

A “Victorinox” for PostgreSQL DBA

Postgres Toolkit

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@snaga

pgcon2015

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What is “Postgres Toolkit”?

- A collection of scripts and utilities to manage PostgreSQL servers
- Allows DBA to perform complicated tasks with single commands
- Focusing on frequent tasks for PostgreSQL DBA to improve their productivity and quality of operations
- Distributed under the open source license (GPLv2)

Postgres Toolkit 0.2.1

- Released on May 2015
 - Consists of 13 scripts
- Supported Platforms and Versions
 - Red Hat Enterprise Linux 6 / CentOS 6
 - Red Hat Enterprise Linux 7 / CentOS 7
 - Ubuntu 14.04 LTS
 - PostgreSQL 9.0~9.4
- Source code
 - <https://github.com/uptimejp/postgres-toolkit>
- Documentation
 - <http://postgres-toolkit.readthedocs.org/>

Installation

```
[root@devvm04 ~]# curl -L http://dl.uptimeforce.com/postgres-toolkit/install.sh | sh
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           %         %         Dload  Upload  Total  Spent    Left  Speed
140    280    140    280     0     0     550     0  --:--:--  --:--:--  --:--:--   5833
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           %         %         Dload  Upload  Total  Spent    Left  Speed
100  275k  100  275k     0     0  307k     0  --:--:--  --:--:--  --:--:--   486k
opt/uptime/postgres-toolkit-0.2/
opt/uptime/postgres-toolkit-0.2/bin/
opt/uptime/postgres-toolkit-0.2/bin/pt-config
opt/uptime/postgres-toolkit-0.2/bin/pt-snap-statements
opt/uptime/postgres-toolkit-0.2/bin/pt-proc-stat
(...snip...)
opt/uptime/postgres-toolkit-0.2/lib/DirectoryTree.pyc
opt/uptime/postgres-toolkit-0.2/lib/TcpdumpWrapper.py
opt/uptime/postgres-toolkit-0.2/LICENSE
[root@devvm04 ~]# ls /opt/uptime/postgres-toolkit-0.2/
LICENSE  bin  docs  lib  share  src
[root@devvm04 ~]# ls /opt/uptime/postgres-toolkit-0.2/bin/
pt-config          pt-replication-stat  pt-stat-snapshot      pt-xact-stat
pt-index-usage    pt-session-profiler  pt-table-usage        verifychecksum.bin
pt-kill           pt-set-tablespace    pt-tablespace-usage
pt-proc-stat      pt-snap-statements   pt-verify-checksum
[root@devvm04 ~]#
```

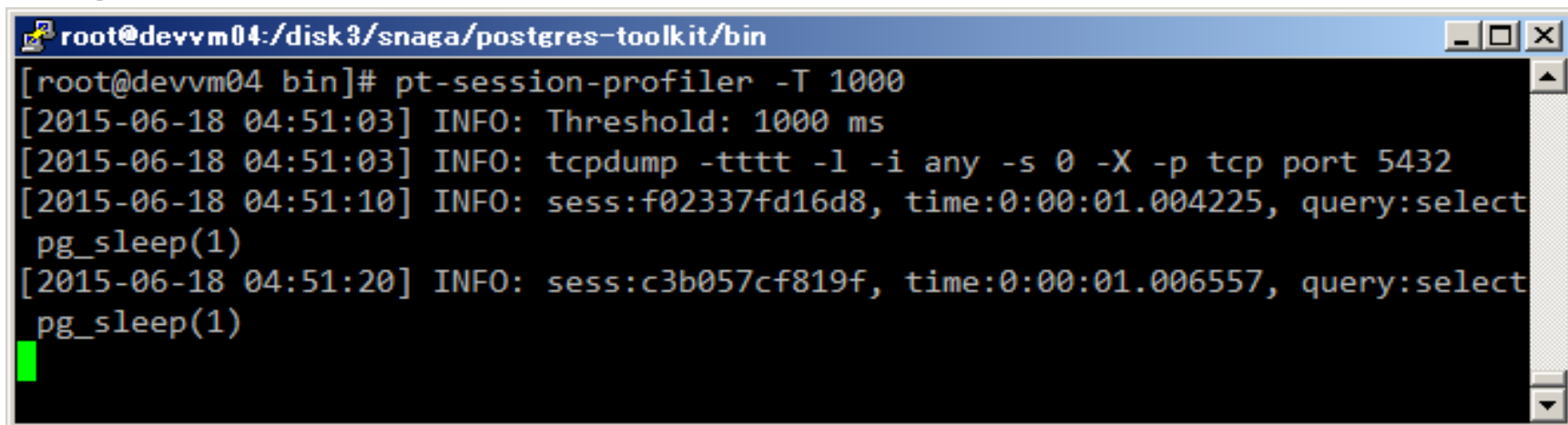
<http://postgres-toolkit.readthedocs.org/en/latest/install.html#id2>

