Comprobar la instalación

Cualquiera de los siguientes comandos permitirá comprobar si el servidor MySQL está en funcionamiento:

Todos ellos (y otros) son programas incluidos en el directorio *bin* de MySQL por lo cual es conveniente incluir dicho directorio en el *PATH* del sistema para evitar así tener que indicar toda la ruta para ejecutarlos.

EJEMPLO 2.1

```
diego@Vector-16-HX:~$ sudo mysqlshow
+--------------------+
|     Databases      |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
diego@Vector-16-HX:~$ _
```

EJEMPLO 2.2

Para visualizar la base de datos MySQL para la gestión de cuentas y permisos:

```
diego@Vector-16-HX:~$ sudo mysqlshow  mysql
Database: mysql
+---------------------------------------------------+
|                      Tables                       |
+---------------------------------------------------+
| columns_priv                                      |
| component                                         |
| db                                                |
| default_roles                                     |
| engine_cost                                       |
| func                                              |
| general_log                                       |
| global_grants                                     |
| gtid_executed                                     |
| help_category                                     |
| help_keyword                                      |
| help_relation                                     |
| help_topic                                        |
| innodb_index_stats                                |
| innodb_table_stats                                |
| password_history                                  |
| plugin                                            |
| procs_priv                                        |
| proxies_priv                                      |
| replication_asynchronous_connection_failover      |
| replication_asynchronous_connection_failover_managed |
| replication_group_configuration_version           |
| replication_group_member_actions                  |
| role_edges                                        |
| server_cost                                       |
| servers                                           |
| slave_master_info                                 |
| slave_relay_log_info                              |
| slave_worker_info                                 |
| slow_log                                          |
| tables_priv                                       |
| time_zone                                         |
| time_zone_leap_second                             |
| time_zone_name                                    |
| time_zone_transition                              |
| time_zone_transition_type                         |
| user                                              |
+---------------------------------------------------+
```

EJEMPLO 2.3

Para comprobar las cuentas iniciales:

```
C:\> C:\mysql\bin\mysql -e "SELECT
Host,Db,User FROM mysql.user"
C:\> C:\Program Files\MySQL\MySQL Server
5.0\bin\mysqlshow -u root
```

```
diego@Vector-16-HX:~$ sudo mysql -e "SELECT Host, User FROM mysql.user"
+-----------+------------------+
| Host      | User             |
+-----------+------------------+
| localhost | debian-sys-maint |
| localhost | mysql.infoschema |
| localhost | mysql.session    |
| localhost | mysql.sys        |
| localhost | root             |
+-----------+------------------+
diego@Vector-16-HX:~$ sudo mysqlshow -u root
+--------------------+
|     Databases      |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
```

EJEMPLO 2.4

Para comprobar el estado actual del servidor:

```
C:\> C:\Program Files\MySQL\MySQL Server
5.0\bin\mysqladmin version status proc
```

```
diego@Vector-16-HX: $ sudo mysqladmin version status proc
mysqladmin  Ver 8.0.39-0ubuntu0.24.04.2 for Linux on x86_64 ((Ubuntu))
Copyright (c) 2000, 2024, Oracle and/or its affiliates.

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

Server version          8.0.39-0ubuntu0.24.04.2
Protocol version        10
Connection              Localhost via UNIX socket
UNIX socket             /var/run/mysqld/mysqld.sock
Uptime:                 2 hours 32 min 0 sec

Threads: 2  Questions: 28  Slow queries: 0  Opens: 183  Flush tables: 3  Open tables: 102  Queries per second avg: 0.003
Uptime: 9120  Threads: 2  Questions: 29  Slow queries: 0  Opens: 183  Flush tables: 3  Open tables: 102  Queries per second avg: 0.003
+----+-----------------+-----------+----+---------+------+------------------------+----------------+
| Id | User            | Host      | db | Command | Time | State                  | Info           |
+----+-----------------+-----------+----+---------+------+------------------------+----------------+
| 5  | event_scheduler | localhost |    | Daemon  | 9119 | Waiting on empty queue |                |
| 24 | root            | localhost |    | Query   | 0    | init                   | show processlist |
+----+-----------------+-----------+----+---------+------+------------------------+----------------+
```

EJEMPLO 2.5

Para conectarme a una base de datos directamente:

```
C:\> C:\Program Files\MySQL\MySQL Server
5.0\bin\mysql test
```

```
diego@Vector-16-HX:~$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 29
Server version: 8.0.39-0ubuntu0.24.04.2 (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 statem
ent.

mysql> create database test
    -> ;
Query OK, 1 row affected (0,04 sec)

mysql> _
```

```
diego@Vector-16-HX:~$ sudo mysql test
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 35
Server version: 8.0.39-0ubuntu0.24.04.2 (Ubuntu)

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owners.

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

mysql> _
```

