*****/
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin$ cd ../s
sbin/ share/
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin$ cd ../sbin/
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin$ ls
distribute-exclude.sh      start-all.cmd             stop-balancer.sh
hadoop-daemon.sh           start-all.sh              stop-dfs.cmd
hadoop-daemons.sh         start-balancer.sh          stop-dfs.sh
hdfs-config.cmd           start-dfs.cmd              stop-secure-dns.sh
hdfs-config.sh            start-dfs.sh               stop-yarn.cmd
httpfs.sh                 start-secure-dns.sh        stop-yarn.sh
kms.sh                   start-yarn.cmd             yarn-daemon.sh
mr-jobhistory-daemon.sh   start-yarn.sh              yarn-daemons.sh
refresh-namenodes.sh      stop-all.cmd
slaves.sh                 stop-all.sh
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin$ ./start-all.sh

```

```

ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin$ ./start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh
Starting namenodes on [localhost]
localhost: starting namenode, logging to /usr/local/bin/hadoop-2.7.3/logs/had
oop-ysf-namenode-ubuntu.out
localhost: starting datanode, logging to /usr/local/bin/hadoop-2.7.3/logs/had
oop-ysf-datanode-ubuntu.out
Starting secondary namenodes [0.0.0.0]
The authenticity of host '0.0.0.0 (0.0.0.0)' can't be established.
ECDSA key fingerprint is SHA256:mjoEQ19oUDu9dDqqe+BuftI0350Rmw0GXYh/a7M9Tgo.
Are you sure you want to continue connecting (yes/no)? yes
0.0.0.0: Warning: Permanently added '0.0.0.0' (ECDSA) to the list of known ho
sts.
0.0.0.0: starting secondarynamenode, logging to /usr/local/bin/hadoop-2.7.3/l
ogs/hadoop-ysf-secondarynamenode-ubuntu.out
starting yarn daemons
starting resourcemanager, logging to /usr/local/bin/hadoop-2.7.3/logs/yarn-ys
f-resourcemanager-ubuntu.out
localhost: starting nodemanager, logging to /usr/local/bin/hadoop-2.7.3/logs/
yarn-ysf-nodemanager-ubuntu.out
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin$

```

```
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/bin
File Edit View Search Terminal Help
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/sbin$ cd ../bin
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/bin$ ls
container-executor  hdfs      mapred.cmd      yarn
hadoop              hdfs.cmd   rcc              yarn.cmd
hadoop.cmd          mapred     test-container-executor
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/bin$ ./hadoop fs -mkdir /testdir
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/bin$ ./hadoop fs -ls
ls: `.`: No such file or directory
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/bin$ ./hadoop fs -ls /
Found 1 items
drwxr-xr-x  - ysf supergroup      0 2017-01-23 19:01 /testdir
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/bin$
```

Namenode information - Mozilla Firefox

Namenode information x +

localhost:50070

Search

Hadoop Overview Datanodes Datanode Volume Failures Snapshot Startup Progress Utilities

Browse the file system  
Logs

Overview 'localhost:9000' (active)

Started:	Mon Jan 23 18:58:37 PST 2017
Version:	2.7.3, rbaa91f7c6bc9cb92be5982de4719c1c8af91ccff
localhost:50070/explorer.html	2016-08-18T01:41Z hv root from branch-2.7.3

Browsing HDFS - Mozilla Firefox

Browsing HDFS x +

localhost:50070/explorer.html#/

Search

Hadoop Overview Datanodes Snapshot Startup Progress Utilities

Browse Directory

Go!

Permission	Owner	Group	Size	Last Modified	Replication	Block Size	Name
drwxr-xr-x	ysf	supergroup	0 B	1/23/2017, 7:01:15 PM	0	0 B	<a href="#">testdir</a>

After you are done, gracefully shutdown Hadoop:

```
ysf@ubuntu: /usr/local/bin/hadoop-2.7.3/sbin
File Edit View Search Terminal Help
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/bin$ cd ../sbin/
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/sbin$ ls
distribute-exclude.sh  start-all.cmd      stop-balancer.sh
hadoop-daemon.sh       start-all.sh       stop-dfs.cmd
hadoop-daemons.sh     start-balancer.sh   stop-dfs.sh
hdfs-config.cmd        start-dfs.cmd       stop-secure-dns.sh
hdfs-config.sh         start-dfs.sh        stop-yarn.cmd
httpfs.sh              start-secure-dns.sh stop-yarn.sh
kms.sh                 start-yarn.cmd      yarn-daemon.sh
mr-jobhistory-daemon.sh start-yarn.sh       yarn-daemons.sh
refresh-namenodes.sh   stop-all.cmd
slaves.sh              stop-all.sh
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/sbin$ ./stop-all.sh
This script is Deprecated. Instead use stop-dfs.sh and stop-yarn.sh
Stopping namenodes on [localhost]
localhost: stopping namenode
localhost: stopping datanode
Stopping secondary namenodes [0.0.0.0]
0.0.0.0: stopping secondarynamenode
stopping yarn daemons
stopping resourcemanager
localhost: stopping nodemanager
no proxyserver to stop
ysf@ubuntu:/usr/local/bin/hadoop-2.7.3/sbin$
```