HIVE 的安装部署

我们在此处选择第三台机器作为我们 hive 的安装机器

安装

1.1、derby 版 hive 直接使用：

```
[root@node03 softwares]# ll
total 125496
-rw-r--r--. 1 root root 128505464 Mar 17  2018 hive-1.1.0-cdh5.14.0.tar.gz
[root@node03 softwares]#
```

hive-1.1.0-cdh5.14.0.tar.gz

1、解压 hive

```
cd /export/softwares
tar -zxvf hive-1.1.0-cdh5.14.0.tar.gz -C ../servers/
```

```
[root@node03 softwares]# tar -zxvf hive-1.1.0-cdh5.14.0.tar.gz -C ../servers/
```

2、直接启动　bin/hive

```
cd /export/servers/hive-1.1.0-cdh5.14.0/
bin/hive
hive> create database mytest;
```

```
[root@node03 servers]# cd /export/servers/hive-1.1.0-cdh5.14.0/
You have new mail in /var/spool/mail/root
[root@node03 hive-1.1.0-cdh5.14.0]# ll
total 448
drwxr-xr-x. 2 1106 4001   4096 Jan  7  2018 auxlib
drwxr-xr-x. 3 1106 4001   4096 Jan  7  2018 bin
drwxr-xr-x. 2 1106 4001   4096 Jan  7  2018 conf
drwxr-xr-x. 3 1106 4001   4096 Jan  7  2018 data
drwxr-xr-x. 6 1106 4001   4096 Jan  7  2018 docs
drwxr-xr-x. 4 1106 4001   4096 Jan  7  2018 examples
drwxr-xr-x. 7 1106 4001   4096 Jan  7  2018 hcatalog
drwxr-xr-x. 4 1106 4001  12288 Jan  7  2018 lib
-rw-r--r--. 1 1106 4001  24754 Jan  7  2018 LICENSE
-rw-r--r--. 1 1106 4001    397 Jan  7  2018 NOTICE
-rw-r--r--. 1 1106 4001   4048 Jan  7  2018 README.txt
-rw-r--r--. 1 1106 4001 376416 Jan  7  2018 RELEASE_NOTES.txt
drwxr-xr-x. 3 1106 4001   4096 Jan  7  2018 scripts
[root@node03 hive-1.1.0-cdh5.14.0]#
```

```
bin/hive
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# bin/hive
which: no hbase in (:/export/servers/hadoop-2.6.0-cdh5.14.0/bin:/export/servers/hadoop-2.6.0-cdh5.14.0/sbin::/export
/servers/jdk1.8.0_141/bin:/usr/lib64/qt-3.3/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin:/root/b
in)

Logging initialized using configuration in jar:file:/export/servers/hive-1.1.0-cdh5.14.0/lib/hive-common-1.1.0-cdh5.
14.0.jar!/hive-log4j.properties
WARNING: Hive CLI is deprecated and migration to Beeline is recommended.
hive>
```

show databases;

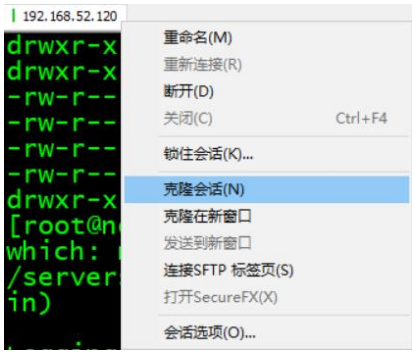
```
hive> show databases;
OK
default
Time taken: 8.707 seconds, Fetched: 1 row(s)
hive>
```

