

MySQL for System Administrators

der.hans - <https://www.LuftHans.com/talks/>

MySQL for System Administrators

LCA sysadmin miniconf
2021Jan23 @ 12:15
Melbourne

der.hans
CDE
Object Rocket, a rackspace company
<https://www.ObjectRocket.com/>

Yes, we're hiring :)

ObjectRocket
<https://www.objectrocket.com/careers/>

Rackspace Technologies
<https://rackspace.jobs/>

Upcoming Presentations

- List of Some Upcoming and Previous Talks and Publications
 - <https://www.LuftHans.com/talks>

[LH talks.qr] | *LH_talks.qr.png*

Social Media and Fediverse

- FLOX_advocate on Mastodon
 - https://floss.social/@FLOX_advocate
- LuftHans on PLUME
 - <https://fediverse.blog/~LuftHans>
- LuftHans on Freenode IRC
 - usually in #LOPSA, #PLUGaz and #LibreLounge

[FLOX advocate.Mastodon.qr] | *resources/FLOX_advocate.Mastodon.qr.png*

Default MySQL prompt

```
MySQL — Konsole <2>
owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current
input statement.
mysql> █
```

```
MySQL — Konsole <2>
owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current
input statement.
mysql> █
```

Oh the monotony!



Percolating Selzer

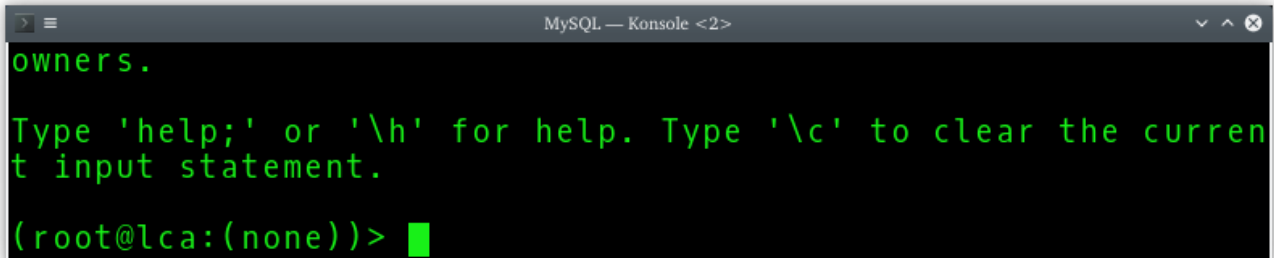
MYSQL_PS1

MYSQL_PS1 example

```
export MYSQL_PS1="(\u@\h:\d)> "
```

```
$ grep MYSQL_PS1 ~/.bashrc
export MYSQL_PS1="(\u@${HOSTNAME%.*.*}:\d)> "
$
```

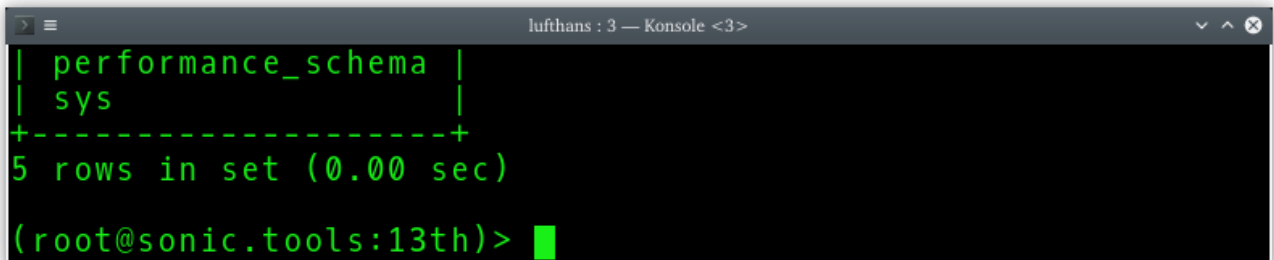
MySQL shells, viva la difference



```
MySQL — Konsole <2>
owners.

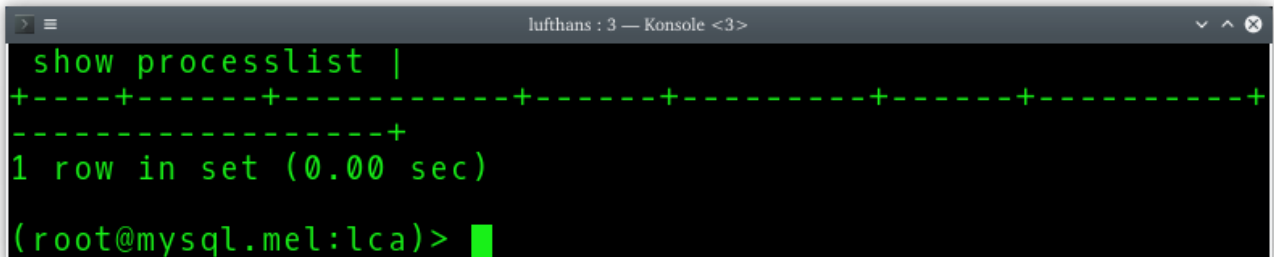
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

(root@lca:(none))> █
```



```
lufthans : 3 — Konsole <3>
| performance_schema |
| sys                 |
+-----+
5 rows in set (0.00 sec)

(root@sonic.tools:13th)> █
```



```
lufthans : 3 — Konsole <3>
show processlist |
+---+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

(root@mysql.mel:lca)> █
```

