

# mysql 安装与配置手册

## 一、mysql 安装

### 1. 装包

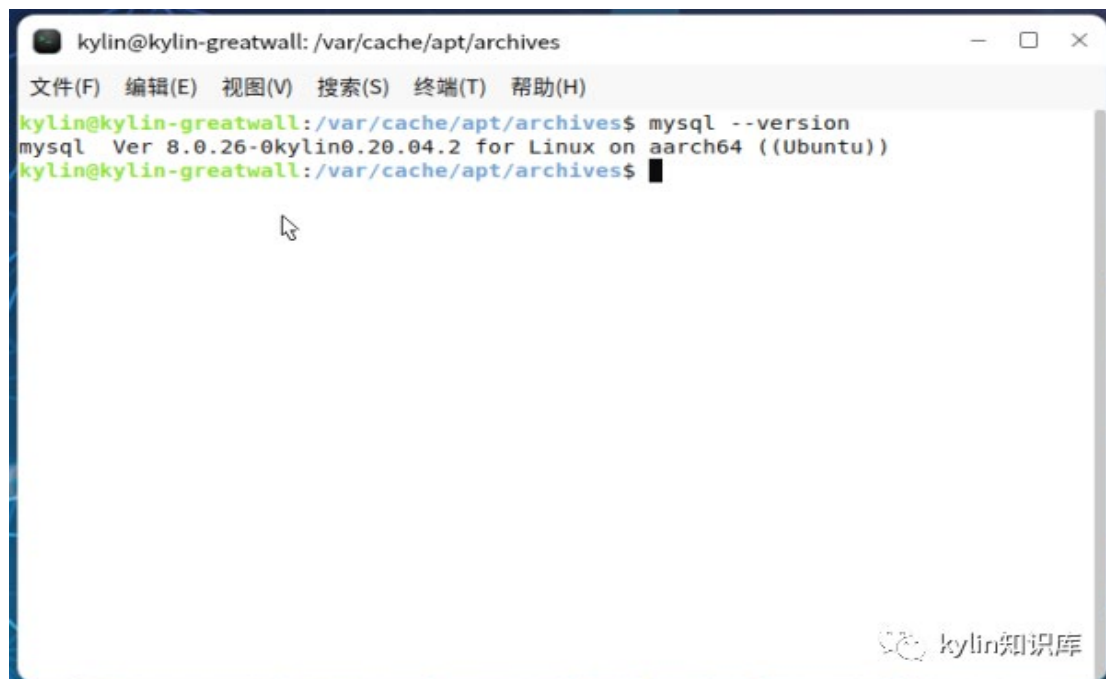
```
sudo dpkg -i *.deb
```



```
kylin@kylin-greatwall: /var/cache/apt/archives
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
mysql-server-8.0_8.0.26-0kylin0.20.04.2_arm64.deb
mysql-server-core-8.0_8.0.26-0kylin0.20.04.2_arm64.deb
partial
kylin@kylin-greatwall: /var/cache/apt/archives$ sudo dpkg -i *.deb
正在选中未选择的软件包 libcgi-fast-perl。
(正在读取数据库 ... 系统当前共安装有 197540 个文件和目录。)
准备解压 libcgi-fast-perl_1%3a2.15-1_all.deb ...
正在解压 libcgi-fast-perl (1:2.15-1) ...
正在选中未选择的软件包 libcgi-pm-perl。
准备解压 libcgi-pm-perl_4.46-1_all.deb ...
正在解压 libcgi-pm-perl (4.46-1) ...
正在选中未选择的软件包 libencode-locale-perl。
准备解压 libencode-locale-perl_1.05-1_all.deb ...
正在解压 libencode-locale-perl (1.05-1) ...
正在选中未选择的软件包 libevent-core-2.1-7:arm64。
准备解压 libevent-core-2.1-7_2.1.11-stable-1kylin1k2_arm64.deb ...
正在解压 libevent-core-2.1-7:arm64 (2.1.11-stable-1kylin1k2) ...
正在选中未选择的软件包 libevent-pthreads-2.1-7:arm64。
准备解压 libevent-pthreads-2.1-7_2.1.11-stable-1kylin1k2_arm64.deb ...
正在解压 libevent-pthreads-2.1-7:arm64 (2.1.11-stable-1kylin1k2) ...
正在选中未选择的软件包 libfcgi-perl。
准备解压 libfcgi-perl_0.79-1_arm64.deb ...
正在解压 libfcgi-perl (0.79-1) ...
正在选中未选择的软件包 libhtml-parser-perl。
```

