

centos 7 服务器安装MySQL数据库操作

2017年09月21日 12:49:04

一、命令下载安装包：

这里我创建了一目录software用于存放我们待会要下载的mysql包，先去到该目录执行一下命令

1、创建 software

```
cd /software
```

• 1

2、software 目录下下载安装包

```
wget http://mirrors.sohu.com/mysql/MySQL-5.7/mysql-5.7.17-linux-glibc2.5-x86_64.tar
```

• 1

```
last login: Sun Jan  8 18:50:50 2017
[larry@localhost ~]$ cd /software/
[larry@localhost software]$ ll
总用量 667240
-rw-r--r--. 1 root root      46 1月  4 19:20 1.txt
drwxr-xr-x. 9 root root    4096 1月  4 17:05 apache-tomcat-8.5.9
drwxr-xr-x. 8 root root    4096 12月 7 23:57 eclipse
drwxr-xr-x. 8  10 143     4096 9月 22 16:27 jdk1.8.0_111
-rw-r--r--. 1 root root 683233280 11月 28 06:56 mysql-5.7.17-linux-glibc2.5-x86_64.tar
                                         http://blog.csdn.net/liulihui1988
```

下载完成后，你会在software这个目录下看到多出了红色框的文件

二、建立用户，以及mysql的目录

1、groupadd mysql #建立一个mysql的组

2、useradd -r -g mysql mysql #建立mysql用户，并且把用户放到mysql组

3、passwd mysql #给mysql用户设置一个密码

三、解压mysql

1、把tar包移动到/usr/local 目录下

```
mv /software/mysql-5.7.17-linux-glibc2.5-x86_64.tar /usr/local
```

• 1

2、解压

```
cd /usr/local
```

• 1

```
tar xvf mysql-5.7.17-linux-glibc2.5-x86_64.tar.gz
```

• 1

```

[root@localhost local]# tar xvf mysql-5.7.17-linux-glibc2.5-x86_64.tar
mysql-5.7.17-linux-glibc2.5-x86_64.tar.gz
AC
[root@localhost local]# ll
总用量 1007872
drwxr-xr-x. 2 root root      6 6月 9 2014 bin
drwxr-xr-x. 2 root root      6 6月 9 2014 etc
drwxr-xr-x. 2 root root      6 6月 9 2014 games
drwxr-xr-x. 2 root root      6 6月 9 2014 include
drwxr-xr-x. 2 root root      6 6月 9 2014 lib
drwxr-xr-x. 2 root root      6 6月 9 2014 lib64
drwxr-xr-x. 2 root root      6 6月 9 2014 libexec
-rw-r--r--. 1 root root 683233280 11月 28 06:56 mysql-5.7.17-linux-glibc2.5-x86_
64.tar
-rw-----. 1 root root 348825088 1月 8 19:07 mysql-5.7.17-linux-glibc2.5-x86_
64.tar.gz
drwxr-xr-x. 2 root root      6 6月 9 2014 sbin
drwxr-xr-x. 5 root root    46 1月 2 08:17 share
drwxr-xr-x. 2 root root      6 6月 9 2014 src
[root@localhost local]#

```

多出来的文件

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tar zxvf mysql-5.7.17-linux-glibc2.5-x86_64.tar.gz

```

[root@localhost local]# ll
总用量 1007872
drwxr-xr-x. 2 root root      6 6月 9 2014 bin
drwxr-xr-x. 2 root root      6 6月 9 2014 etc
drwxr-xr-x. 2 root root      6 6月 9 2014 games
drwxr-xr-x. 2 root root      6 6月 9 2014 include
drwxr-xr-x. 2 root root      6 6月 9 2014 lib
drwxr-xr-x. 2 root root      6 6月 9 2014 lib64
drwxr-xr-x. 2 root root      6 6月 9 2014 libexec
drwxr-xr-x. 4 root root    26 1月 8 19:09 mysql-5.7.17-linux-glibc2.5-x86_
64
-rw-r--r--. 1 root root 683233280 11月 28 06:56 mysql-5.7.17-linux-glibc2.5-x86_
64.tar
-rw-----. 1 root root 348825088 1月 8 19:07 mysql-5.7.17-linux-glibc2.5-x86_
64.tar.gz
drwxr-xr-x. 2 root root      6 6月 9 2014 sbin
drwxr-xr-x. 5 root root    46 1月 2 08:17 share
drwxr-xr-x. 2 root root      6 6月 9 2014 src
[root@localhost local]#

