jason(7) - cloud and database-wrangler - Linux man page

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AUTHOR

NAME

jason tevnan - cloud and database-wrangler with a penchant for automation and sous vide cooking

SYNOPSIS

jason [–store SQL|NOSQL] [–administrate] [–automate] [–monitor] [–virtualize] [–lead] [–think]

DESCRIPTION

I have been around and seen some stuff, but am the first to admit it when i am out of my league. I pursue issues with a passion (as any good DBA would) and don't settle for it just works. I love learning new technologies and wrapping my head around new paradigms, ideally while enjoying dark-roast coffee at my standing desk.

OPTIONS

–store=SQL

MySQL is my true love.

- Verifying database workloads, identifying slow queries, tuning innodb settings, while providing an HA database can be a lot of fun

- Scaled Runtastic's core database starting at 1M users to 99M users and the ability to handle 100k QPS
- Partitioning a table or verifying the innodb engine status, I love it

Oracle is where i cut my teeth on.

- Had to learn on highly performant, always-on database systems
- Learned what a missing index can do, which queries to avoid and how to find the meaning of all those v$ views
- The experience I gathered understanding B-Tree index look-ups, helped me to understand look-ups across all database systems

PostgreSQL is interesting

- Used it with all its geo-spatial features for OpenStreetMap
- Automated replicating to another database with slony before 9.0 came out with log shipping
- Automated replication and fail-over with repmgrd
- Had lots of fun automating pgbouncer with consul as a HA write endpoint
- Housekeeping functions took some getting used to

–store=$NOSQL$

MongoDB is a challenge to wrap my head around. Schema-less?!

- Attended admin training courses to understand: schema-less can also be a curse since it is incredibly challenging when defining a scalable, future proof indexing concept
- Enjoy shard key definitions for collections to ensure the fewest scatter-gather queries, Optimizing storage read ahead settings and playing with Wiredtiger cache options
- Have lots of experience running the robust HA setup which is very easy to run from an operations standpoint

Cassandra forgives a lot.

- I find the replication approach and ring setup amazingly robust with anisotropic read repairs and the ability to stream and receive data while accepting queries
- Scaled Runtastic's cluster from 4 to 8 to 32 and finally to 64 nodes with almost no downtime

Redis and Redis cluster are my nemesis.

- Run instances under normal conditions as well as high load condition

- Have found the right balance between ram and IOs to ensure that they can flush to disk
- Since Redis is the core of many ruby queueing solutions, I have been forced to face my fears, tuning BGSAVE cycles and finding the optimal fsync to AOF ratios

–administrate

LAMP

- Traditional stack (e.g. apache2, nginx)
- Extended web servers (e.g. trinidad, passenger)

Loadbalancers

- Experience debugging performance bottlenecks
- Setup instances which handle > 80k rpm
- HaProxy, nginx

Golden Oldies

- LOTS of experience with the normal Linux stack (e.g. bind, dhcpd, ldap, openvpn, ssh, memcached . . .)
- After > 15 years experience with all aspects of the os, i still think Linux is the best for servers

Distributed fun

- zookeeper
- rabbitmq
- activemq
- consul (for service discovery)
- All in clusters running at least 3 nodes
- Very interesting (i.E. challenging) to scale

–automate

Chef

- Apart from coffee, my greatest passion is automation
- Try to ensure that all infrastructure code has full test coverage
- Test-Kitchen, inspec and chefspec are my friends
- While Chef is not the answer to world hunger, an automation tool with its feature set especially regarding testing and auditing is inevitable in today's world of highly fluctuant infrastructure.

–monitor

Nagios3

- Wrote and deployed numerous checks
- Running an nrpe based deployment with full automation
- > 10k checks distributed across 1k servers

Collectd

- Wrote and integrated checks for nfs-iostat and mongodb
- Running and fully automated with a graphite front end
- Collecting > 100k metrics an hour

Cacti

- Implemented Percona's graphing suite for mysql
- Collect all core database metrics from connections to innodb flush times

Prometheus

- Alert-manager, recording-rule, exporter - oh my. Very powerful solution with an ever growing community.
- Experience with some storage engine and memory shenanigans
- Visualization with graphana

Cloud Services

- Very familiar with New Relic, Pingdom, Dynatrace, PagerDuty

–virtualize

OpenNebula

- Experienced every phase of growth from 8 hypervisors to 60
- Have run opennebula as an EC2 replacement as a native cloud (extensive API) and as a simple server manager
- In the process of automating setup and configuration via teraform

KVM

- Qemu based
- NFS and Ceph storage backend

Virtualbox

- Runtastic's pre-production system ran on vbox for a long time (hard to imagine)
- Mainly running older cookbook tests with vbox

LXC

- As a plugin for new test-kitchen deployments
- Played around a bit LXD

Cloud Services

- Automate Google Cloud Platform (GCP) and Azure instance deploys with terraform
- Experience the joys (its so easy) and pains (why is the db rebooting?) of not controlling your hypervisors

–think

imho

- vim > emacs
- zsh > bash
- tmux > screen

HISTORY

GitLab (04.2017 - .)

Senior Production Engineer

- Memeber of a small fully remote team
- Scale gitlab.com (millions of users) using GitLab (typically built for thousands of users) in a cloud environment
- Collaborate on developing HA solution for PostgreSQL in the GitLab omnibus package
- Strove to fully automate environments from terraform to multi-tiered HA stack
- Build a back-end agnostic solution for secrets in chef
- Use chef to automate all-the-things

Runtastic GmbH (04.2012 - 03.2017)

Infrastructure Architect

- Define setup and strategy for each upcoming stack
- Ensure scalability of technologies and concepts
- Setup workflows for automation and deployments

Head of Operations

- Organize small team while fighting to stay ahead of growth
- Very challenging for me to lead a team of inexperienced ops and shaping our infrastructure

Operations Engineer

- Nested under the web development team
- Start automation
- Improve uptime through monitoring and derive future actions
- Conceptualize private cloud based on opennebula

APEX Gaming (04.2010 - 03.2012)

Head of Customer Care

- Setup ticketing workflow based on ITIL best practices

- Created automated master/slave setup with slony for PostgreSQL 8.3/8.4
- Spent time training staff in the casino headquarters to be first level support techs

Knapp Systems Integration (09.2007 - 03.2010)

Technical Project Lead

- Introduce metric collection to visualize hardware utilization for the customer
- Manage customer care projects
- Responsible for everything from planning to doing
- Largest project was complete warehouse upgrade to a medium sized 24x7 cosmetic distributed
- Organized and held numerous on-site training courses around the world

Second Level Support Engineer

- Field production problems in a 24x7 environment
- Handle issues ranging from PLC (Siemens S7) to tablespace cleanups on a core Oracle instance

FH Joanneum - University of Applied Science

Bachelor of Science in Software Engineering

- Extra-occupational program

SEE ALSO

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BUGS

Prone to flu if left in rain.

AUTHOR

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