### 2. 查看 mysql 版本

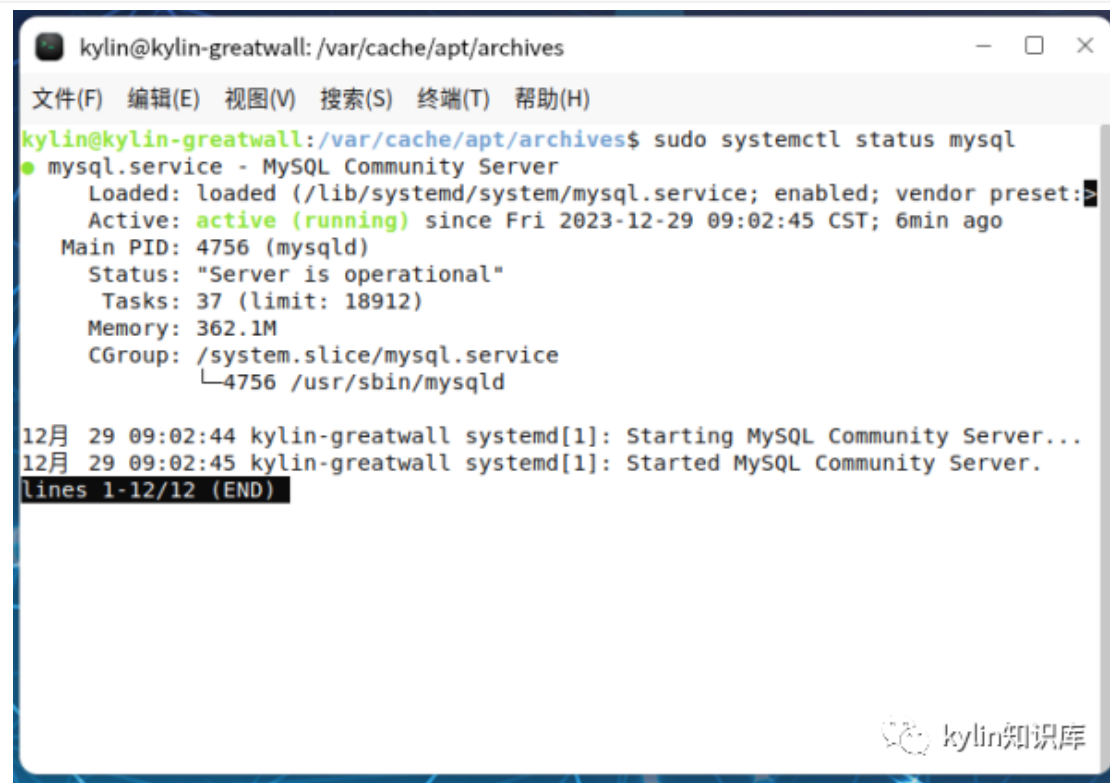
```
mysql --version
```



```
kylin@kylin-greatwall: /var/cache/apt/archives
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
kylin@kylin-greatwall: /var/cache/apt/archives$ mysql --version
mysql Ver 8.0.26-0kylin0.20.04.2 for Linux on aarch64 ((Ubuntu))
kylin@kylin-greatwall: /var/cache/apt/archives$
```

### 3. 查看 mysql 服务

```
sudo systemctl status mysql
```



```
kylin@kylin-greatwall: /var/cache/apt/archives
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: ena
   Active: active (running) since Fri 2023-12-29 09:02:45 CST; 6min ago
     Main PID: 4756 (mysqld)
       Status: "Server is operational"
        Tasks: 37 (limit: 18912)
       Memory: 362.1M
      CGroup: /system.slice/mysql.service
             └─4756 /usr/sbin/mysqld

12月 29 09:02:44 kylin-greatwall systemd[1]: Starting MySQL Community Server...
12月 29 09:02:45 kylin-greatwall systemd[1]: Started MySQL Community Server.
lines 1-12/12 (END)
```