```

这是我们要的目录

这两个文件可以删了

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3、改一下目录名字为/usr/local/mysql (linux下mysql的默认安装安装目录)

mv mysql-5.7.17-linux-glibc2.5-x86_64 mysql

```

[root@localhost local]# rm -f mysql-5.7.17-linux-glibc2.5-x86_64.tar
[root@localhost local]# rm -f mysql-5.7.17-linux-glibc2.5-x86_64.tar.gz
[root@localhost local]# mv mysql-5.7.17-linux-glibc2.5-x86_64/ mysql
[root@localhost local]# ll
总用量 0
drwxr-xr-x. 2 root root      6 6月 9 2014 bin
drwxr-xr-x. 2 root root      6 6月 9 2014 etc
drwxr-xr-x. 2 root root      6 6月 9 2014 games
drwxr-xr-x. 2 root root      6 6月 9 2014 include
drwxr-xr-x. 2 root root      6 6月 9 2014 lib
drwxr-xr-x. 2 root root      6 6月 9 2014 lib64
drwxr-xr-x. 2 root root      6 6月 9 2014 libexec
drwxr-xr-x. 4 root root    26 1月 8 19:09 mysql
drwxr-xr-x. 2 root root      6 6月 9 2014 sbin
drwxr-xr-x. 5 root root    46 1月 2 08:17 share
drwxr-xr-x. 2 root root      6 6月 9 2014 src
[root@localhost local]#

```

将我们刚刚要的目录改名为mysql，并删除没用的文件

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四、配置相关的启动配置文件

注意：文件my-default.cnf 在support-files 目录

1、复制my-default.cnf 到 /etc/my.cnf (mysqld启动时自动读取)

```
cp my-default.cnf /etc/my.cnf
```

• 1

2、复制mysql.server 到/etc/init.d/ 目录下【目的想实现mysqld -install这样开机自动执行效果】

【/etc/init.d/ 目录，等效于注册表

HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\services 记录有那些服务】

```
cp mysql.server /etc/init.d/mysql
```

• 1

```
[root@localhost support-files]# ll
总用量 28
-rw-r--r--. 1 7161 31415 773 11月 28 05:32 magic
-rw-r--r--. 1 7161 31415 1126 11月 28 07:39 my-default.cnf
-rwxr-xr-x. 1 7161 31415 1061 11月 28 07:39 mysqld_multi.server
-rwxr-xr-x. 1 7161 31415 894 11月 28 07:39 mysql-log-rotate
-rwxr-xr-x. 1 7161 31415 10886 11月 28 07:39 mysql.server
[root@localhost support-files]# cp my-default.cnf /etc/my.cnf
cp: 是否覆盖"/etc/my.cnf"? yes
[root@localhost support-files]# cp mysql.server /etc/init.d/mysql
[root@localhost support-files]#
```

3、修改 /etc/init.d/mysql 参数

```
vi /etc/init.d/mysql
```

• 1

```
basedir=/usr/local/mysql
```

```
datadir=/usr/local/mysql/data
```

• 1

• 2

• 3

```
# If you want to affect other MySQL variables, you should make your changes
# in the /etc/my.cnf, ~/.my.cnf or other MySQL configuration files.

# If you change base dir, you must also change datadir. These may get
# overwritten by settings in the MySQL configuration files.

basedir=/usr/local/mysql
datadir=/usr/local/mysql/data
设置mysql目录位置和data的目录

# Default value, in seconds, afterwhich the script should timeout waiting
# for server start.
# Value here is overridden by value in my.cnf.
# 0 means don't wait at all
# Negative numbers mean to wait indefinitely
service_startup_timeout=900

# Lock directory for RedHat / SuSE.
lockdir='/var/lock/subsys'
lock_file_path="$lockdir/mysql"

# The following variables are only set for letting mysql.server find things.
```

