

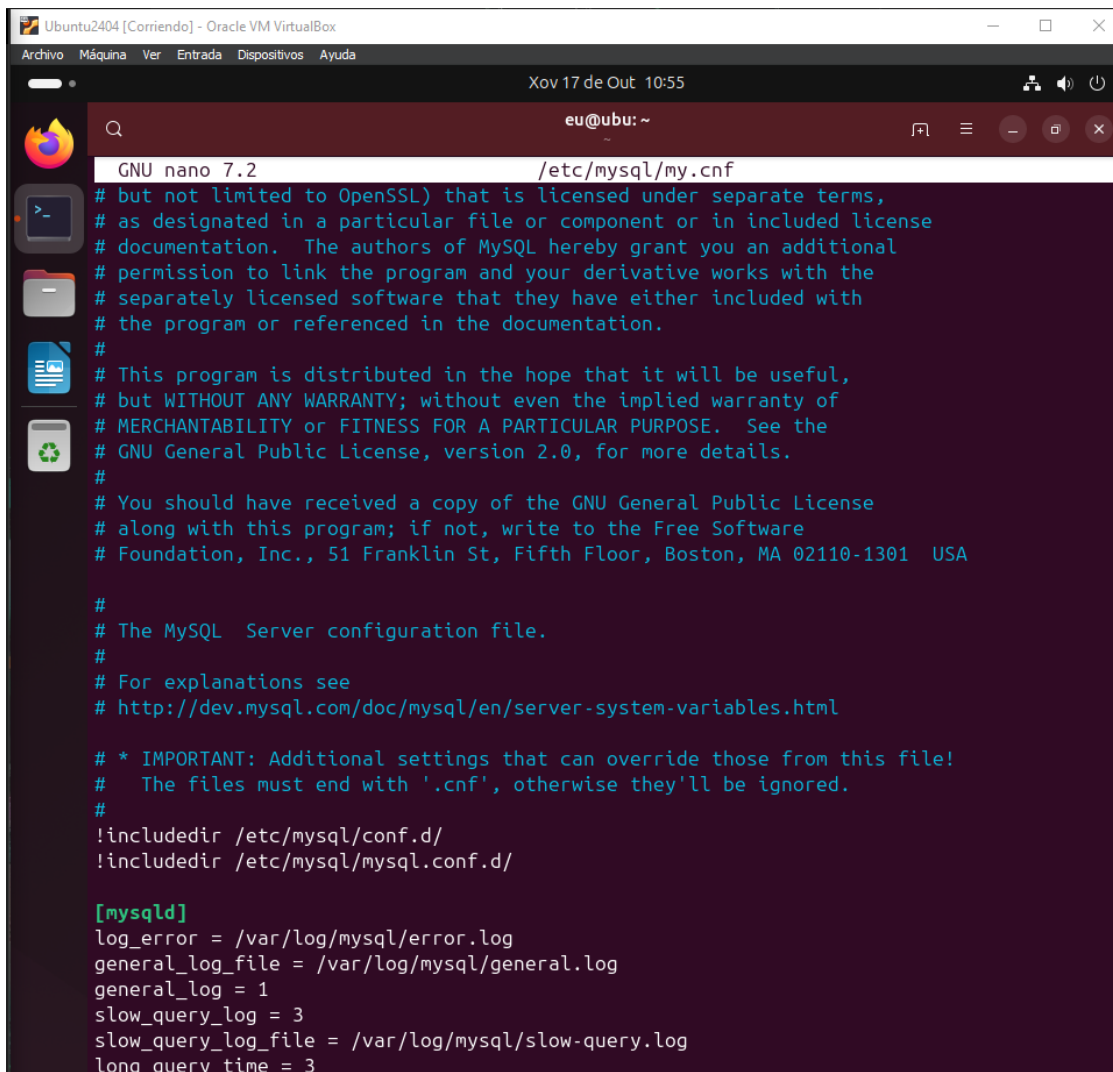
Exercicios mantemento Logs MySQL

1. Configuración de Logs en MySQL

Obxectivo: Configurar logs en MySQL.

