

POSTGRESQL PROJECT

ITS ORGANIZATION, ITS CONTRIBUTORS

Written by [Guillaume Lelarge](#) / [@g_lelarge](#)

AUTHOR

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 - major contributor
 - ex - pgAdmin dev
 - french translator of the PostgreSQL manual
 - treasurer of PostgreSQL Europe
- Company: [Dalibo](#)
- Date: June 2016

AGENDA

- Organization throughout PostgreSQL's history
 - Issues, and solutions
- Tools used
- Development
 - minor, and release
 - alpha, beta, release candidate, GA
- Different kind of contributors
- Orgs related to PostgreSQL
 - intl NPOs, National NPos, and meetups

PART 1

EVOLUTION

POSTGRESQL

- Free Relational DataBase System (MIT/BSD)
- Very respectful of standards and data
- Great portability
- Awesome community

A BIT OF HISTORY

- 1970: Ingres development
- 1985: Postgres development
- 1995: Adding SQL support
- 1996: code is free
 - project renamed to PostgreSQL
 - creation of PGDG

DEV TOOLS IN 1996

- PostgreSQL Licence (MIT)
- CVS repository
- Mailing lists

DEV CYCLE IN 96

- Patches sent on the mailing list
- ... and committed when a committer had the time to check the patch
- Few committers

CHECKING A PATCH

- Data consistency
- SQL standard
- Performances
- Interesting feature for many people
- Code simplicity
- Documentation

THE COMMUNITY GROWS

- Releases are coming
- One new major release every 10/12 months
- The community grows
 - especially with the 8.0 and 9.0 releases
- The developer community grows too

PROBLEMS START COMING IN

- More developers with less knowledge of the whole code
- More supported platforms

BUILDFARM TOOL

- Webapp to show results of compiling/installing/unit testing
- Perl client making easy to add a compilation node
- Written and maintained by Andrew Dunstan



PostgreSQL BuildFarm

[Home](#) [Status](#) [Failures](#) [Members](#) [Register](#) [Typedefs](#) [GitHub](#) [Email lists and status archives](#)

PostgreSQL BuildFarm Status

Shown here is the latest status of each farm member for each branch it has reported on in the last 30 days.

Use the farm member link for history of that member on the relevant branch.

Legend	= cassert	= debug	= disable-integer-datetimes	= gssapi	= krb5	= nls	= openssl
	= pam	= perl	= python	[tcl] = tcl	= thread-safety	= vpath	= xml

Branch: HEAD			
Alias	System	Status	Flags
narwhal	Windows Server 2003 R2 5.2.3790 GCC 3.4.2 (mingw-special) i686	01:57:23 ago OK [e3ad3ff] Config	[tcl]
piculet	Debian Jessie gcc 5.3 x86-64	04:47:23 ago OK [e3ad3ff] Config	[tcl]
francolin	Debian Jessie gcc 5.3 x86-64	04:47:23 ago OK [e3ad3ff] Config	[tcl]
gull	Debian 8.3 clang 3.8.0 ARMv7	05:40:14 ago OK [e3ad3ff] Config	[tcl]
mastodon	Windows Server 2003 R2 5.2.3790 MSVC 2005 Express 8.0.50727.42 x86	06:57:24 ago OK [e3ad3ff] Config	[tcl]
gualbasaurus	Debian 8.1 gcc 4.9.2 x86_64	07:40:23 ago OK [e3ad3ff] Config	[tcl]

NEW PROBLEMS ARRIVE

- More and more patches
- But still few committers
- Hence a patches waiting list growing:
 - some patches are checked very late in the dev cycle
 - developers starting to be angry
 - final releases being pushed back
 - users and committers angry too

FIRST SOLUTION: COMMITFEST

- At the beginning of the 8.3 dev cycle
- For each new patch, add an entry in the wiki
- Patch reviewers working every two months to empty the patch queue
- Patch reviewing is quicker
- But many reviewers are afraid of big patches

HAVING A BETTER COMMITFEST

- 8.4 development
 - add a commitfest handler
 - create a commitfest webapp
- 9.0 development
 - alpha release packaging

SECOND SOLUTION: MORE COMMITTERS

- 4 new committers during 9.0 dev cycle
- 2 more during 9.3 dev cycle
- 1 more during 9.6 dev cycle
- A total of 22 committers

STILL MORE ISSUES

- More unit testing in the build farm
- But nothing performance-wise

NEW SOLUTION: PERFORMANCE FARM

- Hard to get it right
- Still a WIP

PART 2

TOOLS

COMPILATION TOOLS

- Mostly C Language
 - ISO89
- Standard Linux Toolchain
- Windows Toolchain
 - before 9.2, Visual C++ 2008
 - 9.2, Visual C++ 2012
 - 9.3 and 9.4, Visual C++ 2015
 - since 9.5+, Visual C++ 2015

SOURCE REPOSITORY TOOL

- CVS from the beginning and till 2010
- CVS-Git for 2 years
- Moving to Git mi-september 2010

BUG TRACKER TOOL

- No bugtracker for PostgreSQL
- pgsql-bugs for bugs
- pgsql-* for feature requests
- But... we see some work on this during the last months

TALK TOOL

- All discussions happen on mailing lists
 - mostly
- postgresql-hackers for development
- and many postgresql-* for the rest

COMMITFEST TOOL

- commitfest.postgresql.org webapp
- Written by Robert Haas
- PHP language, PostgreSQL database (what else?)

