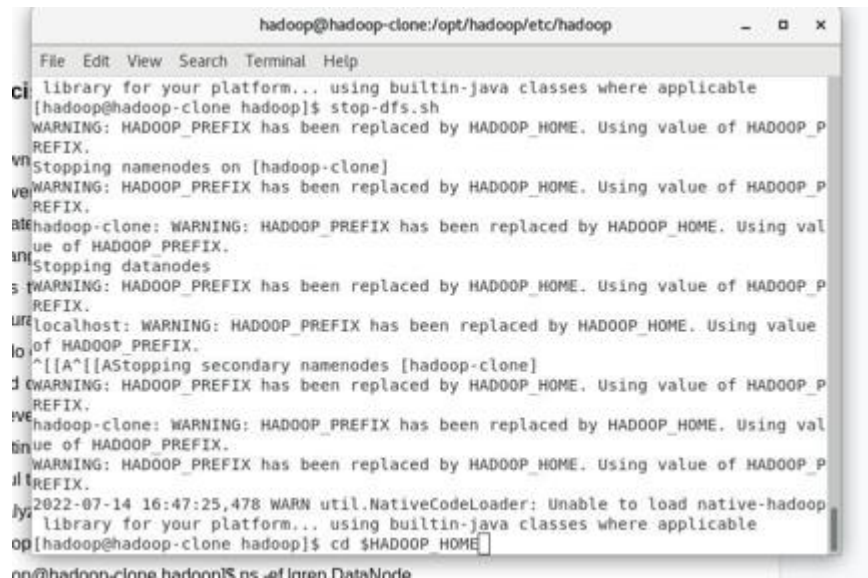


## Lab - 2

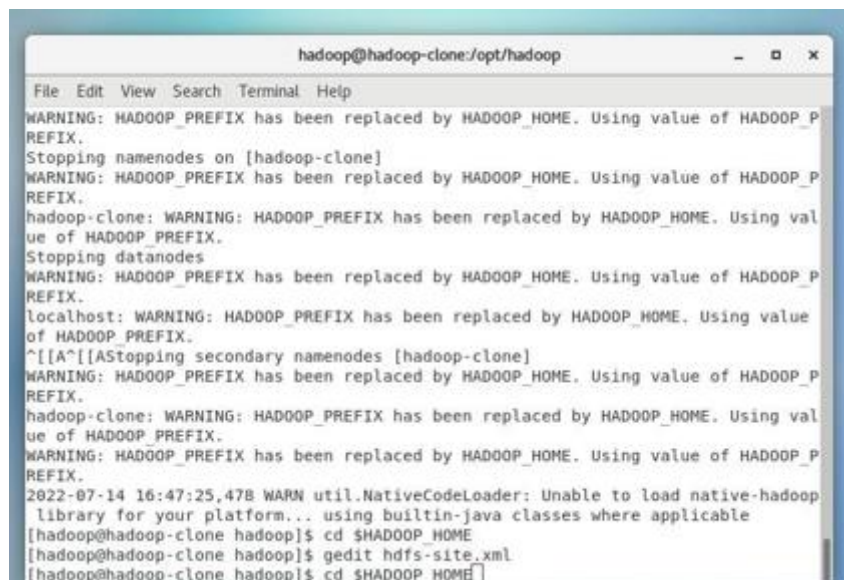
CE 004

20CEUOD004

Change the URL of HDFS Web UI to localhost:51234 instead of localhost:50070 and the access the web UI using new URL. [Hint: refer configuration files] [Know that traditionally configuration based servers need to be restarted after any server configuration change.]



```
hadoop@hadoop-clone:/opt/hadoop/etc/hadoop
File Edit View Search Terminal Help
ci library for your platform... using builtin-java classes where applicable
[hadoop@hadoop-clone hadoop]$ stop-dfs.sh
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
Stopping namenodes on [hadoop-clone]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using val
ue of HADOOP_PREFIX.
Stopping datanodes
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
localhost: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value
of HADOOP_PREFIX.
^[[A^[[AStopping secondary namenodes [hadoop-clone]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using val
ue of HADOOP_PREFIX.
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
2022-07-14 16:47:25,478 WARN util.NativeCodeLoader: Unable to load native-hadoop
library for your platform... using builtin-java classes where applicable
op[hadoop@hadoop-clone hadoop]$ cd $HADOOP_HOME
on@hadoop-clone hadoop$ nc -l 50070
```



```
hadoop@hadoop-clone:/opt/hadoop
File Edit View Search Terminal Help
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
Stopping namenodes on [hadoop-clone]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using val