Instruccions:

1. Accede á configuración de MySQL no teu sistema (ficheiro `my.cnf` ou `my.ini`).
2. Habilita o log de erros, o log de consultas xerais e o log de consultas lentas. Usa os seguintes parámetros:
 - Log de Erros: `/var/log/mysql/error.log`
 - Log de Consultas Xerais: `/var/log/mysql/general.log`
 - Log de Consultas Lentas: `/var/log/mysql/slow-query.log`, con un tempo de consulta lenta de 3 segundos.



```
GNU nano 7.2 /etc/mysql/my.cnf
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# Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
#
# The MySQL Server configuration file.
#
# 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.
#
!includedir /etc/mysql/conf.d/
!includedir /etc/mysql/mysql.conf.d/

[mysqld]
log_error = /var/log/mysql/error.log
general_log_file = /var/log/mysql/general.log
general_log = 1
slow_query_log = 3
slow_query_log_file = /var/log/mysql/slow-query.log
long_query_time = 3
```

3. Documenta os pasos que seguiches para realizar esta configuración e reinicia o servizo de MySQL para aplicar os cambios.

```
eu@ubu:~$ sudo service mysql restart
eu@ubu:~$
```

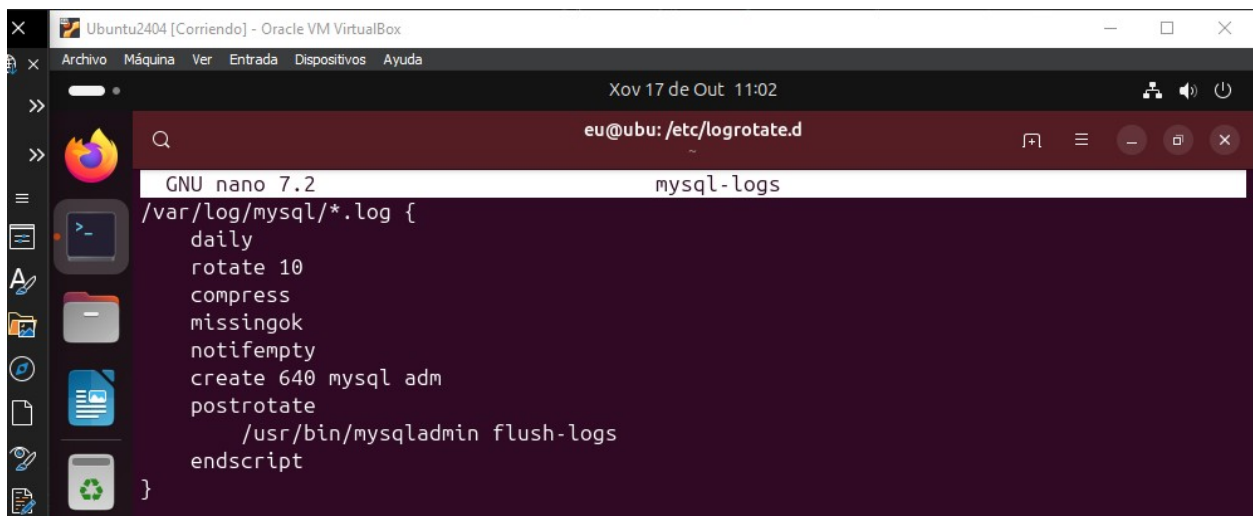
2. Configuración de Logrotate

Obxectivo: Configurar logrotate para os logs de MySQL.