Command list

Command	Description
pt-config	Show and set parameters in postgresql.conf, the PostgreSQL configuration file, without using editor (like emacs or vi.)
pt-index-usage	Show index usage, including index size, tuple/block access statistics, timestamp of vacuum/analyze, and tablespace name at once.
pt-kill	Send signal to a backend to cancel a running query or to terminate the backend safely.
pt-proc-stat	Show status and process statistics, including disk I/O and network I/O, of each process in the PostgreSQL instance.
pt-replication-stat	Show status and statistics of master and slave node(s) at once, which a replication cluster consists of.
pt-session-profiler	Show queries, which exceeded specified elapsed time, by capturing network traffic and analyze it.
pt-set-tablespace	Change tablespace for multiple tables and related indexes at once.
pt-snap-statements	Show statistics of queries which ran in the specified period of time.
pt-stat-snapshot	Take snapshots of several statistics which can be obtained in PostgreSQL, and manage them.
pt-table-usage	Show table usage, including table size, tuple/block access statistics, timestamp of vacuum/analyze, and tablespace name at once.
pt-tablespace-usage	Summarize tablespace usage per database, and show them with available space size of the partition.
pt-verify-checksum	Verify checksums of table and index files in a database cluster at once. (Supported 9.3 or later)
pt-xact-stat	Show several statistics of multiple PostgreSQL instances at once, including number of sessions and number of transactions (commit and rollbacks)

pt-session-profiler

- Uses tcpdump internally.
- Extracts the FE/BE wire-protocol on the fly.
- Prints queries which exceed specific threshold.
- You don't need to change or touch your production PostgreSQL.

A terminal window showing the execution of the pt-session-profiler tool. The window title is 'root@devvm04:/disk3/snaga/postgres-toolkit/bin'. The command executed is 'pt-session-profiler -T 1000'. The output shows two INFO messages: one for the threshold (1000 ms) and tcpdump options, and two for specific sessions with their session IDs, execution times, and the query 'select pg_sleep(1)'.

```
root@devvm04:/disk3/snaga/postgres-toolkit/bin
[root@devvm04 bin]# pt-session-profiler -T 1000
[2015-06-18 04:51:03] INFO: Threshold: 1000 ms
[2015-06-18 04:51:03] INFO: tcpdump -tttt -l -i any -s 0 -X -p tcp port 5432
[2015-06-18 04:51:10] INFO: sess:f02337fd16d8, time:0:00:01.004225, query:select
pg_sleep(1)
[2015-06-18 04:51:20] INFO: sess:c3b057cf819f, time:0:00:01.006557, query:select
pg_sleep(1)
```

[WIP] pgDay Asia 2016

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Who Am I?

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OpenSource, Database and Data Center Engineer. Data Steward. Coffee addicted Geek. Co-founder at Uptime Technologies, LLC. uptime.jp

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🕒 Joined April 2007

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Satoshi Nagayasu @snaga · 55m
No curry. No life. twitpic.com/eea61b

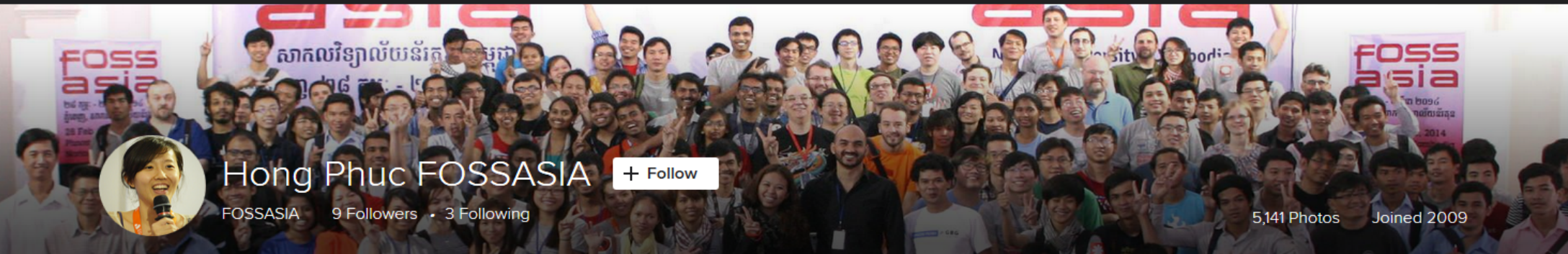
Satoshi Nagayasu @snaga · 10h
Yo



FOSSASIA 2015 Singapore

- March 13th-15th
 - 128 speakers from 27 countries and 900+ attendees.
 - 37 volunteers supported the event.
 - 142 scheduled sessions and lightning talks, and 58 breakout and unconference sessions.





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Let's start thinking of
PostgreSQL in Asia

[WIP]

pgDay Asia @ FOSSASIA 2016

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- FOSSASIA 2016
 - **March 18^h-20th** in Singapore
- As A Joint Event with FOSSASIA 2016
 - 1 Day, 2 Tracks (not fixed yet)
- Still ***“Work In Progress”***, but mark your calendar ***NOW!***

Let's put "PostgreSQL" on the T-shirt next time!