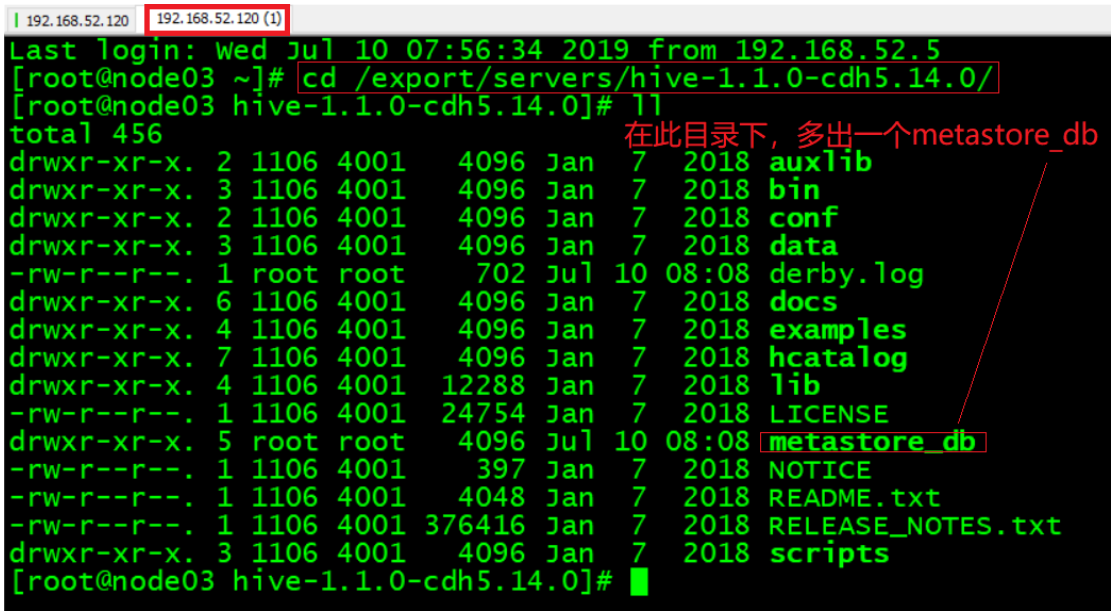
create database mytest;

```
hive> create database mytest;
OK
Time taken: 0.201 seconds
```

show databases;

```
hive> show databases;
OK
default
mytest
Time taken: 0.012 seconds, Fetched: 2 row(s)
```





cd /export/servers/hive-1.1.0-cdh5.14.0/bin
./hive

```
[root@node03 bin]# cd /export/servers/hive-1.1.0-cdh5.14.0/bin
You have new mail in /var/spool/mail/root
[root@node03 bin]# ./hive
which: no hbase in (:/export/servers/hadoop-2.6.0-cdh5.14.0/bin:/export/servers/hadoop-2.6.0-cdh5.14.0/sbin::/export
/servers/jdk1.8.0_141/bin:/usr/lib64/qt-3.3/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin:/root/b
in)

Logging initialized using configuration in jar:file:/export/servers/hive-1.1.0-cdh5.14.0/lib/hive-common-1.1.0-cdh5.
14.0.jar!/hive-log4j.properties
WARNING: Hive CLI is deprecated and migration to Beeline is recommended.
hive>
```

```
show databases;
```

```
hive> show databases;
OK
default
Time taken: 0.265 seconds, Fetched: 1 row(s)
hive>
```

刚才创建的 mytest 呢?

```
create database mytest2;
```

```
hive> create database mytest2;
OK
Time taken: 0.166 seconds
hive> show databases;
OK
default
mytest2
Time taken: 0.014 seconds, Fetched: 2 row(s)
hive>
```

