南京信息工程大学　实验（实习）报告

实验（实习）名称　实验五：熟悉常用的 Hbase 操作　（实习）日期＿＿＿5-18＿＿＿得分＿＿＿＿＿＿＿＿＿
指导教师＿＿＿孙乐＿＿＿专业＿软件工程（中外合作办学）＿＿＿＿年级＿＿2020 级＿＿班次＿＿＿2＿＿＿＿
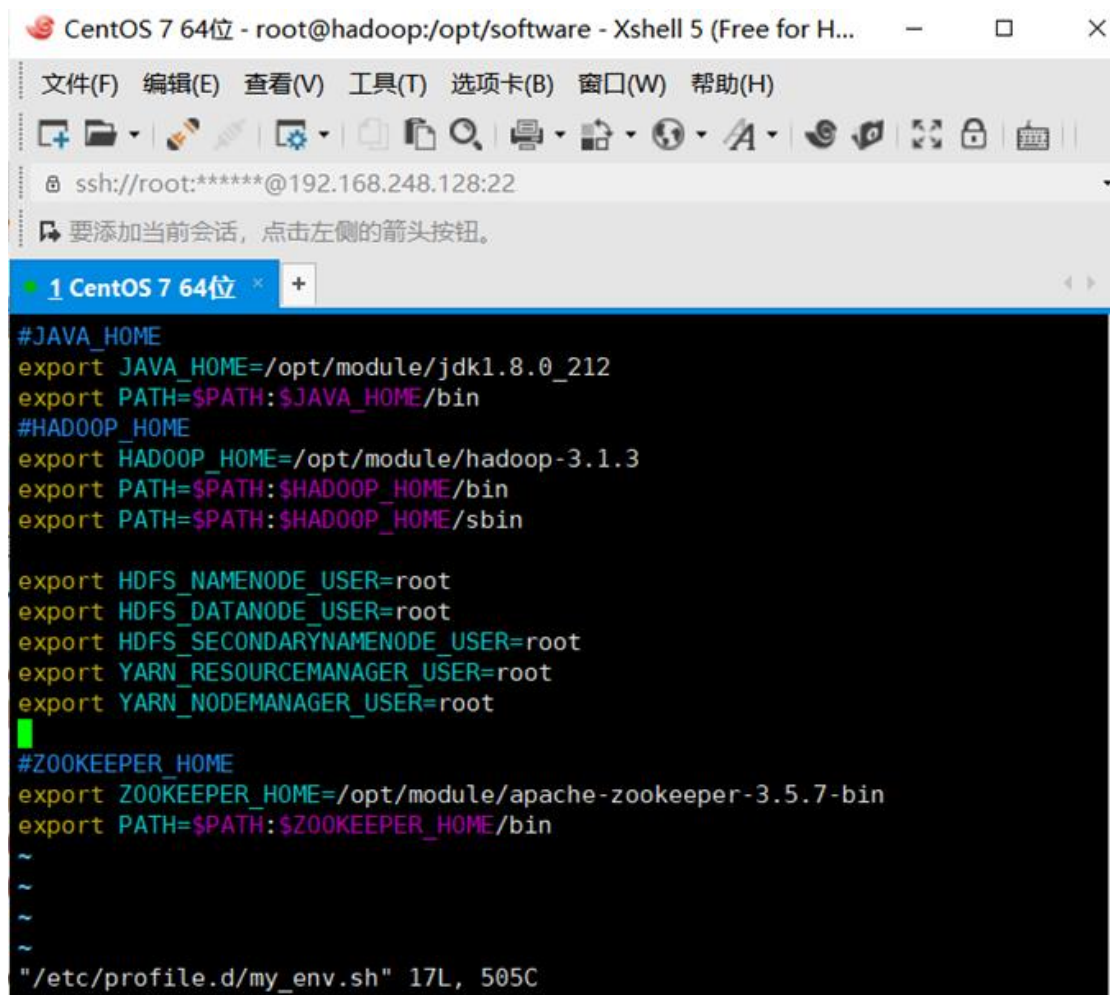姓名＿＿＿＿颜晓雨＿＿＿＿学号＿＿＿202083020070＿＿＿＿

实验目的：学习大数据领域中常用的 NoSQL 数据库 Hbase 的使用
实验内容：
1. 安装并配置 Zookeeper
2. 安装并配置 Hbase
3. 熟悉常用的 Hbase shell 操作
实验环境：Linux 系统、VMware
实验步骤：

文件(F) 编辑(E) 查看(V) 工具(T) 选项卡(B) 窗口(W) 帮助(H)

ssh://root:******@192.168.248.128:22

要添加当前会话，点击左侧的箭头按钮。

1 CentOS 7 64位   +

```
# The number of milliseconds of each tick
tickTime=2000
# The number of ticks that the initial
# synchronization phase can take
initLimit=10
# The number of ticks that can pass between
# sending a request and getting an acknowledgement
syncLimit=5
# the directory where the snapshot is stored.
# do not use /tmp for storage, /tmp here is just
# example sakes.
dataDir=/opt/module/apache-zookeeper-3.5.7-bin/zkData
# the port at which the clients will connect
clientPort=2182
# the maximum number of client connections.
# increase this if you need to handle more clients
#maxClientCnxns=60
#
# Be sure to read the maintenance section of the
# administrator guide before turning on autopurge.
#
-- 插入 --                                        14,16          顶端
```