ue of HADOOP_PREFIX.
Stopping datanodes
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
localhost: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value
of HADOOP_PREFIX.
^[[A^[[AStopping secondary namenodes [hadoop-clone]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using val
ue of HADOOP_PREFIX.
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_P
PREFIX.
2022-07-14 16:47:25,478 WARN util.NativeCodeLoader: Unable to load native-hadoop
library for your platform... using builtin-java classes where applicable
[hadoop@hadoop-clone hadoop]$ cd $HADOOP_HOME
[hadoop@hadoop-clone hadoop]$ gedit hdfs-site.xml
[hadoop@hadoop-clone hadoop]$ cd $HADOOP_HOME
```

## Overview 'hadoop-clone:9000' (active)

Started:	Thu Jul 14 16:50:43 +0530 2022
Version:	3.2.0, re97acb3bd8f3befd27418996fa5d4b50bf2e17bf
Compiled:	Tue Jan 08 11:38:00 +0530 2019 by sunlig from branch-3.2.0
Cluster ID:	CID-a0711dac-8474-44f9-8368-d68c1ff4c838
Block Pool ID:	BP-1266388418-127.0.0.1-1560101340487

## Summary

Security is off.

Safe mode is ON. The reported blocks 5 has reached the threshold 0.9990 of total blocks 5. The number of live datanodes 1 has reached the minimum number 0. In safe mode extension, Safe mode will be turned off automatically in 20 seconds.

42 files and directories, 5 blocks (5 replicated blocks, 0 erasure coded block groups) = 47 total filesystem object(s).

Heap Memory used 84.03 MB of 423.5 MB Heap Memory. Max Heap Memory is 3.42 GB.

Non Heap Memory used 46.69 MB of 48.03 MB Committed Non Heap Memory. Max Non Heap Memory is <unbounded>.

