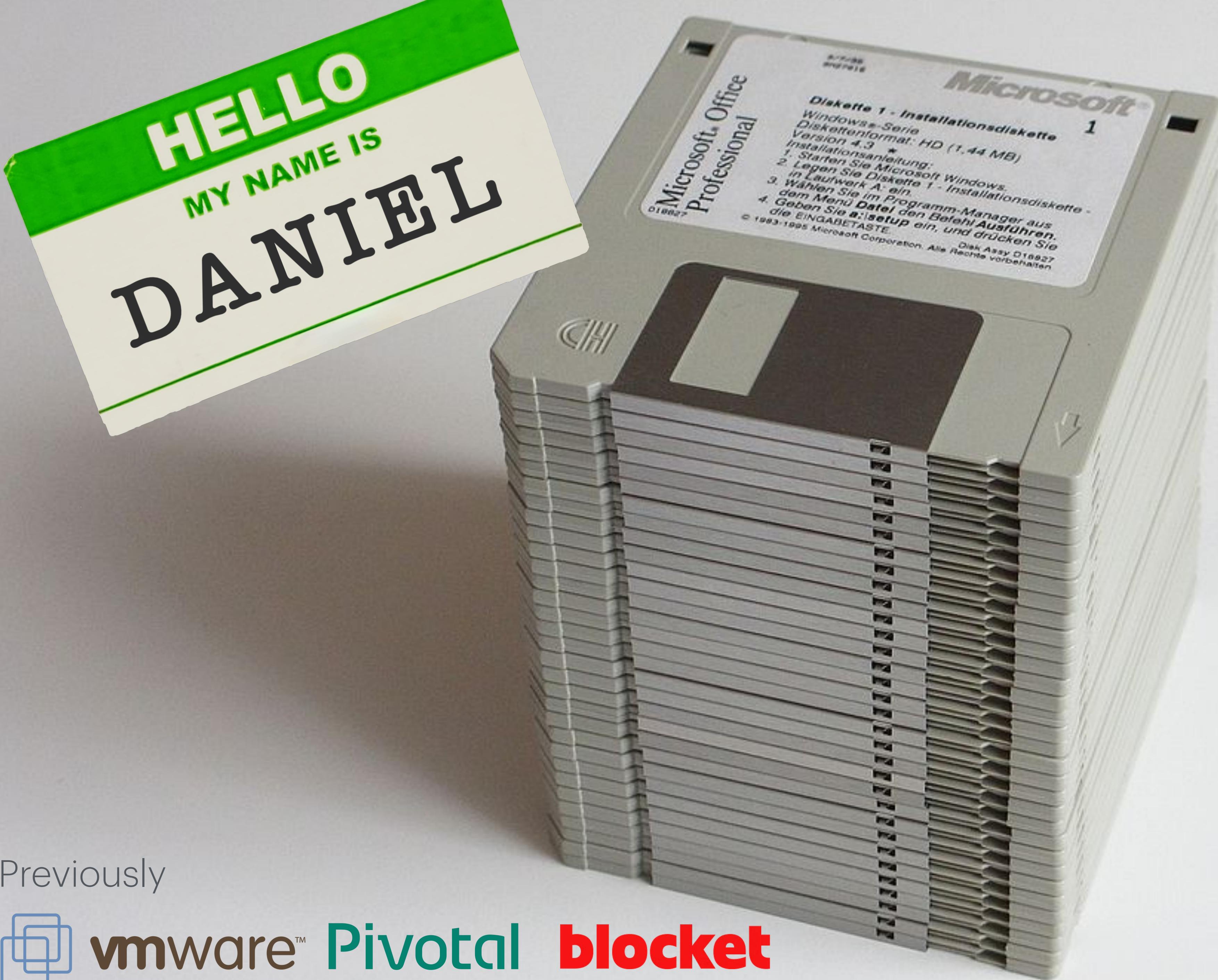




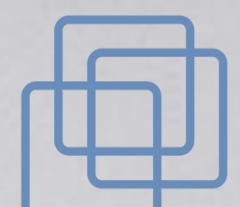
An introduction to the PostgreSQL project