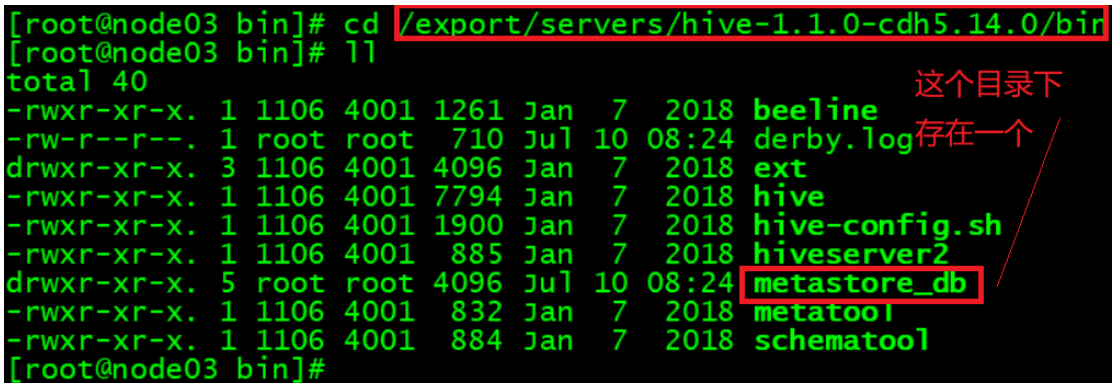
```
[root@node03 ~]# cd /export/servers/hive-1.1.0-cdh5.14.0/
[root@node03 hive-1.1.0-cdh5.14.0]# bin/hive
which: no hbase in (:/export/servers/hadoop-2.6.0-cdh5.14.0/bin:/export/servers/hadoop-2.6.0-cdh5.14.0/sbin::/exp
/servers/jdk1.8.0_141/bin:/usr/lib64/qt-3.3/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin:/roo
in)

Logging initialized using configuration in jar:file:/export/servers/hive-1.1.0-cdh5.14.0/lib/hive-common-1.1.0-cd
14.0.jar!/hive-log4j.properties
WARNING: Hive CLI is deprecated and migration to Beeline is recommended.
hive> show databases;
OK
default
mytest
Time taken: 7.576 seconds, Fetched: 2 row(s)
hive>
```

没看到mytest2

```
[root@node03 hive-1.1.0-cdh5.14.0]# ll
total 456
drwxr-xr-x. 2 1106 4001   4096 Jan  7  2018 auxlib
drwxr-xr-x. 4 1106 4001   4096 Jul 10 08:24 bin
drwxr-xr-x. 2 1106 4001   4096 Jan  7  2018 conf
drwxr-xr-x. 3 1106 4001   4096 Jan  7  2018 data
-rw-r--r--. 1 root root    702 Jul 10 08:28 derby.log
drwxr-xr-x. 6 1106 4001   4096 Jan  7  2018 docs
drwxr-xr-x. 4 1106 4001   4096 Jan  7  2018 examples
drwxr-xr-x. 7 1106 4001   4096 Jan  7  2018 hcatalog
drwxr-xr-x. 4 1106 4001  12288 Jan  7  2018 lib
-rw-r--r--. 1 1106 4001  24754 Jan  7  2018 LICENSE
drwxr-xr-x. 5 root root   4096 Jul 10 08:28 metastore_db
-rw-r--r--. 1 1106 4001    397 Jan  7  2018 NOTICE
-rw-r--r--. 1 1106 4001   4048 Jan  7  2018 README.txt
-rw-r--r--. 1 1106 4001 376416 Jan  7  2018 RELEASE_NOTES.txt
drwxr-xr-x. 3 1106 4001   4096 Jan  7  2018 scripts
[root@node03 hive-1.1.0-cdh5.14.0]#
```