## 二、mysql 安装安全设置

### 方法一

默认的 MySQL 设置是不安全的，特别是如果您打算在生产中使用数据库服务器。

MySQL 安装提供了一个安全脚本，用于解决不太安全的默认选项，请运行以下命令：

```
sudo mysql_secure_installation
```

默认情况下，MySQL 使用 auth\_socket 进行身份验证。这是一种无密码身份验证，使用 auth\_socket 插件，用户可以使用其用户帐户凭据登录 MySQL 并对其进行身份验证。


```
kylin@kylin-greatwall: /var/cache/apt/archives
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo mysql_
mysql_config_editor      mysql_ssl_rsa_setup
mysql_migrate_keyring    mysql_tzinfo_to_sql
mysql_secure_installation mysql_upgrade
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo mysql_secure_installation

Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: █
```



有三个级别的密码验证策略，低级，中级，高级。如果你想设置验证密码插件，按 y 或者其他任何按键，移动到下一个步骤：

```
kylin@kylin-kvmvirtualmachine: ~
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
kylin@kylin-kvmvirtualmachine:~$ sudo mysql_secure_installation

Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: y

There are three levels of password validation policy:

LOW      Length >= 8
MEDIUM  Length >= 8, numeric, mixed case, and special characters
STRONG Length >= 8, numeric, mixed case, special characters and dictionary
        file

Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: █
```



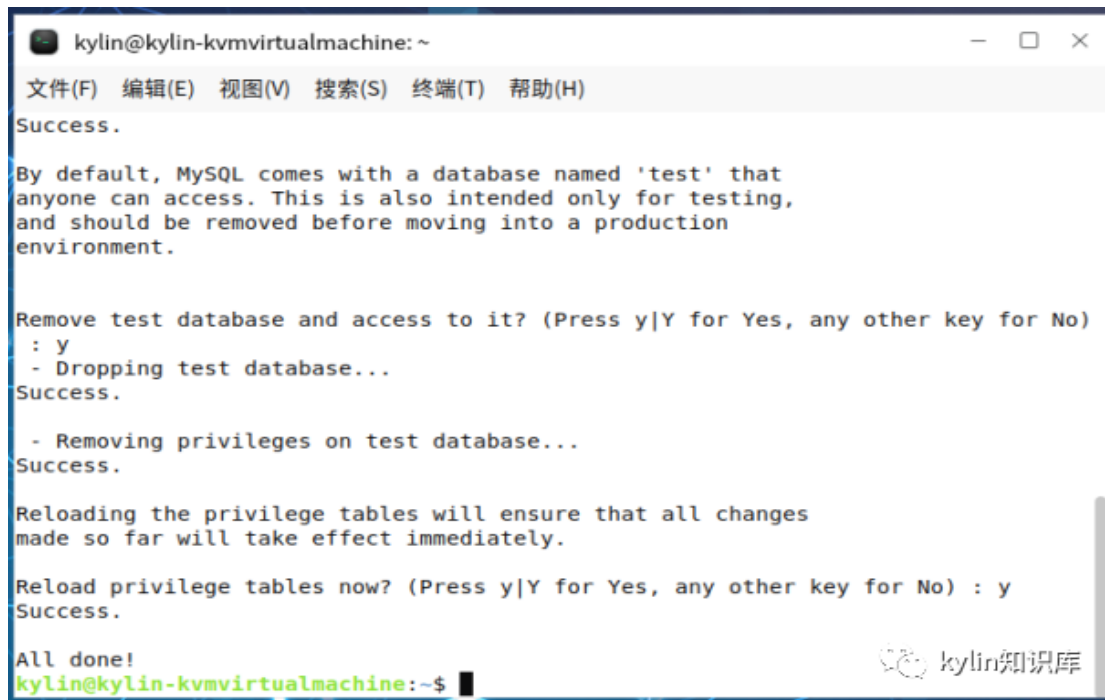
有三个级别的密码验证策略，低级，中级，高级。如果你想设置验证密码插件，按 y 或者其他任何按键，移动到下一个步骤，设置密码：

```
kylin@kylin-kvmvirtualmachine: ~  
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)  
VALIDATE PASSWORD COMPONENT can be used to test passwords  
and improve security. It checks the strength of password  
and allows the users to set only those passwords which are  
secure enough. Would you like to setup VALIDATE PASSWORD component?  
  
Press y|Y for Yes, any other key for No: y  
  
There are three levels of password validation policy:  
  
LOW    Length >= 8  
MEDIUM Length >= 8, numeric, mixed case, and special characters  
STRONG Length >= 8, numeric, mixed case, special characters and dictionary  
        file  
  
Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: 2  
Please set the password for root here.  
  
New password:  
  
Re-enter new password:  
  
Estimated strength of the password: 50  
Do you wish to continue with the password provided?(Press y|Y for Yes, any other  
key for No) : █
```

