

[별첨2]

HIVE 설치 가이드

2012. 12.

본 설치 가이드는 공개SW 역량프라자에서 클라우드 컴퓨팅 기반 기술 중 HIVE에 대한 테스트 결과 보고서 외에 테스트 환경에 대한 이해를 돕고자 작성되었습니다.

모든 테스트 환경 구성에 대한 내용은 포함되어 있지 않으며, 주의가 필요하거나 참고해야 할 내용을 기반으로 작성되었습니다.

1. 설치환경

☐ KVM 환경

모듈	Version
Hive	0.9.0

☐ Stack 환경

구성	OS	Java	Hadoop
Master Node	CentOS 6.3(64bit)	1.6.0_35	1.0.3
Slave Node 1	CentOS 6.3(64bit)	1.6.0_35	1.0.3
Slave Node 2	CentOS 6.3(64bit)	1.6.0_35	1.0.3
Slave Node 3	CentOS 6.3(64bit)	1.6.0_35	1.0.3

☐ HW 환경

제조사	모델명	CPU	MEM	Disk	NIC
IBM	X3550M2	Intel Xeon(R)CPU 2.40GHz * 4	8GB	320GB	Gigabit 1Port

※ 동일 사양의 HW Stack 구성

2. Server 설정

☐ CentOS 설정

o SELinux 파일 수정

```
vi /etc/selinux/config
```

```
# This file controls the state of SELinux on the system.
# SELINUX= can take one of these three values:
#     enforcing - SELinux security policy is enforced.
#     permissive - SELinux prints warnings instead of enforcing.
#     disabled - No SELinux policy is loaded.
#SELINUX=disabled
# SELINUXTYPE= can take one of these two values:
#     targeted - Targeted processes are protected,
#     mls - Multi Level Security protection.
SELINUXTYPE=targeted
```

```
reboot;
```

o iptables 중단

```
chkconfig iptables off
chkconfig ip6tables off
```

o hosts 파일 수정

```
vi /etc/hosts
```

```
xxx.xxx.xxx.xxx master
xxx.xxx.xxx.xx1 slave1
xxx.xxx.xxx.xx2 slave2
xxx.xxx.xxx.xx3 slave3
```

o profile 파일 추가

```
vi /etc/profile
```

```
HADOOP_HOME="/usr/local/hadoop"
JAVA_HOME="/usr/local/java/j2se"
CLASSPATH=".:$JAVA_HOME/lib:$JAVA_HOME/jre/lib/ext"
PATH="$PATH:$JAVA_HOME/bin:$HADOOP_HOME/bin"
export HIVE_HOME="/usr/local/hadoop/hive"
export PATH="$HIVE_HOME/bin:$PATH"
```

o sshd_config 파일 수정

```
vi /etc/ssh/sshd_config
```

```
port 22
.....
PubkeyAuthentication yes
AuthorizeKeyFile .ssh/authorized_keys
.....
PermitEmptyPasswords yes
PermitRootLogin yes
```

☐ Master Server

o master 공개키 생성

```
ssh-keygen
cd .ssh
scp ~/.ssh/id_rsa.pub xxx.xxx.xxx.xx1:~/.ssh
scp ~/.ssh/id_rsa.pub xxx.xxx.xxx.xx2:~/.ssh
scp ~/.ssh/id_rsa.pub xxx.xxx.xxx.xx3:~/.ssh
```

o slave1 공개키 생성

```
cd .ssh
cp id_rsa.pub authorized_keys
rm id_rsa.pub
```

o slave2 공개키 생성

```
cd .ssh
cp id_rsa.pub authorized_keys
rm id_rsa.pub
```

o slave3 공개키 생성

```
cd .ssh
cp id_rsa.pub authorized_keys
rm id_rsa.pub
```

o 디렉토리 설정

```
mkdir -p /usr/local/hadoop/work/mapred/system
mkdir -p /usr/local/hadoop/work/namenode
```

o hadoop-env.sh

```
vi /usr/local/hadoop/conf/hadoop-env.sh
```

```
export JAVA_HOME=/usr/local/java/jdk1.6.0_35
export HADOOP_CLASSPATH=/usr/local/hadoop/hadoop-examples-1.0.3.jar
for f in ${HIVE_HOME}/lib/*.jar; do
    HADOOP_CLASSPATH=${HADOOP_CLASSPATH}:$f;
done
.....
export HADOOP_HEAPSIZE=2000
.....
export HADOOP_SSH_OPTS 주식폴기
```