Configured Capacity:	309.81 GB
----------------------	-----------

```
Open hdfs-site.xml Save
/opt/hadoop/etc/hadoop

<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<!--
Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

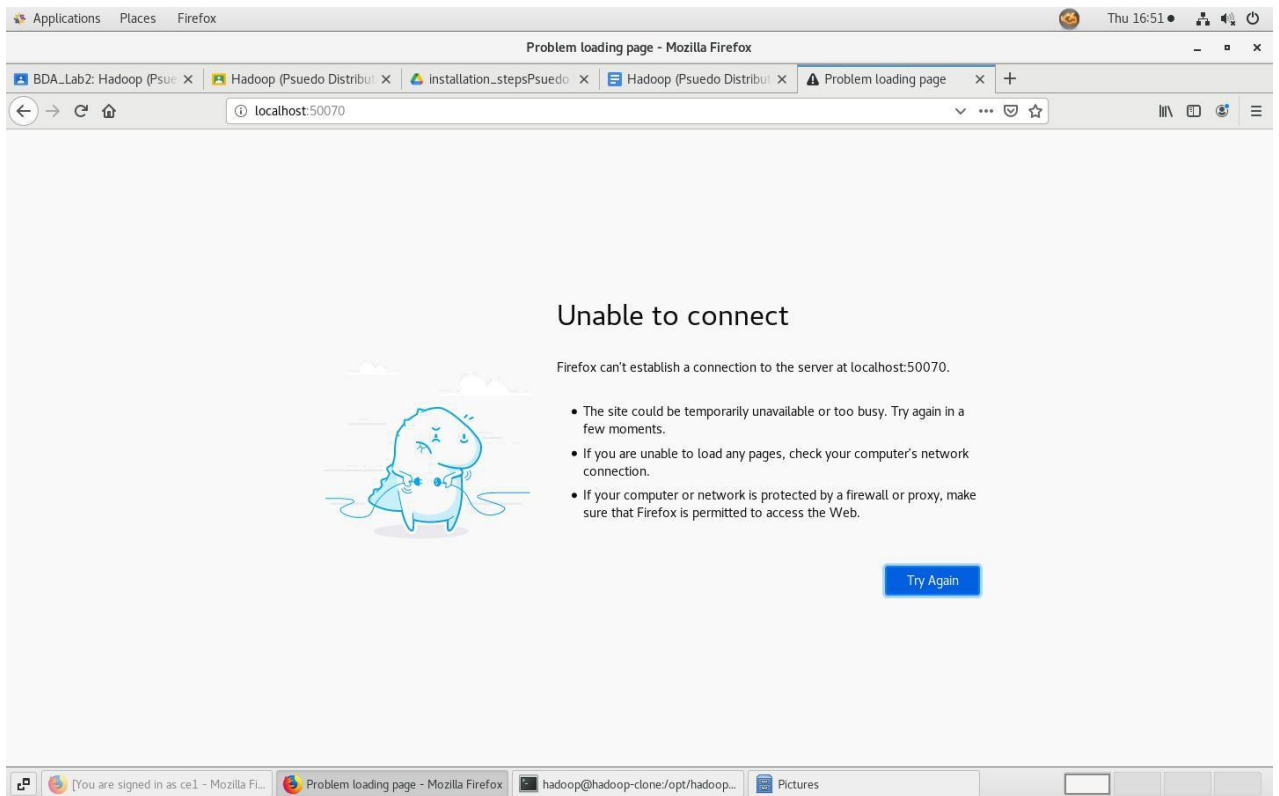
    http://www.apache.org/licenses/LICENSE-2.0

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distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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>dfs.namenode.name.dir</name>
    <value>/opt/hadoop/tmp/dfs/name</value>
  </property>
  <property>
    <name>dfs.datanode.data.dir</name>
    <value>/opt/hadoop/tmp/dfs/data</value>
  </property>
  <property>
    <name>dfs.namenode.http-address</name>
    <value>hadoop-clone:50070</value>
  </property>
  <property>
    <name>dfs.namenode.secondary.http-address</name>
    <value>hadoop-clone:50090</value>
  </property>
</configuration>
```

XML Tab Width: 8 Ln 31, Col 30 INS



```
hdfs-site.xml
/opt/hadoop/etc/hadoop

<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<!--
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you may not use this file except in compliance with the License.
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    http://www.apache.org/licenses/LICENSE-2.0

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distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
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>dfs.namenode.name.dir</name>
    <value>/opt/hadoop/tmp/dfs/name</value>
  </property>

  <property>
    <name>dfs.datanode.data.dir</name>
    <value>/opt/hadoop/tmp/dfs/data</value>
  </property>

  <property>
    <name>dfs.namenode.http-address</name>
    <value>hadoop-clone:51234</value>
  </property>

  <property>
    <name>dfs.namenode.secondary.http-address</name>
    <value>hadoop-clone:50990</value>
  </property>
</configuration>

Saving file "/opt/hadoop/etc/hadoop/hdfs-site.xml"...
```

Undo changes done in task1.

localhost:51234/dfshealth.html#tab-overview

Hadoop Overview Datanodes Datanode Volume Failures Snapshot Startup Progress Utilities

## Overview 'hadoop-clone:9000' (active)

Started:	Thu Jul 14 16:51:58 +0530 2022
Version:	3.2.0, re97acb3bd8f3befd27418996fa5d4b50bf2e17bf
Compiled:	Tue Jan 08 11:38:00 +0530 2019 by sunilg from branch-3.2.0
Cluster ID:	CID-a0711dac-8474-44f9-8368-d68c1ff4c838
Block Pool ID:	BP-1266388418-127.0.0.1-1560101340487

## Summary

Security is off.

