Making MySQL Administration a Breeze
A look into a MySQL DBA's toolchest

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Overview

• Tools for Linux/Unix only
• Toolkits (script collections) and individual tools with a MySQL focus
• Not covering generic base OS tools like `vmstat`, `iostat` or `top`
• Open Source Software
Maatkit

- http://maatkit.org/
- Perl script collection
- >25 tools
- All tools are standalone
- Minimal dependencies
- Docs embedded in the tools
- Exhaustive test suite
Openark kit

- Python script collection
- 10 tools
- BSD License
- Written by Shlomi Noach
Kontrollkit

- [http://kontrollsoft.com/software-kontrollkit](http://kontrollsoft.com/software-kontrollkit)
- A collection of 13 scripts for making your daily MySQL DBA responsibilities easier
- Perl, Python, Shell
- Formerly known as Monolith Toolkit
- Maintained by Matt Reid (Kontrollbase)
Hack MySQL Kit (hmk)

• http://hackmysql.com/
• 4 tools (C, Perl)
  – mysqlreport - Make easy-to-read MySQL status reports.
  – mysqlsla - Simple, lightweight MySQL log parsing.
  – mysqlidxchx - Checks tables for unused indexes.
  – mysqlsniffer - MySQL protocol sniffer.
• GPL
• Written by Daniel Nichter (Maatkit)
User account administration
Securich

- http://www.securich.com/
- Written by Darren Cassar (aka “MySQL Preacher”)
- Implemented as Stored Routines
- Roles & user groups
- Cloning of user accounts
- Flexible privilege assignment
- Improved password handling
- Fast blocking of user accounts
oak-block-account

- Block or release connections for specific accounts
- Without changing privileges
- Optionally kill any existing connections

```
$ oak-block-account -u root \
    -ask-pass --account-user=<someuser>
```
Monitoring
mytop

- http://jeremy.zawodny.com/mysql/mytop/
- A top clone for MySQL
- Written in Perl
- Console based
- Monitoring of threads and overall performance
innotop

- http://code.google.com/p/innotop/
- MySQL/InnoDB transaction/status monitor, inspired by mytop
- Perl
- Monitoring of
  - Replication status
  - Queries
  - InnoDB Transactions, Locks...
mycheckpoint

- http://code.openark.org/forge/mycheckpoint
- Python
- Monitoring utility with a strong emphasis on user accessibility to monitored data
- SQL oriented: charts, reports and advanced metrics are generated on the fly with views.
Backup
mk-parallel-dump/restore

- Multi-threaded SQL dumps
- One subdirectory per DB
- Dump Compression
- Backups can be split up into chunks
- Saves binlog position
- Supports regular Expressions
mydumper

- [https://launchpad.net/mydumper](https://launchpad.net/mydumper)
- Developed in C (glib, pcre)
- Parallel **Data** Dumps
- Easy to parse output
- Regular expressions
- **Consistency**
  - Snapshot across all threads
  - Stores Master/Slave binlog positions
xtrabackup

- https://launchpad.net/percona-xtrabackup
- Online backup for InnoDB / MyISAM
- 2010-04-12: Version 1.2 (incl. Windows)
- In my.cnf:
  
  [xtrabackup]
  target_dir = /home/backups

- Backup command:
  $ xtrabackup -backup
mylvmbbackup

• [http://www.lenzg.net/mylvmbbackup/]()  
• Perl Script  
• Fast creation of MySQL backups using LVM-Snapshots (Linux)  
• Supports tar, rsync or rsnaps to back up the data (rdiff soon)  
• Archive names with timestamps
Auditing/Security
oak-security-audit

• Regular, automatic checking of
  – Non-local root-accounts
  – Anonymous user accounts
  – Accounts without a hostname
  – Accounts using empty or identical passwords
  – Non-root accounts with full privileges

$ oak-security-audit \
  -u root --ask-pass
Performance tuning
MySQL Tuning Primer

- [https://launchpad.net/mysql-tuning-primer](https://launchpad.net/mysql-tuning-primer)
- Shell script by Matthew Montgomery
- Takes information from "SHOW STATUS LIKE..." and "SHOW VARIABLES LIKE..."
- Attempts to produce sane recommendations for tuning server variables
- Inspired by Gert Dewit's MySQL AR
mysqltuner

- https://launchpad.net/mysqltuner
- Perl
- Examines the database environment
- Provides performance tuning data and recommendations.
- Inspired by the MySQL Tuning Primer

$ mysqltuner.pl --recommend
   --config tuner-default.cnf
mysqlreport

• Part of the HackMySQL toolkit
• Well-documented Perl script
• Reports important MySQL status values
• Transforms SHOW STATUS values into an easy-to-read report
• A better alternative to manually interpreting SHOW STATUS output
• Must-read: “The Guide To Understanding mysqlreport”
mext

- http://code.google.com/p/aspersa/
- Shell script
- BSD license
- Runs `mysqladmin extended-status` and formats it nicely
- Can also read from saved files
- Supports incremental, differential and relative output
Replication
Monitoring replication

- **mk-heartbeat**
  - Uses separate heartbeat table
  - Frequently updates a time stamp on the master and measures replication delay
  - Master and slave clocks must be in sync

- **mk-table-checksum**
  - Performs an online replication consistency check
  - Checksums MySQL tables on one or many servers
Monitoring replication (Cont.)

• `oak-get-slave-lag`
  – Reads master status and iterates through `SHOW SLAVE STATUS`
  – Triggers an error if threshold is reached

• `oak-show-replication-status`
  – Shows how far behind replicating slaves are on a given master
Replication maintenance

- **oak-purge-master-logs**
  - Purges master logs while considering the replicating slaves

- **mk-slave-find**
  - Connects to a MySQL replication master and finds its slaves
  - Prints a tree-like view of the replication hierarchy

- **mk-slave-move**
  - Move a MySQL slave around in the replication hierarchy
Questions, Comments?
Thank you!

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