这个目录下存在一个



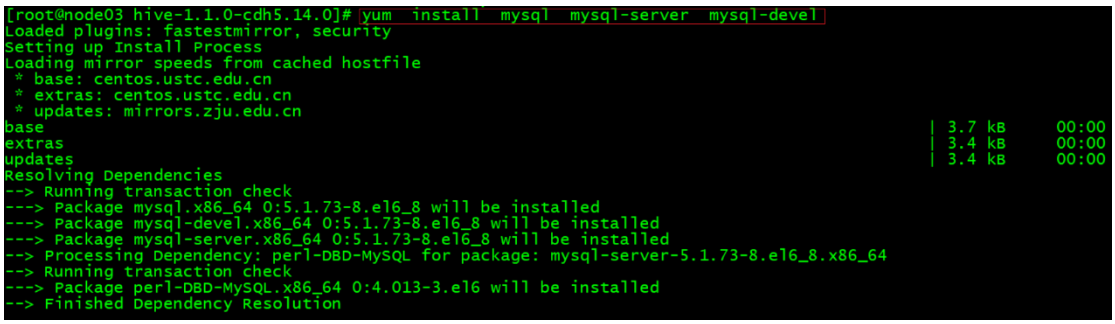
缺点：多个地方安装 hive 后，每一个 hive 是拥有一套自己的元数据，大家的库、表就不统一；

1.2、使用 mysql 共享 hive 元数据

mysql 数据库的安装（使用 yum 源进行安装，强烈推荐）

第一步：在线安装 mysql 相关的软件包

```
yum  install  mysql  mysql-server  mysql-devel
```



第二步：启动 mysql 的服务

```
/etc/init.d/mysqld start
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# /etc/init.d/mysqld start
Initializing MySQL database:  Installing MySQL system tables...
OK
Filling help tables...                                     启动Mysql服务
OK

To start mysqld at boot time you have to copy
support-files/mysql.server to the right place for your system

PLEASE REMEMBER TO SET A PASSWORD FOR THE MySQL root USER !
To do so, start the server, then issue the following commands:

/usr/bin/mysqladmin -u root password 'new-password'
/usr/bin/mysqladmin -u root -h node03.hadoop.com password 'new-password'

Alternatively you can run:
/usr/bin/mysql_secure_installation
                                   提示我们用这个脚本配置
which will also give you the option of removing the test
databases and anonymous user created by default.  This is
strongly recommended for production servers.

See the manual for more instructions.

You can start the MySQL daemon with:
cd /usr ; /usr/bin/mysqld_safe &

You can test the MySQL daemon with mysql-test-run.pl
cd /usr/mysql-test ; perl mysql-test-run.pl
```

第三步：通过 mysql 安装自带脚本进行设置

```
/usr/bin/mysql_secure_installation
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# /usr/bin/mysql_secure_installation
                                    运行这个脚本对我们的mysql进行配置


NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MySQL
      SERVERS IN PRODUCTION USE!  PLEASE READ EACH STEP CAREFULLY!


In order to log into MySQL to secure it, we'll need the current
password for the root user.  If you've just installed MySQL, and
you haven't set the root password yet, the password will be blank,
so you should just press enter here.

Enter current password for root (enter for none):
OK, successfully used password, moving on...
                                                  初次使用，没有密
                                                  码，直接回车
Setting the root password ensures that nobody can log into the MySQL
root user without the proper authorisation.

Set root password? [Y/n] y
New password:
Re-enter new password:
Password updated successfully!
Reloading privilege tables..
 ... Success!
                                    设置root用户密码
                                    123456

By default, a MySQL installation has an anonymous user, allowing anyone
```

```
By default, a MySQL installation has an anonymous user, allowing anyone
to log into MySQL without having to have a user account created for
them.  This is intended only for testing, and to make the installation
go a bit smoother.  You should remove them before moving into a
production environment.

Remove anonymous users? [Y/n] y
 ... Success!

Normally, root should only be allowed to connect from 'localhost'.  This
ensures that someone cannot guess at the root password from the network.

Disallow root login remotely? [Y/n] n
 ... skipping.

By default, MySQL comes with a database named 'test' that anyone can
access.  This is also intended only for testing, and should be removed
before moving into a production environment.

Remove test database and access to it? [Y/n] y
 - Dropping test database...
 ... Success!
 - Removing privileges on test database...
 ... Success!

Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.
```