o core-site.xml

```
vi /usr/local/hadoop/conf/core-site.xml
```

```
<configuration>
<property>
    <name>fs.default.name</name>
    <value>hdfs://xxx.xxx.xxx.xxx:9000</value>
</property>
</configuraton>
```

o hdfs-site.xml

```
vi /usr/local/hadoop/conf/hdfs-site.xml
```

```
<configuration>
<property>
  <name>dfs.replication</name>
  <value>3</value>
</property>
<property>
  <name>dfs.name.dir</name>
  <value>/usr/local/hadoop/work/name</value>
</property>
<property>
  <name>dfs.data.dir</name>
  <value>/usr/local/hadoop/work/data</value>
</property>
<property>
  <name>dfs.block.size</name>
  <value>67108864</value>
</property>
</configuraton>
```

o mapred-site.xml

```
vi /usr/local/hadoop/conf/mapred-site.xml
```

```
<configuration>
<property>
  <name>mapred.map.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.reduce.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.job.tracker</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9001</value>
</property>
<property>
  <name>mapred.system.dir</name>
  <value>/usr/local/hadoop/work/mapred/system</value>
</property>
</configuraton>
```

o master

```
vi /usr/local/hadoop/conf/master
```

```
xxx.xxx.xxx.xxx
```

o slave

```
vi /usr/local/hadoop/conf/slave
```

```
xxx.xxx.xxx.xx1  
xxx.xxx.xxx.xx2  
xxx.xxx.xxx.xx3
```

o hive

```
vi /usr/local/hadoop/hive/bin/hive
```

```
.....  
for f in ${HIVE_LIB}/*.jar; do  
    CLASSPATH=${CLASSPATH}:$f;  
done  
for f in ${HADOOP_HOME}/lib/*.jar; do  
    CLASSPATH=${CLASSPATH}:$f;  
done  
.....
```

☐ slave1 Server

o 디렉토리 설정

```
mkdir -p /usr/local/hadoop/work/datanode  
chmod 755 /usr/local/hadoop/work/datanode
```

o hadoop-env.sh

```
vi /usr/local/hadoop/conf/hadoop-env.sh
```

```
export JAVA_HOME=/usr/local/java/jdk1.6.0_35
export HADOOP_CLASSPATH=/usr/local/hadoop/hadoop-examples-1.0.3.jar
.....
export HADOOP_HEAPSIZE=2000
.....
export HADOOP_SSH_OPTS 주식폴기
```

o core-site.xml

```
vi /usr/local/hadoop/conf/core-site.xml
```

```
<configuration>
<property>
  <name>fs.default.name</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9000</value>
</property>
</configuraton>
```

o hdfs-site.xml

```
vi /usr/local/hadoop/conf/hdfs-site.xml
```

```
<configuration>
<property>
  <name>dfs.replication</name>
  <value>3</value>
</property>
<property>
  <name>dfs.name.dir</name>
  <value>/usr/local/hadoop/work/name</value>
</property>
<property>
  <name>dfs.data.dir</name>
  <value>/usr/local/hadoop/work/data</value>
</property>
<property>
  <name>dfs.block.size</name>
  <value>67108864</value>
</property>
</configuraton>
```

o mapred-site.xml

```
vi /usr/local/hadoop/conf/mapred-site.xml
```

```
<configuration>
<property>
  <name>mapred.map.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.reduce.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.job.tracker</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9001</value>
</property>
<property>
  <name>mapred.system.dir</name>
  <value>/usr/local/hadoop/work/mapred/system</value>
</property>
</configuraton>
```

o master

```
vi /usr/local/hadoop/conf/master
```

```
xxx.xxx.xxx.xxx
```

o slave

```
vi /usr/local/hadoop/conf/slave
```

```
xxx.xxx.xxx.xx1  
xxx.xxx.xxx.xx2  
xxx.xxx.xxx.xx3
```