Safe mode is ON. The reported blocks 5 has reached the threshold 0.9990 of total blocks 5. The number of live datanodes 1 has reached the minimum number 0. In safe mode extension. Safe mode will be turned off automatically in 294 seconds.

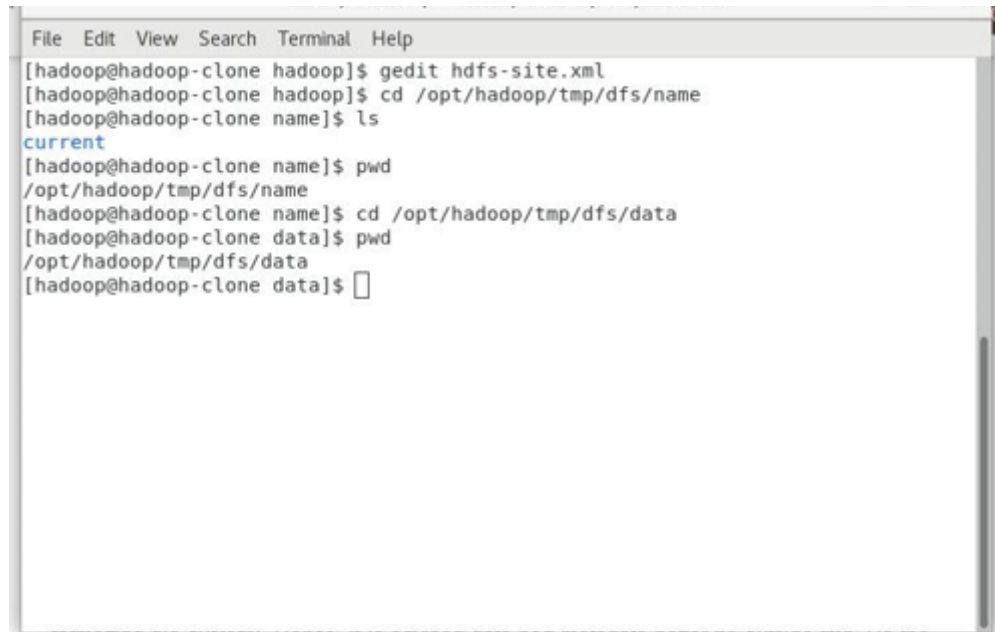
42 files and directories, 5 blocks (5 replicated blocks, 0 erasure coded block groups) = 47 total filesystem object(s).

Heap Memory used 83.46 MB of 450 MB Heap Memory. Max Heap Memory is 3.42 GB.

Non Heap Memory used 46.04 MB of 47.09 MB Committed Non Heap Memory. Max Non Heap Memory is <unbounded>.

Configured Capacity:	309.81 GB
Configured Remote Capacity:	0 B

Find out what is current location of namenode and datanode storedirectories. Normally whenever cleanup is required, tmp folder is one to be emptied up (not to confuse with formatting file system). Hence, it is advised data and metadata better be outside tmp. Do the needful to have namenode and datanode directories in /opt/hadoop, if present within tmp.



```
File Edit View Search Terminal Help
[hadoop@hadoop-clone hadoop]$ gedit hdfs-site.xml
[hadoop@hadoop-clone hadoop]$ cd /opt/hadoop/tmp/dfs/name
[hadoop@hadoop-clone name]$ ls
current
[hadoop@hadoop-clone name]$ pwd
/opt/hadoop/tmp/dfs/name
[hadoop@hadoop-clone name]$ cd /opt/hadoop/tmp/dfs/data
[hadoop@hadoop-clone data]$ pwd
/opt/hadoop/tmp/dfs/data
[hadoop@hadoop-clone data]$
```