移除匿名用户

询问是否不允许远程访问，输入n,表示允许

（英语语法：双重否定 表示 肯定）

移除测试数据库

```
Reloading the privilege tables will ensure that all changes made so far
will take effect immediately.

Reload privilege tables now? [Y/n] y
 ... Success!

Cleaning up...


All done!  If you've completed all of the above steps, your MySQL
installation should now be secure.

Thanks for using MySQL!
```

重新加载mysql权限表

第四步：进入 mysql 的客户端然后进行授权

```
mysql -uroot -p
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# mysql -uroot -p
Enter password: 123456
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 5.1.73 Source distribution

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affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

开始登陆mysql

```
 grant all privileges on *.* to 'root'@'%' identified by '123456' with grant option;
```

```
flush privileges;
```

```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>  grant all privileges on *.* to 'root'@'%' identified by '123456' with grant option;
Query OK, 0 rows affected (0.00 sec)

mysql> flush privileges;  刷新权限表                                    授权mysql,允许远程连接
Query OK, 0 rows affected (0.00 sec)

mysql>
```

修改 hive 的配置文件

修改 hive-env.sh

添加我们的 hadoop 的环境变量

```
cd  /export/servers/hive-1.1.0-cdh5.14.0/conf
```

```
[root@node03 ~]# cd  /export/servers/hive-1.1.0-cdh5.14.0/conf
[root@node03 conf]# ll
total 20
-rw-r--r--. 1 1106 4001 1196 Jan  7  2018 beeline-log4j.properties.template
-rw-r--r--. 1 1106 4001 2378 Jan  7  2018 hive-env.sh.template
-rw-r--r--. 1 1106 4001 2662 Jan  7  2018 hive-exec-log4j.properties.template
-rw-r--r--. 1 1106 4001 3505 Jan  7  2018 hive-log4j.properties.template
-rw-r--r--. 1 1106 4001 2060 Jan  7  2018 ivysettings.xml
[root@node03 conf]#
```

```
cp hive-env.sh.template hive-env.sh
```

```
[root@node03 conf]# cp hive-env.sh.template hive-env.sh
[root@node03 conf]# ll
total 24
-rw-r--r--. 1 1106 4001 1196 Jan  7  2018 beeline-log4j.properties.template
-rw-r--r--. 1 root root 2378 Jul 10 08:59 hive-env.sh
-rw-r--r--. 1 1106 4001 2378 Jan  7  2018 hive-env.sh.template
-rw-r--r--. 1 1106 4001 2662 Jan  7  2018 hive-exec-log4j.properties.template
-rw-r--r--. 1 1106 4001 3505 Jan  7  2018 hive-log4j.properties.template
-rw-r--r--. 1 1106 4001 2060 Jan  7  2018 ivysettings.xml
[root@node03 conf]#
```

```
vim hive-env.sh
```

```
HADOOP_HOME=/export/servers/hadoop-2.6.0-cdh5.14.0
# Hive Configuration Directory can be controlled by:
export HIVE_CONF_DIR=/export/servers/hive-1.1.0-cdh5.14.0/conf
```

```
[root@node03 conf]# vim hive-env.sh
```

```
# Set HADOOP_HOME to point to a specific hadoop install directory
HADOOP_HOME=/export/servers/hadoop-2.6.0-cdh5.14.0
  顶格
# Hive Configuration Directory can be controlled by:
export HIVE_CONF_DIR=/export/servers/hive-1.1.0-cdh5.14.0/conf

# Folder containing extra ibraries required for hive compilation/execution can be controlled by:
# export HIVE_AUX_JARS_PATH=
-- INSERT --                                                          54,29
```

修改 hive-site.xml

```
cd /export/servers/hive-1.1.0-cdh5.14.0/conf
vim hive-site.xml
```

```
<?xml-stylesheet type="text/xsl" href="configuration.xsl"?>
<configuration>
        <property>
                <name>javax.jdo.option.ConnectionURL</name>

<value>jdbc:mysql://node03.hadoop.com:3306/hive?createDatabaseIfNotExis
t=true</value>
        </property>