Instruccions:

1. Crea un ficheiro de configuración para logrotate que rota os logs de MySQL. Configura logrotate para que:
 - Roten diariamente.
 - Gardar os últimos 10 logs.
 - Comprimir os logs rotados.
 - Ignorar logs baleiros.
 - Reiniciar os logs de MySQL despois de cada rotación.

```
eu@ubu:/etc/logrotate.d$ sudo nano mysql-logs
eu@ubu:/etc/logrotate.d$
```



2. Documenta o proceso de creación do ficheiro de configuración e explica brevemente cada parámetro que usaches.

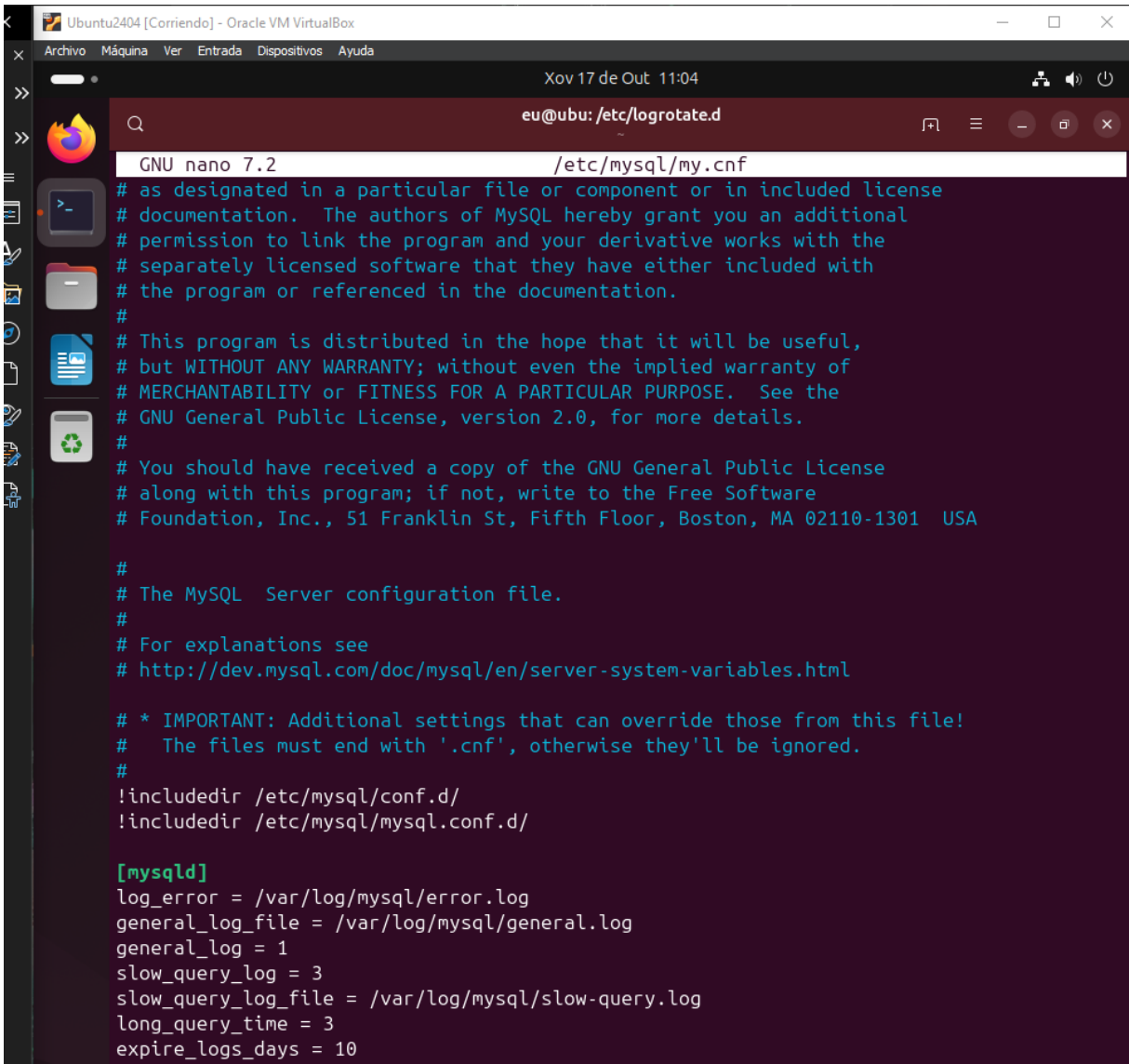
3. Configurar a Rotación Automática dos Logs Binarios

Obxectivo: Configurar MySQL para que elimine automaticamente os logs binarios despois dun período específico.