4、给目录/usr/local/mysql 更改拥有者

```
chown -R mysql:mysql /usr/local/mysql/
```

```
[root@localhost local]# chown -R mysql:mysql /usr/local/mysql/
[root@localhost local]# ll
总用量 4
drwxr-xr-x. 2 root root 6 6月 9 2014 bin
drwxr-xr-x. 2 root root 6 6月 9 2014 etc
drwxr-xr-x. 2 root root 6 6月 9 2014 games
drwxr-xr-x. 2 root root 6 6月 9 2014 include
drwxr-xr-x. 2 root root 6 6月 9 2014 lib
drwxr-xr-x. 2 root root 6 6月 9 2014 lib64
drwxr-xr-x. 2 root root 6 6月 9 2014 libexec
drwxr-xr-x. 10 mysql mysql 4096 1月 9 00:36 mysql
drwxr-xr-x. 2 root root 6 6月 9 2014 sbin
drwxr-xr-x. 5 root root 46 1月 2 08:17 share
drwxr-xr-x. 2 root root 6 6月 9 2014 src
[root@localhost local]#
```

更改访问权限

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5、解决一下乱码问题

vi /etc/my.cnf

[mysql]

default-character-set=utf8

[mysqld]

default-storage-engine=INNODB

character_set_server=utf8

```
bash: /etc: 是一个目录
[root@localhost larry]# cd /etc
[root@localhost etc]# vi my.cnf
# For advice on how to change settings please see
# http://dev.mysql.com/doc/refman/5.7/en/server-configuration-defaults.html
# *** DO NOT EDIT THIS FILE. It's a template which will be copied to the
# *** default location during install, and will be replaced if you
# *** upgrade to a newer version of MySQL.

[mysql]
default-character-set=utf8

[mysqld]
default-storage-engine=INNODB
character_set_server=utf8

# Remove leading # and set to the amount of RAM for the most important data
```

编辑文件命令

添加这两段话

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五、初始化 mysql 的数据库

mysql_install_db (老版本的做法)

新版本:

1.初始化

```
bin/mysql --initialize --user=mysql --basedir=/usr/local/mysql --  
datadir=/usr/local/mysql/data
```

• 1

生成出一个data目录，代表数据库已经初始化成功并且mysql的root用户生成一个临时密码：5!uiPdK>qMG?

```
[root@localhost ~]# ll /usr/local/mysql/data/
[root@localhost ~]# ll
总用量 44
drwxr-xr-x. 2 mysql mysql 4096 1月 8 22:13 bin
-rw-r--r--. 1 mysql mysql 17987 11月 28 05:32 COPYING
drwxr-xr-x. 2 mysql mysql 52 1月 8 22:13 docs
drwxr-xr-x. 3 mysql mysql 4096 1月 8 22:13 include
drwxr-xr-x. 5 mysql mysql 4096 1月 8 22:13 lib
drwxr-xr-x. 4 mysql mysql 28 1月 8 22:13 man
-rw-r--r--. 1 mysql mysql 2478 11月 28 05:32 README
drwxr-xr-x. 28 mysql mysql 4096 1月 8 22:13 share
drwxr-xr-x. 2 mysql mysql 4096 1月 8 22:13 support-files
[root@localhost ~]# bin/mysqld --initialize --user=mysql --basedir=/usr/local/mysql --datadir=/usr/local/mysql/data
2017-01-09T07:13:28.879543Z 0 [Warning] TIMESTAMP with implicit DEFAULT value is deprecated. Please use --explicit_defaults
s_for_timestamp server option (see documentation for more details).
2017-01-09T07:13:28.879608Z 0 [Warning] 'NO_ZERO_DATE', 'NO_ZERO_IN_DATE' and 'ERROR_FOR_DIVISION_BY_ZERO' sql modes should
d be used with strict mode. They will be merged with strict mode in a future release.
2017-01-09T07:13:28.879614Z 0 [Warning] 'NO_AUTO_CREATE_USER' sql mode was not set.
2017-01-09T07:13:30.643607Z 0 [Warning] InnoDB: New log files created, LSN=45790
2017-01-09T07:13:31.279631Z 0 [Warning] InnoDB: Creating foreign key constraint system tables.
2017-01-09T07:13:31.343028Z 0 [Warning] No existing UUID has been found, so we assume that this is the first time that thi
s server has been started. Generating a new UUID: 2039765a-d63b-11e6-ad87-000c2935e950.
2017-01-09T07:13:31.344811Z 0 [Warning] Gtid table is not ready to be used. Table 'mysql.gtid_executed' cannot be opened.
2017-01-09T07:13:31.347179Z 1 [Note] A temporary password is generated for root@localhost: 5!uiPdK>qMG?
[root@localhost ~]# AC
[root@localhost ~]#
```