        <property>

<name>javax.jdo.option.ConnectionDriverName</name>
                <value>com.mysql.jdbc.Driver</value>
        </property>
        <property>
                <name>javax.jdo.option.ConnectionUserName</name>
                <value>root</value>
        </property>
        <property>
                <name>javax.jdo.option.ConnectionPassword</name>
                <value>123456</value>
        </property>
        <property>
                <name>hive.cli.print.current.db</name>
                <value>true</value>
        </property>
        <property>
                <name>hive.cli.print.header</name>
                <value>true</value>
        </property>
        <property>
                <name>hive.server2.thrift.bind.host</name>
                <value>node03.hadoop.com</value>
```

```
        </property>
</configuration>
```

上传 mysql 的 lib 驱动包

将 mysql 的 lib 驱动包上传到 hive 的 lib 目录下

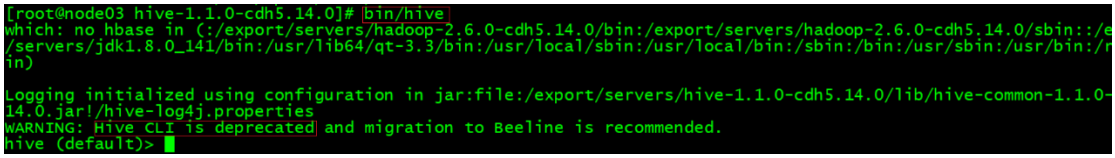
```
cd /export/servers/hive-1.1.0-cdh5.14.0/lib
```

将 mysql-connector-java-5.1.38.jar 上传到这个目录下

2 使用方式

第一种交互方式：Hive 交互 shell