1. Abre o ficheiro de configuración de MySQL (/etc/mysql/my.cnf).

```
eu@ubu:/etc/logrotate.d$ sudo nano /etc/mysql/my.cnf
```

2. Establece a opción `expire_logs_days` para que MySQL elimine os logs binarios despois de 10 días.



```
GNU nano 7.2 /etc/mysql/my.cnf
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# Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
#
# The MySQL Server configuration file.
#
# 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.
#
!includedir /etc/mysql/conf.d/
!includedir /etc/mysql/mysql.conf.d/

[mysqld]
log_error = /var/log/mysql/error.log
general_log_file = /var/log/mysql/general.log
general_log = 1
slow_query_log = 3
slow_query_log_file = /var/log/mysql/slow-query.log
long_query_time = 3
expire_logs_days = 10
```

3. Reinicia o servidor MySQL para aplicar os cambios.

```
eu@ubu:/etc/logrotate.d$ sudo service mysql restart
eu@ubu:/etc/logrotate.d$
```

4. Verifica que a configuración se aplicou correctamente executando o seguinte comando en MySQL:

```
SHOW VARIABLES LIKE 'expire_logs_days';
```

```
eu@ubu:/etc/logrotate.d$ sudo mysql -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.40 MySQL Community Server - GPL

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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> SHOW VARIABLES LIKE 'expire_logs_days';
+-----+-----+
| Variable_name | Value |
+-----+-----+
| expire_logs_days | 10    |
+-----+-----+
1 row in set (0,03 sec)

mysql> █
```

Preguntas de seguimiento:

- Que sucede se configuras `expire_logs_days` a 0?
Se se establece a 0, MySQL non eliminará automaticamente os logs antigos e deberanse eliminar manualmente.
- Como poderías comprobar se os logs binarios se están eliminando segundo o previsto?
Comprobando periodicamente se os log gardados son de 10 días atrás só

4 Eliminar Manualmente os Logs Binarios Usando `PURGE BINARY LOGS`

Obxectivo: Practicar a eliminación manual de logs binarios antigos para liberar espazo no disco.

1. Abre unha consola de MySQL e visualiza todos os logs binarios dispoñibles usando:

```
SHOW BINARY LOGS;
```

```

eu@ubu:/etc/logrotate.d$ sudo mysql -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 12
Server version: 8.0.40 MySQL Community Server - GPL

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

mysql> SHOW BINARY LOGS;
+-----+-----+-----+
| Log_name          | File_size | Encrypted |
+-----+-----+-----+
| binlog.000005     | 180      | No       |
| binlog.000006     | 180      | No       |
| binlog.000007     | 180      | No       |
| binlog.000008     | 180      | No       |
| binlog.000009     | 180      | No       |
| binlog.000010     | 157      | No       |
| binlog.000011     | 157      | No       |
| binlog.000012     | 157      | No       |
| binlog.000013     | 157      | No       |
| binlog.000014     | 180      | No       |
| binlog.000015     | 180      | No       |
| binlog.000016     | 157      | No       |
+-----+-----+-----+
12 rows in set (0,08 sec)

mysql>

```

2. Elimina todos os logs binarios ata un específico (mysql-bin.000010) usando o seguinte comando:

```

mysql> SHOW BINARY LOGS;
+-----+-----+-----+
| Log_name          | File_size | Encrypted |
+-----+-----+-----+
| binlog.000005     | 180      | No       |
| binlog.000006     | 180      | No       |
| binlog.000007     | 180      | No       |
| binlog.000008     | 180      | No       |
| binlog.000009     | 180      | No       |
| binlog.000010     | 157      | No       |
| binlog.000011     | 157      | No       |
| binlog.000012     | 157      | No       |
| binlog.000013     | 157      | No       |
| binlog.000014     | 180      | No       |
| binlog.000015     | 180      | No       |
| binlog.000016     | 157      | No       |
+-----+-----+-----+
12 rows in set (0,08 sec)

mysql> PURGE BINARY LOGS TO 'mysql-bin.000010';
ERROR 1373 (HY000): Target log not found in binlog index
mysql> PURGE BINARY LOGS TO 'mysql.000010';
ERROR 1373 (HY000): Target log not found in binlog index
mysql> PURGE BINARY LOGS TO 'binlog.000010';
Query OK, 0 rows affected (0,01 sec)

mysql>

