Mysql 安装教程

一、创建安装 mysql 的 linux 用户和组

以 root 用户登录服务器；
检测用户组 mysql 是否存在

```
shell> grep mysql /etc/group
```

如果用户组 mysql 不存在，那么新建一个名为 mysql 的用户组：

```
shell> groupadd mysql
```

检测用户 mysql 是否存在

```
shell> grep mysql /etc/passwd
```

如果不存在，那么新建一个名为 mysql 的用户：

```
shell> useradd -r -g mysql -s /bin/false mysql
```

说明：1、参数-g 指定用户 mysql 所属的用户组；
2、此用户仅用于运行 mysql 服务，而不是登录，因此使用 useradd -r 和-s /bin/false 命令选项来创建对服务器主机没有登录权限的用户。

二、上传 mysql 的二进制安装文件

上传 mysql 安装文件【mysql-5.7.19-linux-glibc2.12-x86_64.tar.gz】到服务器上的/opt/mysql 目录下，并解压安装包。

```
shell> tar -zxvf /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64.tar.gz -C
/opt/mysql/
```

创建软链接到目录/usr/local/mysql 上去：

```
shell> ln -s /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64 /usr/local/mysql
```

三、配置 mysql 的一些参数

1、配置环境变量

```
shell> echo "export PATH=$PATH:/opt/mysql/ mysql-5.7.19-linux-glibc2.12-x86
_64/bin" >> /etc/profile
shell> source /etc/profile
```

2、配置数据库目录

创建目录：

```
shell> mkdir -p /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/{data,log,et
c,run}
shell> chown -R mysql:mysql /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64
shell> chmod 750 /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/{data,log,e
tc,run}
```

说明：

数据目录：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/data`；

参数文件 my.cnf：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/etc/my.cnf`；

错误日志 log-error：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/log/mysql_error.log`；
二进制日志 log-bin：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/log/mysql_bin.log`；
慢查询日志 slow_query_log_file：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/log/mysql_slow_query.log`；
套接字 socket 文件：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.sock`；
pid 文件：`/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.pid`；

3、配置 my.cnf 文件

在/opt/mysql-5.7.21/etc/下创建 my.cnf 文件，加入如下参数，其他参数根据需要配置

```
shell> touch /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/etc/my.cnf
shell> chown mysql:mysql /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/etc/my.cnf
```

my.cnf 内容如下：

```
[client]
port = 3306
socket = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.sock

[mysqld]
port = 3306
socket = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.sock
pid_file = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.pid
datadir = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/data
default_storage_engine = InnoDB
max_allowed_packet = 128M
max_connections = 4096
open_files_limit = 65535

skip-name-resolve
lower_case_table_names=1

character-set-server = utf8mb4
collation-server = utf8mb4_unicode_ci
init_connect='SET NAMES utf8mb4'

innodb_buffer_pool_size = 128M
```

```
innodb_log_file_size = 128M
innodb_file_per_table = 1
innodb_flush_log_at_trx_commit = 0

key_buffer_size = 16M

log-error = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/log/mysql_error.
log
log-bin = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/log/mysql_bin.log
slow_query_log = 1
slow_query_log_file = /opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/log/my
sql_slow_query.log
long_query_time = 5

tmp_table_size = 16M
max_heap_table_size = 16M
query_cache_type = 0
query_cache_size = 0

server-id=1
sql_mode=STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISIO
N_BY_ZERO,NO_AUTO_CREATE_USER,NO_ENGINE_SUBSTITUTION
```

为 mysql 文件设置 linux 用户和组

```
shell> chown -R mysql:mysql /opt/mysql/
shell> chown -R mysql:mysql /usr/local/mysql
```

四、初始化 mysql

cd 进入/usr/local/mysql 目录下，执行下面命令：

```
shell> mysqld --initialize --user=mysql --basedir=/opt/mysql/mysql-5.7.19-l
inux-glibc2.12-x86_64
```

此时会生成一个临时密码，可以在 mysql_error.log 文件找到

```
shell> grep 'temporary password' /opt/mysql/mysql-5.7.19-linux-glibc2.12-x8
6_64/log/mysql_error.log
```

生成 ssl

```
shell> mysql_ssl_rsa_setup --basedir=/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64 --datadir=/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/data/
```

五、设置启动项

CentOS 6：

```
shell> cd /usr/local/mysql
shell> cp support-files/mysql.server /etc/init.d/mysql.server
shell> chkconfig --add mysql.server
shell> chkconfig  mysql.server on
shell> chkconfig --list
```

CentOS 7：

```
shell> vim /usr/lib/systemd/system/mysqld.service
```

编辑内容如下

```
# Copyright (c) 2015, 2016, Oracle and/or its affiliates. All rights reserved.
#
# This program is free software; you can redistribute it and/or modify
# it under the terms of the GNU General Public License as published by
# the Free Software Foundation; version 2 of the License.
#
# This program is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
# GNU General Public License for more details.
#
# You should have received a copy of the GNU General Public License
# along with this program; if not, write to the Free Software
# Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA  02110-1301 USA
#
# systemd service file for MySQL forking server
#

[Unit]
Description=MySQL Server
Documentation=man:mysqld(8)
```

```
Documentation=http://dev.mysql.com/doc/refman/en/using-systemd.html
After=network.target
After=syslog.target

[Install]
WantedBy=multi-user.target

[Service]
User=mysql
Group=mysql

Type=forking

PIDFile=/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.pid

# Disable service start and stop timeout logic of systemd for mysqld service.
TimeoutSec=0

# Execute pre and post scripts as root
PermissionsStartOnly=true

# Needed to create system tables
#ExecStartPre=/usr/bin/mysqld_pre_systemd

# Start main service
ExecStart=/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/bin/mysqld
--daemonize
--pid-file=/opt/mysql/mysql-5.7.19-linux-glibc2.12-x86_64/run/mysql.pid
$MYSQLD_OPTS

# Use this to switch malloc implementation
EnvironmentFile=-/etc/sysconfig/mysql

# Sets open_files_limit
LimitNOFILE = 65535

Restart=on-failure

RestartPreventExitStatus=1

PrivateTmp=false
```

让 systemctl 加载配置服务

```
shell> systemctl daemon-reload
shell> systemctl enable mysqld.service
shell> systemctl is-enabled mysqld
```

六、启动 mysql 服务

```
shell> systemctl start mysqld.service
```

登录 mysql

```
shell> mysql –uroot –p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or g.
Your MySQL connection id is 3
Server version: 5.7.19-log MySQL Community Server (GPL)

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

mysql>
```

登陆成功后，设置 MySQL 密码

```
mysql> ALTER USER 'root'@'localhost' identified by 'root';
```

或者

```
mysql> set password=password("root");
```

刷新权限

```
mysql> flush privileges;
mysql> exit;
```

七、开启远程登录

关闭防火墙

```
shell> systemctl stop firewalld.service
```

以权限用户 root 登录 mysql;

1、选择 mysql 库

```
mysql> use mysql;
```

2、修改 host 值（以通配符%的内容增加主机/IP 地址），也可以直接增加 IP 地址

```
mysql> update user set host = '%' where user ='root';
```

3、刷新 MySQL 的系统权限相关表

```
mysql> flush privileges;
```

或者

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