```
cd /export/servers/hive-1.1.0-cdh5.14.0
bin/hive
```



查看所有的数据库

```
hive (default)> show databases;
```

创建一个数据库

```
hive (default)> create database mydb;
```

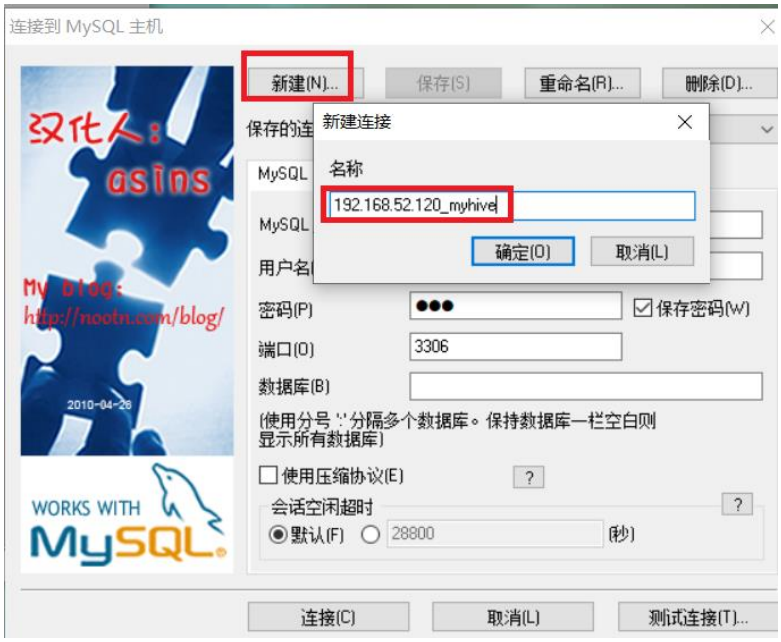
使用该数据库并创建数据库表

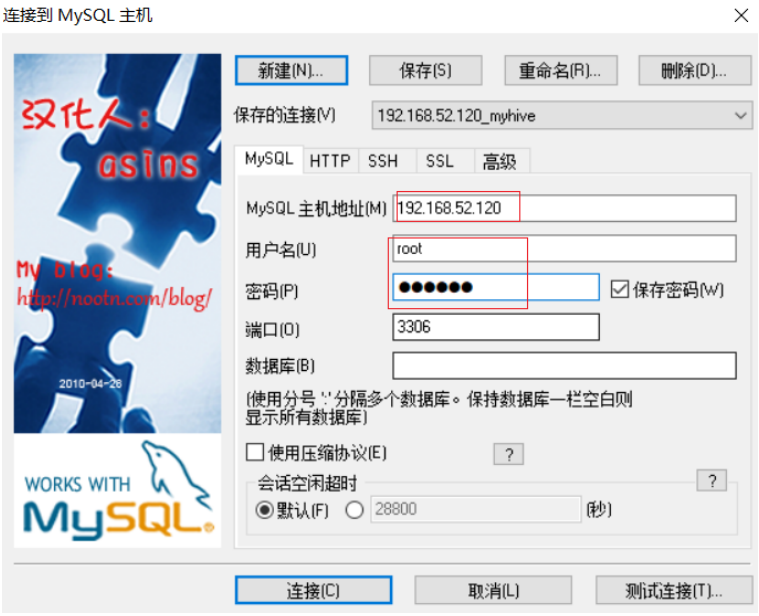
```
hive (default)> use mydb;
hive (myhive)> create table test(id int,name string);
```

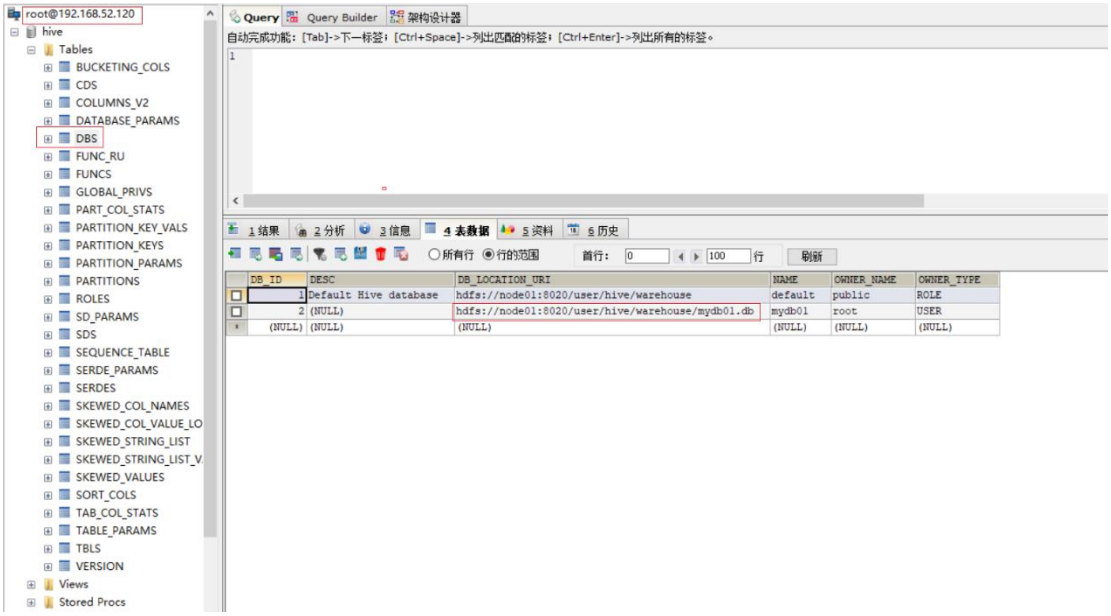
```
hive (default)> create database mydb01;
OK
Time taken: 0.116 seconds
hive (default)> show databases;
OK
database_name
default
mydb01
Time taken: 0.02 seconds, Fetched: 2 row(s)
hive (default)>
```