Cluster to three

- that's clusterssh hitting 3 boxen in parallel
- still needs 2 passwords :(

OpenSSH: the Home Game



Non-automagic authentication

```
$ mysql -u root -p password
```

- ps auxw
- Shell history
- ~/.mysql_history
- Copy and paste of command and output

Interactive authentication

```
$ mysql -u root -p
```

Automagic authentication

- ~/.my.cnf

- check /root/.my.cnf
- /etc/mysql/debian.cnf
- MYSQL_PWD
 - use from a config file

Authorization / Privileges

- Grant / Revoke
- Read-only: SELECT
- Read-write: SELECT, DELETE, INSERT, UPDATE

Stored Procedures

SQL SECURITY

DEFINER

INVOKER

mysqldump

Use for schema dumps

Include `mysql.proc` to preserve routine creation timestamps

```
--no-data --routines --skip-add-locks --skip-opt --triggers --all-databases
```

Percona XtraBackup

Cool tool, still uses a lot of resources

Snapshots

Put MySQL data on snapshotable filesystem

Snapshot still requires short read-lock

`mylvmbackup` works with LVMv2

Log files

`/var/log/mysql/`

- Error log

- Slow query log
- General log
 - Careful on busy DBen

Querying Data

Use the tools we know

Build your own pipeline



Use your favorite CLI tools

sed | grep | awk | cut | sort | uniq

Sysadminny examples

find horsey music

```
$ mysql -e "select album from music" | grep -i horse
```

show root authorized from other than localhost

```
$ mysql -B -e "select user, host from mysql.user" | awk '$1 == "root" && $2 !~ /localhost|127.0.0.1|::1/'
```

as of 8.0.22, was something else before

```
$ mysql -e "show replica status\G" | grep -E  
'Master_Host|Slave_.*_(State|Running)|Seconds_Behind_Master|Last_.*_Err'
```

libreadline

```
mysql> pager less
```

DB stuff

- Use InnoDB
 - Don't change internal databases
 - mysql.*
 - information_schema.*
 - performance_schema.*
- Use file_per_table
- For faster shutdowns
 - `set global innodb_max_dirty_pages_pct = 0;`

Character sets

Always specify character set when creating a DB or table

Or get used to Swedish

Community

- MySQL, Percona and MariaDB, Oh my!
- Oracle stewardship
- Competition
- Cooperative competitive

Resources

- Site: MySQL documentation
- Site: Percona's MySQL Performance blog
- Site: TokuDB blog
- Book: High Performance MySQL
- Tool: Percona Toolkit
- Conf: Percona Live
- Conf: SCaLE's MySQL track

Thank You

Credits

Thanks to the LCA organizers and other volunteers for running a conference for us to enjoy

Thanks to the FLOSS database community in its many forms

Thanks to Brian for the Open SSH Home game image

Thanks to OpenBSD and OpenSSH for that critical tool

Mahlzeit!