```

PURGE BINARY LOGS TO
'mysql-bin.000010';

3. Confirma que os logs se eliminaron correctamente e que os que se deixaron son os esperados.

```
mysql> SHOW BINARY LOGS;
+-----+-----+-----+
| Log_name          | File_size | Encrypted |
+-----+-----+-----+
| binlog.000010     | 157       | No        |
| binlog.000011     | 157       | No        |
| binlog.000012     | 157       | No        |
| binlog.000013     | 157       | No        |
| binlog.000014     | 180       | No        |
| binlog.000015     | 180       | No        |
| binlog.000016     | 157       | No        |
+-----+-----+-----+
7 rows in set (0,00 sec)

mysql>
```

Preguntas de seguimento:

- Que precaucións debes tomar antes de eliminar manualmente os logs binarios nun servidor con réplicas?
Tes que asegurar que todas as réplicas teñen aplicados todos os logs ata o que planeas eliminar.
- Que diferenzas hai entre usar `PURGE BINARY LOGS` e eliminar os ficheiros directamente no sistema de arquivos?
Usar ese comando é o método seguro, xa que MySQL xestiona o proceso de forma interna. Eliminar os ficheiros manualmente no sistema de arquivos pode provocar corrupción de datos ou inconsistencias.

5. Configurar o Limite de Tamaño dos Logs Binarios

Obxectivo: Configurar un límite de tamaño para os logs binarios para evitar que ocupen demasiado espazo en disco.

1. Modifica o ficheiro de configuración de MySQL para establecer o parámetro `max_binlog_size` a 100 MB.

```
[mysqld]
log_error = /var/log/mysql/error.log
general_log_file = /var/log/mysql/general.log
general_log = 1
slow_query_log = 3
slow_query_log_file = /var/log/mysql/slow-query.log
long_query_time = 3
expire_logs_days = 10
max_binlog_size = 100M
```

2. Reinicia o servidor MySQL para aplicar a configuración.

```
eu@ubu:/etc/logrotate.d$ sudo service mysql restart
eu@ubu:/etc/logrotate.d$
```

3. Realiza varias operacións na base de datos e verifica que se crean novos arquivos de log cando o tamaño do actual alcanza 100 MB.

```
mysql> CREATE DATABASE rubenrf;
Query OK, 1 row affected (0,01 sec)

mysql> SHOW DATABASE;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'DATABASE' at line 1
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| rubenrf |
| sys |
+-----+
5 rows in set (0,04 sec)

mysql> SHOW BINARY LOGS;
+-----+-----+-----+
| Log_name | File_size | Encrypted |
+-----+-----+-----+
| binlog.000010 | 157 | No |
| binlog.000011 | 157 | No |
| binlog.000012 | 157 | No |
| binlog.000013 | 157 | No |
| binlog.000014 | 180 | No |
| binlog.000015 | 180 | No |
| binlog.000016 | 180 | No |
| binlog.000017 | 351 | No |
+-----+-----+-----+
8 rows in set (0,00 sec)
```

4. Comproba a configuración executando:

```
SHOW VARIABLES LIKE 'max_binlog_size';
```

```
mysql> SHOW VARIABLES LIKE 'max_binlog_size';
+-----+
| Variable_name | Value      |
+-----+
| max_binlog_size | 104857600 |
+-----+
1 row in set (0,01 sec)
```

Preguntas de seguimiento:

- Que impacto pode ter un tamaño de log binario moi grande ou moi pequeno no rendemento do sistema?

Un tamaño moi grande pode facer que o log tarde moito en ser escrito e que se ralentice.

Un tamaño moi pequeno pode crear demasiados ficheiros de log, o que pode aumentar a sobrecarga.

- Como poderías combinar esta configuración con `expire_logs_days` para optimizar o uso do espazo en disco?