如果你设置了验证密码插件，这个脚本将会显示你的新密码强度。输入 y 确认密码：

```
kylin@kylin-kvmvirtualmachine: ~  
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)  
  
LOW    Length >= 8  
MEDIUM Length >= 8, numeric, mixed case, and special characters  
STRONG Length >= 8, numeric, mixed case, special characters and dictionary  
        file  
  
Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: 2  
Please set the password for root here.  
  
New password:  
  
Re-enter new password:  
  
Estimated strength of the password: 50  
Do you wish to continue with the password provided?(Press y|Y for Yes, any other  
key for No) y  
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? (Press y|Y for Yes, any other key for No) : █
```

下一步，你将被要求移除任何匿名用户，限制 root 用户访问本地机器，移除测试数据库并且重新加载权限表。你应该对所有的问题回答 **y**

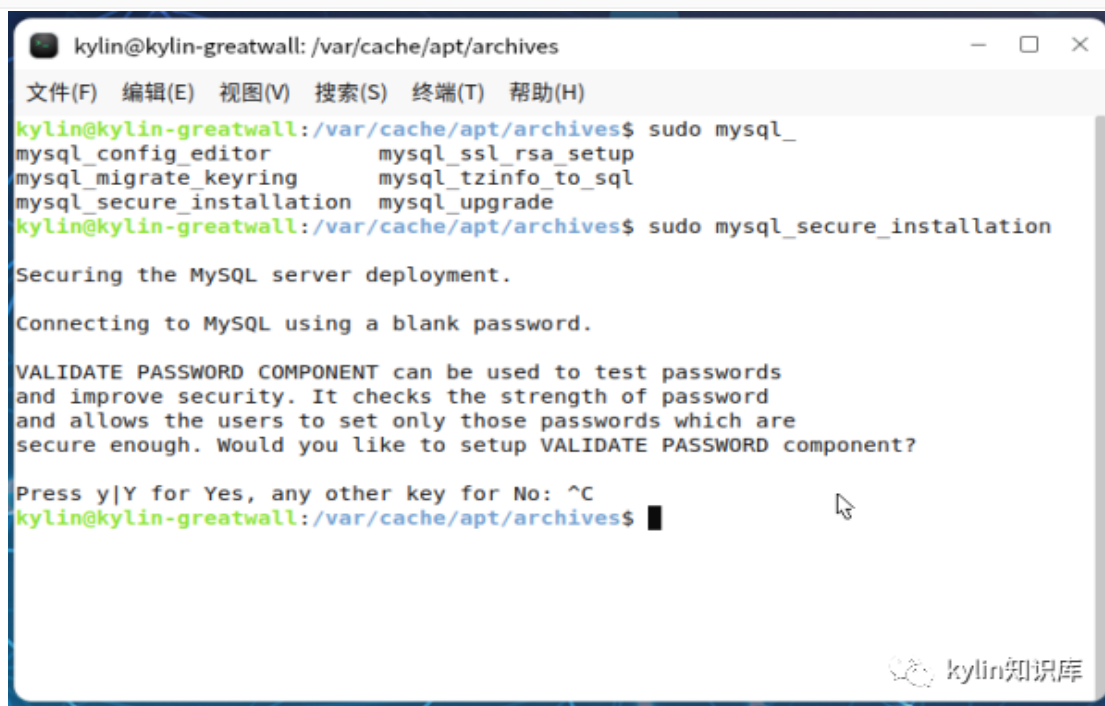


```
kylin@kylin-kvmvirtualmachine: ~  
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)  
Success.  
  
By default, MySQL comes with a database named 'test' that  
anyone can access. This is also intended only for testing,  
and should be removed before moving into a production  
environment.  
  
Remove test database and access to it? (Press y|Y for Yes, any other key for No)  
: 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.  
  
Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y  
Success.  
  
All done!  
kylin@kylin-kvmvirtualmachine:~$
```