☐ slave2 Server

o 디렉토리 설정

```
mkdir -p /usr/local/hadoop/work/datanode  
chmod 755 /usr/local/hadoop/work/datanode
```

o hadoop-env.sh

```
vi /usr/local/hadoop/conf/hadoop-env.sh
```

```
export JAVA_HOME=/usr/local/java/jdk1.6.0_35  
export HADOOP_CLASSPATH=/usr/local/hadoop/hadoop-examples-1.0.3.jar  
.....  
export HADOOP_HEAPSIZE=2000  
.....  
export HADOOP_SSH_OPTS 주식폴기
```

o core-site.xml

```
vi /usr/local/hadoop/conf/core-site.xml
```

```
<configuration>
<property>
  <name>fs.default.name</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9000</value>
</property>
</configuraton>
```

o hdfs-site.xml

```
vi /usr/local/hadoop/conf/hdfs-site.xml
```

```
<configuration>
<property>
  <name>dfs.replication</name>
  <value>3</value>
</property>
<property>
  <name>dfs.name.dir</name>
  <value>/usr/local/hadoop/work/name</value>
</property>
<property>
  <name>dfs.data.dir</name>
  <value>/usr/local/hadoop/work/data</value>
</property>
<property>
  <name>dfs.block.size</name>
  <value>67108864</value>
</property>
</configuraton>
```

o mapred-site.xml

```
vi /usr/local/hadoop/conf/mapred-site.xml
```

```
<configuration>
<property>
  <name>mapred.map.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.reduce.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.job.tracker</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9001</value>
</property>
<property>
  <name>mapred.system.dir</name>
  <value>/usr/local/hadoop/work/mapred/system</value>
</property>
</configuraton>
```

o master

```
vi /usr/local/hadoop/conf/master
```

```
xxx.xxx.xxx.xxx
```

o slave

```
vi /usr/local/hadoop/conf/slave
```

```
xxx.xxx.xxx.xx1  
xxx.xxx.xxx.xx2  
xxx.xxx.xxx.xx3
```

☐ slave3 Server

o 디렉토리 설정

```
mkdir -p /usr/local/hadoop/work/datanode  
chmod 755 /usr/local/hadoop/work/datanode
```

o hadoop-env.sh

```
vi /usr/local/hadoop/conf/hadoop-env.sh
```

```
export JAVA_HOME=/usr/local/java/jdk1.6.0_35  
export HADOOP_CLASSPATH=/usr/local/hadoop/hadoop-examples-1.0.3.jar  
.....  
export HADOOP_HEAPSIZE=2000  
.....  
export HADOOP_SSH_OPTS 주식폴기
```

o core-site.xml

```
vi /usr/local/hadoop/conf/core-site.xml
```

```
<configuration>
<property>
  <name>fs.default.name</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9000</value>
</property>
</configuraton>
```

o hdfs-site.xml

```
vi /usr/local/hadoop/conf/hdfs-site.xml
```

```
<configuration>
<property>
  <name>dfs.replication</name>
  <value>3</value>
</property>
<property>
  <name>dfs.name.dir</name>
  <value>/usr/local/hadoop/work/name</value>
</property>
<property>
  <name>dfs.data.dir</name>
  <value>/usr/local/hadoop/work/data</value>
</property>
<property>
  <name>dfs.block.size</name>
  <value>67108864</value>
</property>
</configuraton>
```

o mapred-site.xml

```
vi /usr/local/hadoop/conf/mapred-site.xml
```

```
<configuration>
<property>
  <name>mapred.map.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.reduce.child.java.opts</name>
  <value>-Xmx1024m</value>
</property>
<property>
  <name>mapred.job.tracker</name>
  <value>hdfs://xxx.xxx.xxx.xxx:9001</value>
</property>
<property>
  <name>mapred.system.dir</name>
  <value>/usr/local/hadoop/work/mapred/system</value>
</property>
</configuraton>
```

o master

```
vi /usr/local/hadoop/conf/master
```

```
xxx.xxx.xxx.xxx
```

o slave

```
vi /usr/local/hadoop/conf/slave
```

```
xxx.xxx.xxx.xx1  
xxx.xxx.xxx.xx2  
xxx.xxx.xxx.xx3
```

☐ hadoop 시작

o Master Server

```
cd /usr/local/hadoop/bin
```

```
hadoop namenode -format  
start-all.sh
```

☐ HIVE 시작

o 디렉토리 생성

```
hadoop fs -mkdir /tmp  
hadoop fs -mkdir /user/hive/warehouse  
hadoop fs -chmod g+w /tmp  
hadoop fs -chmod g+w /user/hive/warehouse
```

```
cd /usr/local/hadoop/hive/bin
```

```
hive
```