COMMITFEST TOOL, V2

- commitfest.postgresql.org webapp
- Written by Magnus Hagander
- Python language, though still a PostgreSQL database

Commitfest 2016-09

Search/filter

Shortcuts ▾

New patch

Status summary: [Needs review](#): 58. [Waiting on Author](#): 2. [Ready for Committer](#): 6. [Committed](#): 21. [Rejected](#): 2. [Total](#): 89.

Active patches

Patch	↓	Status	Author	Reviewers	Committer	Latest activity	Latest mail
Bug Fixes							
Fix the optimization to skip WAL-logging on table created in same transaction		Needs review	Heikki Linnakangas (heikki), Michael Paquier (michael-kun)	Michael Paquier (michael-kun)	heikki	2016-04-06 06:11	2016-04-06 06:11
OOM in libpq and infinite loop with getCopyStart()		Needs review	Michael Paquier (michael-kun)	Aleksander Alekseev (a.alekseev)		2016-04-06 06:07	2016-04-19 07:19
Flush slot confirmations on checkpoint		Needs review	Craig Ringer (ringerc)	Stas Kelvich (kelvich)		2016-03-16 07:48	2016-06-05 01:54
pg_receivexlog, pg_basebackup and data durability		Needs review	Michael Paquier (michael-kun)			2016-05-13 06:41	2016-05-13 22:07

BUILDFARM

- Many servers (40)
- Many OSes
- Many compilers
- Many distributions
- Different compilation options

PART 3

THE VARIOUS STEPS OF AN UPGRADE

TWO KINDS OF RELEASES

- Minor: bug and security fixes
- Major: new features

BUG FIX

- First check it actually is a bug
- Fix the bugged release
- Check on every other maintained releases
 - and the next one
- And fix them if appropriate

NEW MINOR RELEASE

- Happens on all maintained stable releases
- Every 2/3 months
 - unless major bug (data corruption and alike) and security issue

NEW MAJOR RELEASE

- Every 12/15 months
- Right after, creation of a new branch
- Development of the next major release starts
 - except for 9.1 and 9.2 where the development of the next release started before the release of the current one

PATCH LIFE CYCLE

- Discussion
 - find the actual issue
 - to search the right fix
- Write the code
- Submit the patch
- Review the patch
- Fix the patch if necessary
- Commit the patch

ALPHA RELEASES

- After each commitfest
- Allow users to test new features without needing to grab the git release
- Allow devs to know if a bug in a specific alpha release has already been fixed... or not
- Not done anymore

FEATURE FREEZE

- Might be very long
- Check latest patches
- Debug, debug, debug
- Translation work
- Advocacy work

BETA RELEASES

- No new features
- Add available translations
- Source packaging
- And some binary packaging
- Common effort from users and devs
 - feature tests
 - compilation tests
 - performance tests

RELEASE CANDIDATE

- Only when there's no bugs left
- Last not much

J-5: PACKAGES

- Tag in the repository
- Build source package
- Send informations to the packagers
- Prepare binary packages

RELEASE DATE

- International press kit
- Announce on the website and on the mailing lists

PART 4

CONTRIBUTORS

CORE TEAM

From left to right, and up to down...

- Tom Lane
- Bruce Momjian
- Magnus Hagander
- Dave Page
- Josh Berkus
- Peter Eisentraut

CORE TEAM DUTIES

- Choosing the right date for a new release
- Contact for security issues
- Decide when the community doesn't reach a consensus

CODE CONTRIBUTORS

- Dev
- Reviewer
- Committer

OTHER CONTRIBUTORS

- All are very important
 - admin team
 - advocacy team
 - speakers
 - translators

CONTRIBUTOR ON A FREE PROJECT: A HOBBY?

- Some do it on their free time
- But most of them are paid for it
 - either by their company
 - or for a specific code writing

PART 5

INTERNATIONAL COMMUNITY

MEETUPS

- In every countries
- Italy
- France (Paris, Lyon, Nantes, Lille)
- United Kingdom
- Sweden

NATIONAL ORGS

- Japan
- France
- Italia
- Russia

MULTI-NATIONAL ORGS

- PostgreSQL Europe
- PostgreSQL US

SOLUTIONS LINUX 2007, JAN 2007



FOSDEM 2007



PGDAY.IT 2007



PGDAY.IT 2007



PGDAY.IT 2007



PGDAY.IT 2007



PGDAY.IT 2007



FOSDEM 2008



PGDAY.EU 2010



PGDAY.EU 2010



PGDAY.EU 2010



FOSDEM 2011



FOSDEM 2011



PGCONF.EU 2016

PGCONF.EU 2016

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PostgreSQL Europe is proud to announce the 8th Annual PostgreSQL Conference Europe which will be held at the [Radisson Blu Hotel Olümpia](#) in Tallinn, Estonia, on November 1-4 2016.

LIST OF NEXT EVENTS

- 2016-07-05, PGDay UK 2016, London, United Kingdom
- 2016-07-06, PGDay'16 Russia, St. Petersburg, Russia
- 2016-09-13 – 2016-09-16, PostgresOpen 2016, Dallas, Texas, United States
- 2016-11-01 – 2016-11-04, PGConf.EU 2016, Tallinn, Estonia

CONCLUSION

- PostgreSQL is a project very much alive
- Trying to find solutions to organization issues
- Trying to incorporate every kind of contributors