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2.给数据库加密

```
bin/mysql_ssl_rsa_setup --datadir=/usr/local/mysql/data
```

• 1

```
[root@localhost ~]# bin/mysql_ssl_rsa_setup --datadir=/usr/local/mysql/data
Generating a 2048 bit RSA private key
.....+++
.....+++
writing new private key to 'ca-key.pem'
-----
Generating a 2048 bit RSA private key
.....+++
.....+++
writing new private key to 'server-key.pem'
-----
Generating a 2048 bit RSA private key
.....+++
.....+++
writing new private key to 'client-key.pem'
-----
[root@localhost ~]#
```

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3.启动mysql

```
bin/mysqld_safe &
```

• 1

```
[root@localhost ~]# bin/mysqld_safe --user=mysql & 启动mysql服务
[2] 5878
[root@localhost ~]# 2017-01-09T07:18:46.103763Z mysqld_safe Logging to './data/localhost.localdomain
Logging to './data/localhost.localdomain.err'.
2017-01-09T07:18:46.190717Z mysqld_safe Starting mysqld daemon with databases from ./data
2017-01-09T07:18:46.675971Z mysqld_safe mysqld from pid file ./data/localhost.localdomain.pid ended
```

【检查ps -ef|grep mysql】

六、进入客户端

1.登录

```
./mysql -uroot -p
```

如果报错信息为：

```
[root@localhost bin]# ./mysql -uroot -p
Enter password:
ERROR 2002 (HY000): Can't connect to local MySQL server through socket '/tmp/mysql.sock' (2)
[root@localhost bin]# ps -ef|grep mysql
root      4778      3839    0 00:33 pts/1    00:00:00 grep --color=auto mysql
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```

解决方法：删除了 /tmp/mysql.sock.lock文件

命令：rm -f /tmp/mysql.sock.lock

```
[root@localhost bin]# more /tmp/mysql.sock.lock
3441
[root@localhost bin]# rm -f /tmp/mysql.sock.lock
[root@localhost bin]# ./mysqld_safe --user=mysql &
[1] 5199
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```

2.修改密码

set password=password('123456');

```
[root@localhost bin]# ./mysql -uroot -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 3
Server version: 5.7.17

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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> ^C
mysql> set password=password('123456')
-> ;
Query OK, 0 rows affected, 1 warning (0.00 sec)

mysql> exit
Bye
[root@localhost bin]# ./mysql -uroot -p123456
mysql: [warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 4
Server version: 5.7.17 MySQL Community Server (GPL)
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```

七、远程访问 (即你用Windows系统能访问Linux系统的mysql)

我们先看看数据结构：


```
mysql: [Warning] Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 6
Server version: 5.7.17 MySQL Community Server (GPL)

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owners.