EJEMPLO 2.6

```
C:\> C:\Program Files\MySQL\MySQL Server
5.0\bin\mysqladmin -help>mysqladmin_
ayuda
```

```
diego@Vector-16-HX:~$ mysqladmin --help
mysqladmin  Ver 8.0.39-0ubuntu0.24.04.2 for Linux on x86_64 ((Ubuntu))
Copyright (c) 2000, 2024, Oracle and/or its affiliates.

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

Administration program for the mysqld daemon.
Usage: mysqladmin [OPTIONS] command command....
  --bind-address=name IP address to bind to.
  -c, --count=#       Number of iterations to make. This works with -i
                      (--sleep) only.
  -#, --debug[=#]     This is a non-debug version. Catch this and exit.
  --debug-check       This is a non-debug version. Catch this and exit.
  --debug-info        This is a non-debug version. Catch this and exit.
  -f, --force         Don't ask for confirmation on drop database; with
                      multiple commands, continue even if an error occurs.
  -C, --compress      Use compression in server/client protocol.
  --character-sets-dir=name
                      Directory for character set files.
  --default-character-set=name
                      Set the default character set.
  -?, --help          Display this help and exit.
  -h, --host=name     Connect to host.
  -b, --no-beep       Turn off beep on error.
  -p, --password[=name]
                      Password to use when connecting to server. If password is
                      not given it's asked from the tty.
  -,, --password1[=name]
                      Password for first factor authentication plugin.
  -,, --password2[=name]
                      Password for second factor authentication plugin.
  -,, --password3[=name]
                      Password for third factor authentication plugin.
  -P, --port=#        Port number to use for connection or 0 for default to, in
                      order of preference, my.cnf, $MYSQL_TCP_PORT,
                      /etc/services, built-in default (3306).
  --protocol=name     The protocol to use for connection (tcp, socket, pipe,
                      memory).
  -r, --relative      Show difference between current and previous values when
                      used with -i. Currently only works with extended-status.
  -s, --silent        Silently exit if one can't connect to server.
  -S, --socket=name   The socket file to use for connection.
  -i, --sleep=#       Execute commands repeatedly with a sleep between.
  --ssl-mode=name     SSL connection mode.
  --ssl-ca=name       CA file in PEM format.
  --ssl-capath=name   CA directory.
  --ssl-cert=name     X509 cert in PEM format.
  --ssl-cipher=name   SSL cipher to use.
  --ssl-key=name      X509 key in PEM format.
  --ssl-crl=name      Certificate revocation list.
  --ssl-crlpath=name  Certificate revocation list path.
  --tls-version=name  TLS version to use, permitted values are: TLSv1.2,
```

EJEMPLO 2.7

```
C:>mysql -uroot --password=root -e "show
databases"
```

```
diego@Vector-16-HX:~$ sudo mysql -u root -p -e "SHOW DATABASES"

Enter password:
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
| test               |
+--------------------+
diego@Vector-16-HX:~$ _
```

ACTIVIDADES 2.2

- Ejecuta de nuevo el programa asistente de configuración de MySQL (en la carpeta *bin*) y configura el servidor para escuchar en el puerto 4000 con el nombre de servicio *servmysql2* y otras opciones que consideres apropiadas para un entorno normal de trabajo. Guarda previamente el fichero *my.ini* y compáralo con el nuevo generado por el asistente.
- Piensa en las razones por las que puede ser interesante arrancar dos o más servicios MySQL en un mismo equipo. ¿Qué opciones como mínimo deben ser distintas en ambos ficheros para que puedan arrancar ambos servicios?
- Añade dos servicios MySQL a Windows con los nombres *mysql1* y *mysql2*, de manera que se inicien automáticamente con el sistema. Cada uno debe usar un fichero de configuración distinto (por ejemplo: *my1.ini, my2.ini*).
- Carga en el servidor que consideres el *script* de las bases de datos para usar en el resto del libro. Hazlo de dos formas:
  a. Con el programa cliente de MySQL.
  b. Con el comando *source* de MySQL.
- Ejecuta el comando *SHOW DATABASES* para ver las bases creadas en el servidor. Hazlo de dos modos, desde el cliente y desde la consola MSDOS.