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要添加当前会话，点击左侧的箭头按钮。

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```
mv: 无法获取"zoo_sample.cfg" 的文件状态(stat): 没有那个文件或目录
[root@hadoop software]# cd /opt/
[root@hadoop opt]# cd
[root@hadoop ~]# vim /etc/profile.d/my_env.sh
[root@hadoop ~]# source /etc/profile
[root@hadoop ~]# mv zoo_sample.cfg zoo.cfg
mv: 无法获取"zoo_sample.cfg" 的文件状态(stat): 没有那个文件或目录
[root@hadoop ~]# cd /opt/conf/
-bash: cd: /opt/conf/: 没有那个文件或目录
[root@hadoop ~]#  cd /opt/module/apache-zookeeper-3.5.7-bin/conf
[root@hadoop conf]# mv zoo_sample.cfg zoo.cfg
[root@hadoop conf]# vim zoo.cfg
[root@hadoop conf]# cd /opt/module/apache-zookeeper-3.5.7-bin/
[root@hadoop apache-zookeeper-3.5.7-bin]# mkdir zkData
[root@hadoop apache-zookeeper-3.5.7-bin]# zkServer.sh start
ZooKeeper JMX enabled by default
Using config: /opt/module/apache-zookeeper-3.5.7-bin/bin/../conf/zoo.cfg
Starting zookeeper ... STARTED
[root@hadoop apache-zookeeper-3.5.7-bin]# jps
2819 Jps
2777 QuorumPeerMain
[root@hadoop apache-zookeeper-3.5.7-bin]#
```

```
#JAVA_HOME
export JAVA_HOME=/opt/module/jdk1.8.0_212
export PATH=$PATH:$JAVA_HOME/bin
#HADOOP_HOME
export HADOOP_HOME=/opt/module/hadoop-3.1.3
export PATH=$PATH:$HADOOP_HOME/bin
export PATH=$PATH:$HADOOP_HOME/sbin

export HDFS_NAMENODE_USER=root
export HDFS_DATANODE_USER=root
export HDFS_SECONDARYNAMENODE_USER=root
export YARN_RESOURCEMANAGER_USER=root
export YARN_NODEMANAGER_USER=root

#ZOOKEEPER_HOME
export ZOOKEEPER_HOME=/opt/module/apache-zookeeper-3.5.7-bin
export PATH=$PATH:$ZOOKEEPER_HOME/bin

#HBASE_HOME
export HBASE_HOME=/opt/module/hbase-2.0.5
export PATH=$PATH:$HBASE_HOME/bin
```

CentOS 7 64位 - root@hadoop:~ - Xshell 5 (Free for Home/School)

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ssh://root:******@192.168.248.128:22

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1 CentOS 7 64位

```
3268 DataNode
3496 SecondaryNameNode
3128 NameNode
2777 QuorumPeerMain
3677 Jps
[root@hadoop ~]# start-hbase.sh
hadoop: running zookeeper, logging to /opt/module/hbase-2.0.5/logs/hbase-r
oot-zookeeper-hadoop.out
running master, logging to /opt/module/hbase-2.0.5/logs/hbase-root-master-
hadoop.out
hadoop: running regionserver, logging to /opt/module/hbase-2.0.5/logs/hbas
e-root-regionserver-hadoop.out
[root@hadoop ~]# jps
4016 HQuorumPeer
4481 Jps
4113 HMaster
4338 HRegionServer
3268 DataNode
3496 SecondaryNameNode
3128 NameNode
2777 QuorumPeerMain
[root@hadoop ~]#
```

APACHE HBASE   Home   Table Details   Procedures & Locks   Process Metrics   Local Logs   Log Level   Debug Dump   Metrics Dump   HBase Configuration

Master hadoop

Region Servers

Base Stats   Memory   Requests   Storefiles   Compactions

ServerName	Start time	Last contact	Version	Requests Per Second	Num. Regions
hadoop,16020,1681180406947	Tue Apr 11 10:33:26 CST 2023	1 s	2.0.5	0	2
Total:1				0	2

Backup Masters

ServerName	Port	Start Time
Total:0		

Tables

User Tables   System Tables   Snapshots

```
HBase Shell
Use "help" to get list of supported commands.
Use "exit" to quit this interactive shell.
For Reference, please visit: http://hbase.apache.org/2.0/book.html#shell
Version 2.0.5, rUnknown, Thu Jun 18 15:10:52 CST 2020
Took 0.0161 seconds
hbase(main):001:0> list_namespace
NAMESPACE
default
hbase
2 row(s)
Took 1.7372 seconds
hbase(main):002:0> create_namespace "test"
Took 0.5032 seconds
hbase(main):003:0> drop_namespace "test"
Took 0.4116 seconds
hbase(main):004:0> list
TABLE
0 row(s)
Took 0.0661 seconds
=> []
hbase(main):005:0>
```



```
Took 0.1714 seconds
=> 2
hbase(main):018:0> deleteall 'student','1001'
Took 0.0353 seconds
hbase(main):019:0> delete 'student','1002','info:sex'
Took 0.0380 seconds
hbase(main):020:0> truncate 'student'
Truncating 'student' table (it may take a while):
Disabling table...
Truncating table...
Took 5.0151 seconds
hbase(main):021:0> disable 'student'
Took 0.8700 seconds
hbase(main):022:0> drop 'student'
Took 0.6135 seconds
hbase(main):023:0> exit
[root@hadoop ~]# stop-hbase.sh
stopping hbase...................
hadoop: running zookeeper, logging to /opt/module/hbase-2.0.5/logs/hbase-r
hadoop: stopping zookeeper.
[root@hadoop ~]# zkServer.sh stop
ZooKeeper JMX enabled by default
```

实验时间： 2 机时