```
hive (default)> use mydb;
FAILED: SemanticException [Error 10072]: Database does not exist: mydb
hive (default)> create table test(id int,name string);
OK
Time taken: 0.191 seconds
hive (default)> show tables;
OK
tab_name
test
Time taken: 0.037 seconds, Fetched: 1 row(s)
hive (default)>
```

以上命令操作完成之后，一定要确认 mysql 里面出来一个数据库 hive







第二种交互方式：Hive JDBC 服务

启动 hiveserver2 服务

后台启动

```
cd  /export/servers/hive-1.1.0-cdh5.14.0
nohup bin/hive --service hiveserver2  &
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# nohup bin/hive --service hiveserver2 &
[1] 8157
[root@node03 hive-1.1.0-cdh5.14.0]# nohup: ignoring input and appending output to `nohup.out'
                                                                    回车
[root@node03 hive-1.1.0-cdh5.14.0]# jps
8256 Jps
7014 NodeManager
6892 DataNode
8157 RunJar
You have new mail in /var/spool/mail/root
[root@node03 hive-1.1.0-cdh5.14.0]#
```

beeline 连接 hiveserver2

注意：如果使用 beeline 方式连接 hiveserver2，一定要保证 hive 在 mysql 当中的元数据库已经创建成功，不然就会拒绝连接

```
nohup bin/hive --service metastore &
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# nohup bin/hive --service metastore &
[2] 8274
You have new mail in /var/spool/mail/root
[root@node03 hive-1.1.0-cdh5.14.0]# nohup: ignoring input and appending output to `nohup.out'
       回车
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# jps
8274 RunJar
7014 NodeManager
8363 Jps
6892 DataNode
8157 RunJar
[root@node03 hive-1.1.0-cdh5.14.0]#
```

```
bin/beeline
beeline> !connect jdbc:hive2://node03.hadoop.com:10000
```

```
[root@node03 hive-1.1.0-cdh5.14.0]# bin/beeline
which: no hbase in (:/export/servers/hadoop-2.6.0-cdh5.14.0/bin:/export/servers/hadoop-2.6.0-cdh5.14.0/sbi
/servers/jdk1.8.0_141/bin:/usr/lib64/qt-3.3/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/b
in)
Beeline version 1.1.0-cdh5.14.0 by Apache Hive
beeline> !connect jdbc:hive2://node03.hadoop.com:10000   连接hiveserver2的语法
scan complete in 1ms
Connecting to jdbc:hive2://node03.hadoop.com:10000
Enter username for jdbc:hive2://node03.hadoop.com:10000: root    与hadoop账号一
Enter password for jdbc:hive2://node03.hadoop.com:10000: ******  至，都为root
Connected to: Apache Hive (version 1.1.0-cdh5.14.0)
Driver: Hive JDBC (version 1.1.0-cdh5.14.0)
Transaction isolation: TRANSACTION_REPEATABLE_READ
0: jdbc:hive2://node03.hadoop.com:10000> show tables;
INFO  : Compiling command(queryId=root_20190710092121_74aab278-285c-4d3d-80a8-a65e39e7f7d3): show tables
INFO  : Semantic Analysis Completed
INFO  : Returning Hive schema: Schema(fieldSchemas:[FieldSchema(name:tab_name, type:string, comment:from d
r)], properties:null)
INFO  : Completed compiling command(queryId=root_20190710092121_74aab278-285c-4d3d-80a8-a65e39e7f7d3); Tim
.756 seconds
INFO  : Concurrency mode is disabled, not creating a lock manager
INFO  : Executing command(queryId=root_20190710092121_74aab278-285c-4d3d-80a8-a65e39e7f7d3): show tables
INFO  : Starting task [Stage-0:DDL] in serial mode
INFO  : Completed executing command(queryId=root_20190710092121_74aab278-285c-4d3d-80a8-a65e39e7f7d3); Tim
.086 seconds
INFO  : OK
+-----------+--+
| tab_name  |
+-----------+--+
| test      |
```

设置 mysql 的开机启动

```
chkconfig --add mysqld
chkconfig mysqld on
service mysqld start
service mysqld status
```