Apartado 1

```
diego@Vector-16-HX:~$ sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf_
```

```
  GNU nano 7.2                        /etc/mysql/mysql.conf.d/mysqld.cnf *
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html

# Here is entries for some specific programs
# The following values assume you have at least 32M ram

[mysqld]
#
# * Basic Settings
#
user            = mysql
# pid-file      = /var/run/mysqld/mysqld.pid
# socket        = /var/run/mysqld/mysqld.sock
port            = 4000_
# datadir       = /var/lib/mysql
```

```
      [ 78 líneas escritas ]
         ^K Cortar       ^T Ejecutar
  azar ^U Pegar          ^J Justific
```

```
diego@Vector-16-HX:~$ sudo systemctl restart mysql
diego@Vector-16-HX:~$ sudo netstat -tulnp | grep mysql
tcp        0      0 127.0.0.1:4000          0.0.0.0:*               ESCUCHAR     18520/mysqld
tcp        0      0 127.0.0.1:33060         0.0.0.0:*               ESCUCHAR     18520/mysqld
```

Apartado 2

Para ejecutar dos servicios MySQL en un mismo equipo, deben ser diferentes el puerto, el directorio de datos, el archivo de socket y el archivo PID. Esto evita conflictos y permite que ambas instancias funcionen correctamente.

Apartado 3

```
diego@Vector-16-HX:~$ sudo cp /etc/mysql/my.cnf /etc/mysql/my1.cnf
sudo cp /etc/mysql/my.cnf /etc/mysql/my2.cnf
diego@Vector-16-HX:/etc/mysql$ sudo nano my1.cnf_
```

```
                                          diego@Vector-16-HX:/etc/mysql
  GNU nano 7.2                                   my1.cnf
#
# The MySQL database server configuration file.
#
# You can copy this to one of:
# - "/etc/mysql/my.cnf" to set global options,
# - "~/.my.cnf" to set user-specific options.
#
# One can use all long options that the program supports.
# Run program with --help to get a list of available options and with
# --print-defaults to see which it would actually understand and use.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html


#
# * IMPORTANT: Additional settings that can override those from this file!
#   The files must end with '.cnf', otherwise they'll be ignored.
#

[mysqld]
port = 3307
datadir = /var/lib/mysql1
socket = /var/run/mysqld/mysqld1.sock
pid-file = /var/run/mysqld/mysqld1.pid



!includedir /etc/mysql/conf.d/
!includedir /etc/mysql/mysql.conf.d/
```

```
                                    diego@Vector-16-HX: /etc/mysql
  GNU nano 7.2                                  my2.cnf
#
# The MySQL database server configuration file.
#
# You can copy this to one of:
# - "/etc/mysql/my.cnf" to set global options,
# - "~/.my.cnf" to set user-specific options.
#
# One can use all long options that the program supports.
# Run program with --help to get a list of available options and with
# --print-defaults to see which it would actually understand and use.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html


#
# * IMPORTANT: Additional settings that can override those from this file!
#   The files must end with '.cnf', otherwise they'll be ignored.
#

[mysqld]
port = 3308
datadir = /var/lib/mysql2
socket = /var/run/mysqld/mysqld2.sock
pid-file = /var/run/mysqld/mysqld2.pid


!includedir /etc/mysql/conf.d/
!includedir /etc/mysql/mysql.conf.d/
```

```
diego@Vector-16-HX:/etc/mysql$ sudo mkdir /var/lib/mysql1
sudo mkdir /var/lib/mysql2
sudo chown -R mysql:mysql /var/lib/mysql1 /var/lib/mysql2
```

EJEMPLO 2.8

```
#>mysqld -skip-grant-tables --console
```

```
diego@Vector-16-HX:~$ sudo systemctl stop mysql
[sudo] contraseña para diego:
diego@Vector-16-HX:~$ sudo mysqld --skip-grant-tables --console
diego@Vector-16-HX:~$ sudo mysql
ERROR 2002 (HY000): Can't connect to local MySQL server through socket '/var/run/mysqld/mysqld.sock' (
2)
diego@Vector-16-HX:~$ sudo systemctl start mysql
diego@Vector-16-HX:~$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.39-0ubuntu0.24.04.2 (Ubuntu)

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owners.

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

mysql>
```