## 方法二

如果您希望使用密码验证，请按 **CTRL+C** 取消操作并访问 MySQL 终端

```
sudo mysql
```



```
kylin@kylin-greatwall: /var/cache/apt/archives  
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)  
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo mysql_  
mysql_config_editor      mysql_ssl_rsa_setup  
mysql_migrate_keyring    mysql_tzinfo_to_sql  
mysql_secure_installation mysql_upgrade  
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo mysql_secure_installation  
  
Securing the MySQL server deployment.  
  
Connecting to MySQL using a blank password.  
  
VALIDATE PASSWORD COMPONENT can be used to test passwords  
and improve security. It checks the strength of password  
and allows the users to set only those passwords which are  
secure enough. Would you like to setup VALIDATE PASSWORD component?  
  
Press y|Y for Yes, any other key for No: ^C  
kylin@kylin-greatwall:/var/cache/apt/archives$
```



```
kylin@kylin-greatwall: /var/cache/apt/archives
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
Securing the MySQL server deployment.

Connecting to MySQL using a blank password.

VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: ^C
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.26-0kylin0.20.04.2 (Ubuntu)

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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>
```

接下来，运行 ALTER USER 命令将 root 用户的身份验证方法修改为密码验证，密码 (qwer1234)，如图所示。

```
ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'qwer1234';
```

```
kylin@kylin-greatwall: /var/cache/apt/archives
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?

Press y|Y for Yes, any other key for No: ^C
kylin@kylin-greatwall:/var/cache/apt/archives$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.26-0kylin0.20.04.2 (Ubuntu)

Copyright (c) 2000, 2021, Oracle and/or its affiliates.

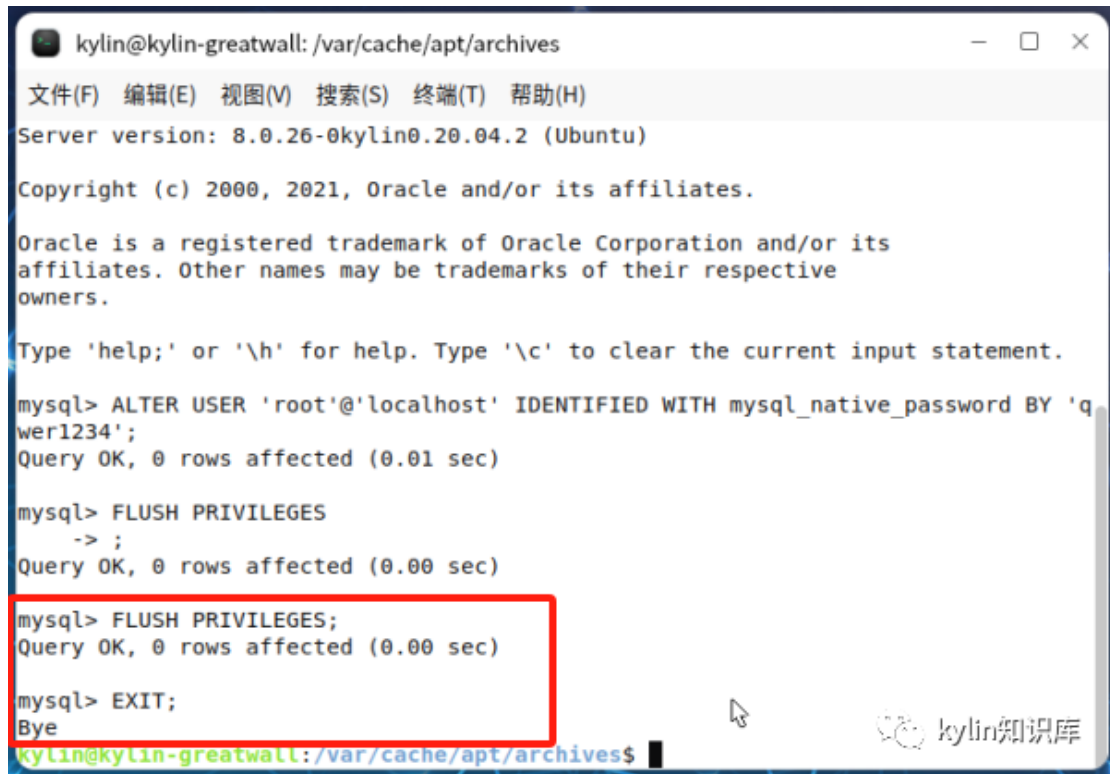
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'qwer1234';
Query OK, 0 rows affected (0.01 sec)

mysql>
```