Analyze the output of following command: [hadoop@hadoop-clone hadoop]\$  
ps -ef |grep NameNode[hadoop@hadoop-clone hadoop]\$ ps -ef |grep  
DataNode

```
hadoop@hadoop-clone:/opt/hadoop/etc/hadoop
File Edit View Search Terminal Help
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Stopping datanodes
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
localhost: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Stopping secondary namenodes [hadoop-clone]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
2022-07-14 16:52:24,504 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
[hadoop@hadoop-clone hadoop]$ gedit hdfs-site.xml
[hadoop@hadoop-clone hadoop]$ ps -ef |grep NameNode
hadoop 30117 11951 0 16:53 pts/0 00:00:00 grep --color=auto NameNode
[hadoop@hadoop-clone hadoop]$ ps -ef |grep NameNode
hadoop 30143 11951 0 16:53 pts/0 00:00:00 grep --color=auto NameNode
[hadoop@hadoop-clone hadoop]$ ps -ef |grep NameNode
hadoop 30256 11951 0 16:53 pts/0 00:00:00 grep --color=auto NameNode
[hadoop@hadoop-clone hadoop]$
```

```
hadoop@hadoop-clone:/opt/hadoop/etc/hadoop
File Edit View Search Terminal Help
PREFIX.
localhost: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
Stopping secondary namenodes [hadoop-clone]
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
hadoop-clone: WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
WARNING: HADOOP_PREFIX has been replaced by HADOOP_HOME. Using value of HADOOP_PREFIX.
2022-07-14 16:52:24,504 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
[hadoop@hadoop-clone hadoop]$ gedit hdfs-site.xml
[hadoop@hadoop-clone hadoop]$ ps -ef |grep NameNode
hadoop 30117 11951 0 16:53 pts/0 00:00:00 grep --color=auto NameNode
[hadoop@hadoop-clone hadoop]$ ps -ef |grep NameNode
hadoop 30143 11951 0 16:53 pts/0 00:00:00 grep --color=auto NameNode
[hadoop@hadoop-clone hadoop]$ ps -ef |grep NameNode
hadoop 30256 11951 0 16:53 pts/0 00:00:00 grep --color=auto NameNode
[hadoop@hadoop-clone hadoop]$ ps -ef |grep DataNode
hadoop 30502 11951 0 16:54 pts/0 00:00:00 grep --color=auto DataNode
[hadoop@hadoop-clone hadoop]$ ps -ef |grep DataNode
hadoop 30537 11951 0 16:54 pts/0 00:00:00 grep --color=auto DataNode
[hadoop@hadoop-clone hadoop]$
```



```
hadoop@hadoop-clone:/opt/hadoop/etc/hadoop
File Edit View Search Terminal Help
[hadoop@hadoop-clone ~]$ cd $HADOOP_HOME
[hadoop@hadoop-clone hadoop]$ cd etc/hadoop
[hadoop@hadoop-clone hadoop]$ ls
capacity-scheduler.xml      kms-log4j.properties
configuration.xml           kms-site.xml
container-executor.cfg      log4j.properties
core-site.xml               mapred-env.cmd
hadoop-env.cmd              mapred-env.sh
hadoop-env.sh               mapred-queues.xml.template
hadoop-metrics2.properties  mapred-site.xml
hadoop-policy.xml           shellprofile.d
hadoop-user-functions.sh.example  ssl-client.xml.example
hdfs-site.xml               ssl-server.xml.example
https-env.sh                user_ec_policies.xml.template
https-log4j.properties      workers
https-signature.secret      yarn-env.cmd
https-site.xml              yarn-env.sh
kms-acls.xml                yarnservice-log4j.properties
kms-env.sh                  yarn-site.xml
[hadoop@hadoop-clone hadoop]$
```