EJEMPLO 2.9

```
[client]
port=3306
password="guara"

[mysqld]
port=3306
key_buffer_size=16M
max_allowed_packet=8M

[mysqldump]
quick

[mysqladmin]
force
```

```
  GNU nano 7.2                                        my.cnf *
#
# The MySQL database server configuration file.
#
# You can copy this to one of:
# - "/etc/mysql/my.cnf" to set global options,
# - "~/.my.cnf" to set user-specific options.
#
# One can use all long options that the program supports.
# Run program with --help to get a list of available options and with
# --print-defaults to see which it would actually understand and use.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html

#
# * IMPORTANT: Additional settings that can override those from this file!
#   The files must end with '.cnf', otherwise they'll be ignored.
#

[mysqld]
port = 3007
datadir = /var/lib/mysql1
socket = /var/run/mysqld/mysqld1.sock
pid-file = /var/run/mysqld/myqld1.pid


!includedir /etc/mysql/conf.d/
!includedir /etc/mysql/mysql.conf.d/
```

Aparece diferente pero es el mismo archivo, si nos fijamos se ve el puerto que en este caso es el 3007 (lo cambié yo por un problema), pero funciona de igual manera

i **EJEMPLO 2.10**

```
mysql> SET sort_buffer_size = 10 * 1024 * 1024;
```

```
diego@Vector-16-HX:~$ sudo mysql
[sudo] contraseña para diego:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 8.0.39-0ubuntu0.24.04.2 (Ubuntu)

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owners.

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

mysql> SET sort_buffer_size = 10 * 1024 * 1024;
Query OK, 0 rows affected (0,00 sec)

mysql>
```

i **EJEMPLO 2.11**

```
mysql> SET GLOBAL sort_buffer_size = 10 * 1024 * 1024;
mysql> SET SESSION sort_buffer_size = 10 * 1024 * 1024;
```

```
mysql> SET GLOBAL sort_buffer_size = 10 * 1024 * 1024;
Query OK, 0 rows affected (0,00 sec)

mysql> SET SESSION sort_buffer_size = 10 * 1024 * 1024;
Query OK, 0 rows affected (0,00 sec)

mysql>
```

EJEMPLO 2.12

```
mysql> SHOW VARIABLES LIKE '%cadena_busqueda%';
```

```
mysql> SHOW VARIABLES LIKE '%buffer%';
+----------------------------------+---------------+
| Variable_name                    | Value         |
+----------------------------------+---------------+
| bulk_insert_buffer_size          | 8388608       |
| innodb_buffer_pool_chunk_size    | 134217728     |
| innodb_buffer_pool_dump_at_shutdown | ON         |
| innodb_buffer_pool_dump_now      | OFF           |
| innodb_buffer_pool_dump_pct      | 25            |
| innodb_buffer_pool_filename      | ib_buffer_pool |
| innodb_buffer_pool_in_core_file  | ON            |
| innodb_buffer_pool_instances     | 1             |
| innodb_buffer_pool_load_abort    | OFF           |
| innodb_buffer_pool_load_at_startup | ON          |
| innodb_buffer_pool_load_now      | OFF           |
| innodb_buffer_pool_size          | 134217728     |
| innodb_change_buffer_max_size    | 25            |
| innodb_change_buffering          | all           |
| innodb_ddl_buffer_size           | 1048576       |
| innodb_log_buffer_size           | 16777216      |
| innodb_sort_buffer_size          | 1048576       |
| join_buffer_size                 | 262144        |
| key_buffer_size                  | 16777216      |
| myisam_sort_buffer_size          | 8388608       |
| net_buffer_length                | 16384         |
| preload_buffer_size              | 32768         |
| read_buffer_size                 | 131072        |
| read_rnd_buffer_size             | 262144        |
| select_into_buffer_size          | 131072        |
| sort_buffer_size                 | 10485760      |
| sql_buffer_result                | OFF           |
+----------------------------------+---------------+
27 rows in set (0,00 sec)

mysql>
```

EJEMPLO 2.13

```
mysql> SELECT table_name, table_type, engine
    -> FROM information_schema.tables
    -> WHERE table_schema = 'db5'
    -> ORDER BY table_name DESC;
+------------+------------+--------+
| table_name | table_type | engine |
+------------+------------+--------+
| v56        | VIEW       | NULL   |
| v3         | VIEW       | NULL   |
| v2         | VIEW       | NULL   |
| v          | VIEW       | NULL   |
| tables     | BASE TABLE | MyISAM |
| .................. . ................ |

| t2         | BASE TABLE | MyISAM |
| t          | BASE TABLE | MyISAM |
| pk         | BASE TABLE | InnoDB |
| .................. . ................ |
+------------+------------+--------+
17 rows in set (0.01 sec)
```

```
mysql> SELECT table_name, table_type, engine
    -> FROM information_schema.tables
    -> WHERE table_schema = 'db5'
    -> ORDER BY table_name DESC;
Empty set (0,00 sec)

mysql>
```