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

mysql> use mysql      选择数据库
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select Host,User from user;      查询主机和用户

+-----+-----+
| Host      | User      |
+-----+-----+
| localhost | mysql.sys |
| localhost | root      |
+-----+-----+
2 rows in set (0.00 sec)

mysql> 
```

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现在我们的Windows系统是无法访问到虚拟机下的Linux系统的mysql的，因为没有权限

1、授权

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

• 1

- 备注：grant 权限1,权限2, ... 权限n;
- on 数据库名称.表名称
- to 用户名@用户地址 identified by '连接口令' ;
- 权限1, 权限2, ... 权限n 代表 select、insert、update、delete、create、drop、index、alter、grant、references、reload、shutdown、process、file 等14个权限。
- 当权限1, 权限2, ... 权限n 被 all privileges 或者 all 代替时，表示赋予用户全部权限。
- 当 数据库名称.表名称 被 *.* 代替时，表示赋予用户操作服务器上所有数据库所有表的权限。
- 用户地址可以是localhost，也可以是IP地址、机器名和域名。也可以用 '%' 表示从任何地址连接。' 连接口令' 不能为空，否则创建失败

`select host,user from user;`【多出1条远程登录用户记录】

• 1

`flush privileges`

• 1

```
Database changed
mysql> select Host,User from user;
+-----+-----+
| Host      | User      |
+-----+-----+
| localhost | mysql.sys |
| localhost | root      |
+-----+-----+
2 rows in set (0.00 sec)

mysql> grant all privileges on *.* to root@'%' identified by '123456';
Query OK, 0 rows affected, 1 warning (0.00 sec)

mysql> select Host,User from user;
+-----+-----+
| Host      | User      |
+-----+-----+
| %         | root      |
| localhost | mysql.sys |
| localhost | root      |
+-----+-----+
3 rows in set (0.00 sec)

mysql>
```

授权

%代表任意主机都可以访问

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现在用Windows系统访问我Linux系统的mysql，你会发现依然是不能访问，那是因为防火墙没有关

命令：mysql -h (你Linux系统的ip地址) -uroot -p123456



The screenshot shows a Windows command prompt window titled "C:\WINDOWS\system32\cmd.exe". The user has entered the command `mysql -h 192.168.89.128 -uroot -p123456`. The output shows a warning: "Warning: Using a password on the command line interface can be insecure." followed by an error: "ERROR 2003 (HY000): Can't connect to MySQL server on 'localhost' (10061)".

访问虚拟机上面的mysql

报错信息 由于防火墙没有关

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2、关闭防火墙或者给防火墙开放端口

systemctl stop firewalld.service

成功访问后的效果图如下：


```
C:\Users\Administrator>mysql -h192.168.88.128 -uroot -p123456 远程访问命令
Warning: Using a password on the command line interface can be insecure.
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 4
Server version: 5.7.17 MySQL Community Server (GPL)

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owners.

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

mysql>
```

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3、开启防火墙配置

服务为centos7，命令执行：

```
firewall-cmd --zone=public --add-port=3306/tcp --permanent
```

• 1

服务为centos6.x:

vi /etc/sysconfig/iptables #编辑防火墙配置文件

```
-A INPUT -m state --state NEW -m tcp -p tcp --dport 3306 -j ACCEPT
```

• 1

八、设置开机自动启动

备注：首先确保/etc/init.d/mysql 存在，若用 service mysql start 能够正常启动，表示服务存在（注意：如果是rpm形式安装，相应服务会自动在/etc/init.d 目录注册的）

1、添加服务mysql

```
chkconfig --add mysql
```

• 1

2、设置mysql服务为自动

```
chkconfig mysql on
```

• 1

```
profile 792, 1959C written
[root@localhost etc]# chkconfig --add mysql
[root@localhost etc]# chkconfig mysql on
[root@localhost etc]#
```

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设置为开机自动启动

3、重启检查

```
init 6
```

```
ps -ef|grep mysql
```

• 1

九、设置path

```
vi /etc/profile
```

```
export JAVA_HOME=/usr/local/java/jdk1.7.0_79
```

```
export PATH=.:JAVA_HOME/bin:/usr/local/mysql/bin:PATH
```

- 1
- 2
- 3

十、mysql 启动命令

```
[REDACTED]
```

```
[REDACTED]
```