然后，退出 MySQL 终端

```
FLUSH PRIVILEGES;  
EXIT;
```



The screenshot shows a terminal window titled 'kylin@kylin-greatwall: /var/cache/apt/archives'. The terminal displays the MySQL command-line interface. The user has entered the command 'ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql\_native\_password BY 'qwer1234';' and received the response 'Query OK, 0 rows affected (0.01 sec)'. Then, the user entered 'FLUSH PRIVILEGES;' and received 'Query OK, 0 rows affected (0.00 sec)'. This second command and its output are highlighted with a red rectangle. Finally, the user entered 'EXIT;' and received 'Bye'. The terminal prompt at the bottom is 'kylin@kylin-greatwall: /var/cache/apt/archives\$'. A watermark 'kylin知识库' is visible in the bottom right corner of the terminal window.

```
kylin@kylin-greatwall: /var/cache/apt/archives  
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)  
Server version: 8.0.26-0kylin0.20.04.2 (Ubuntu)  
Copyright (c) 2000, 2021, Oracle and/or its affiliates.  
Oracle is a registered trademark of Oracle Corporation and/or its  
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> ALTER USER 'root'@'localhost' IDENTIFIED WITH mysql_native_password BY 'q  
wer1234';  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> FLUSH PRIVILEGES  
-> ;  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> FLUSH PRIVILEGES;  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> EXIT;  
Bye  
kylin@kylin-greatwall: /var/cache/apt/archives$
```

再次运行脚本，提供 root 密码，然后按 ENTER。接下来，您可以选择更改 root 用户的密码或提供新密码。在我们的情况下，我们不修改密码，因此，我们将按 N。

```
sudo mysql_secure_installation
```

```
kylin@kylin-greatwall: ~/桌面
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
kylin@kylin-greatwall:~/桌面$ sudo mysql_secure_installation
输入密码

Securing the MySQL server deployment.

Enter password for user root:
The 'validate_password' component is installed on the server.
The subsequent steps will run with the existing configuration
of the component.
Using existing password for root.

Estimated strength of the password: 50
Change the password for root ? ((Press y|Y for Yes, any other key for No) : N

... skipping.
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? (Press y|Y for Yes, any other key for No)
```

对于其余提示，请按 Y 以保护数据库服务器的安全，执行以下操作来确保数据库安全性。

- ①删除任何匿名用户
- ②不允许 root 用户远程登录
- ③删除测试数据库及其访问权限
- ④保存通过重新加载特权表所做的更改



```
kylin@kylin-greatwall: ~/桌面
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
environment.
Remove anonymous users? (Press y|Y for Yes, any other key for No) : y ①
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? (Press y|Y for Yes, any other key for No) : y ②
Success.

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? (Press y|Y for Yes, any other key for No)
y ③
- 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.

Reload privilege tables now? (Press y|Y for Yes, any other key for No) : y ④
Success.

All done!
kylin@kylin-greatwall:~/桌面$
```

### 三、mysql 使用说明

创建 mysql 管理用户

默认情况下, MySQL 会在安装期间创建一个默认的根用户来管理数据库。用户拥有完全权限, 因此可以对所有数据库、表、用户等进行绝对控制。

建议为运行管理任务创建一个单独的数据库用户, 再次以 root 用户身份登录 MySQL 数据库服务器。

```
sudo mysql -u root -p
```

```
kylin@kylin-greatwall: ~/桌面
文件(F) 编辑(E) 视图(V) 搜索(S) 终端(T) 帮助(H)
kylin@kylin-greatwall:~/桌面$ sudo mysql -u root -p
输入密码
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 28
Server version: 8.0.26-0kylin0.20.04.2 (Ubuntu)

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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> █
```

至此 mysql 数据库设置完成