How the world's most advanced open source database is made

Daniel Gustafsson



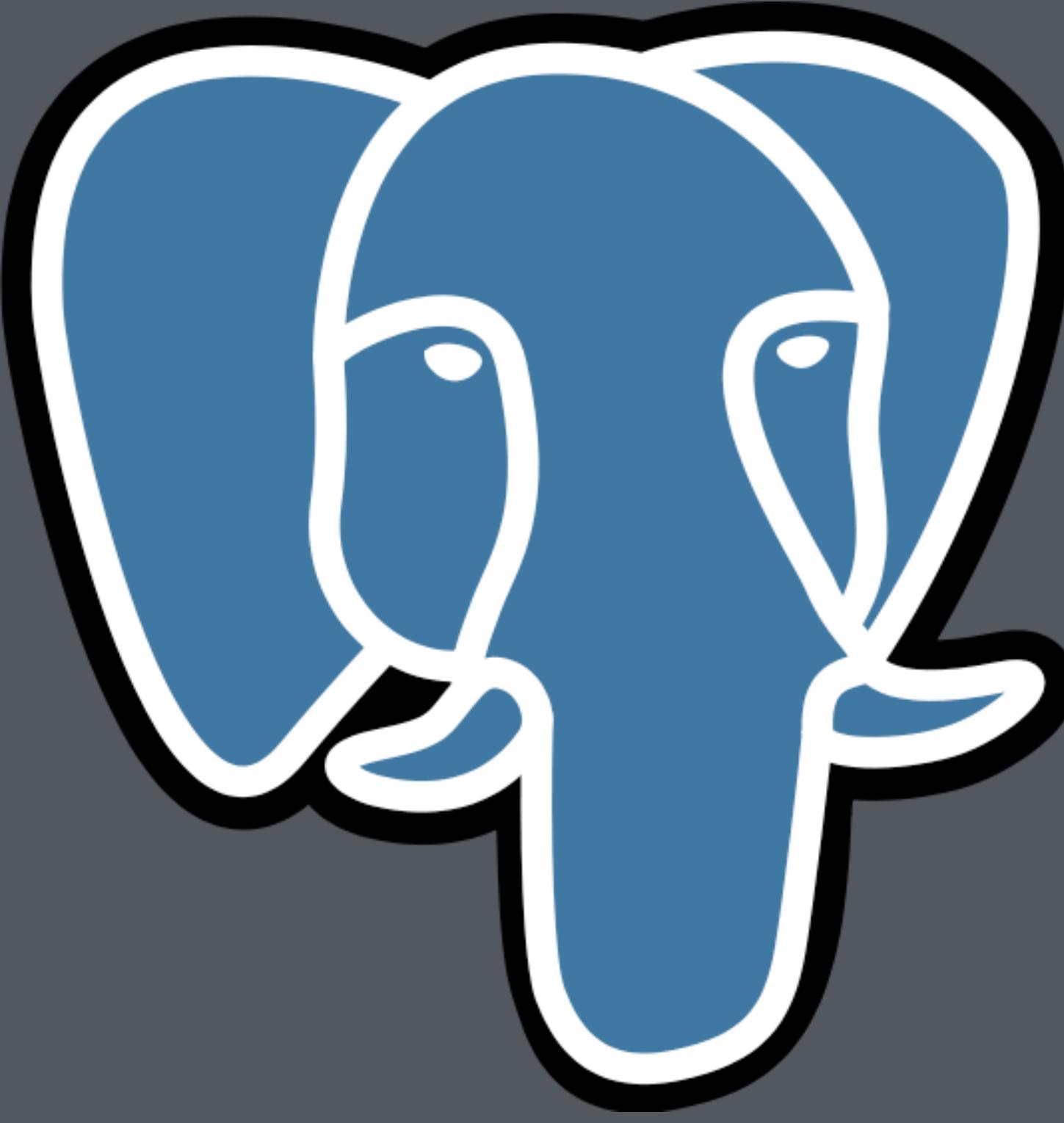
Previously



vmware™ Pivotal **blocket**







Involved since ~ 2010

Major Contributor

Committer

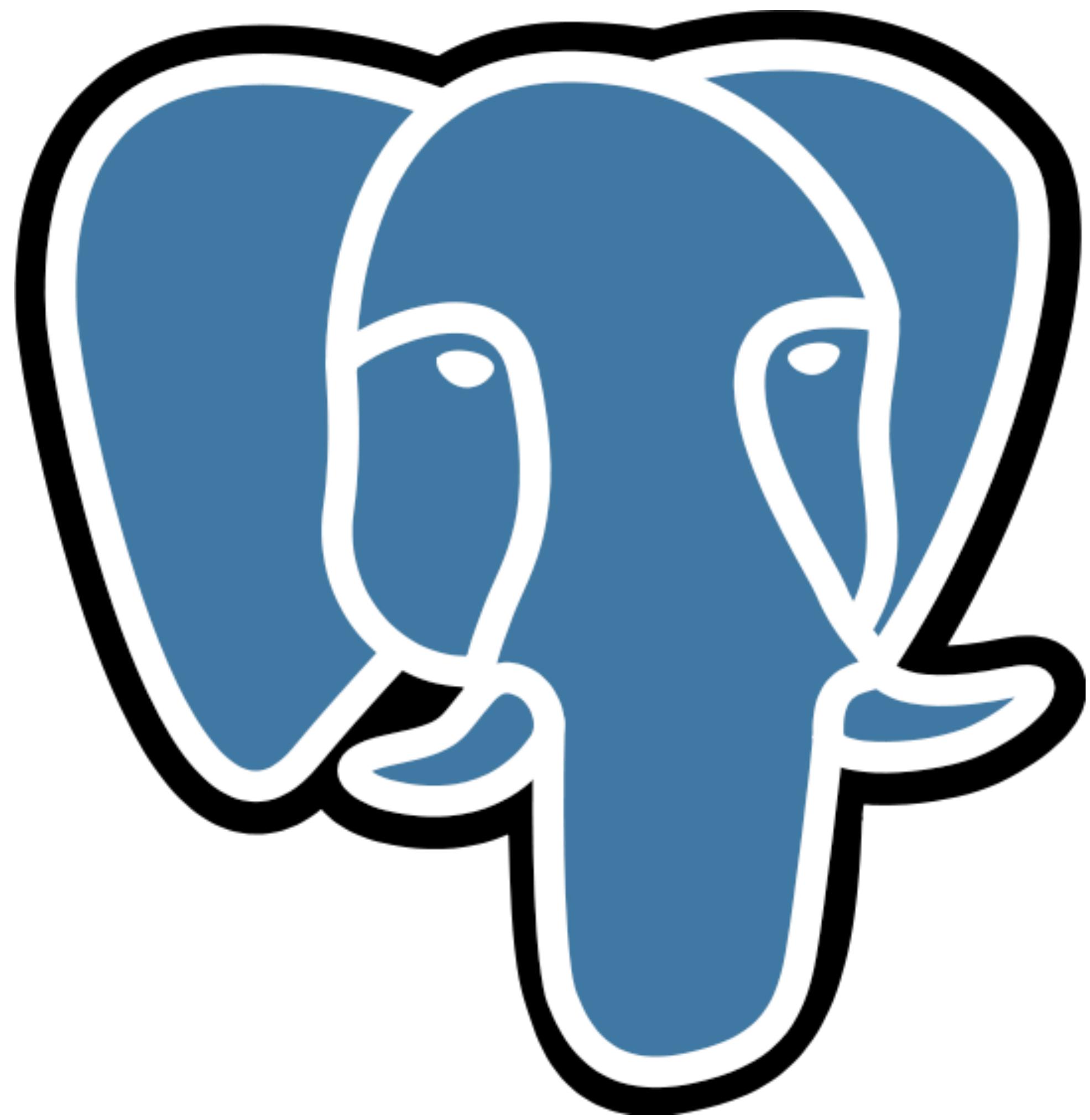
Nordic PGDay

PG Events Canada

.. many more hats



Committer
Core Team
Security Team



What's in a Postgres major release? An analysis of contributions in the v17 timeframe

Claire Giordano



PostgreSQL major contributor & committer
PostgreSQL hacker @ Microsoft
Organizer of Nordic PGDay (since 2014)
PGConf NYC 2024 Talk Selection Team
POSETTE 2024 & 2025 Talk Selection Team
PGConf EU Organizing Committee 2014-2023

The premise





C

A photograph showing a large number of cats of various colors (black, orange, white, grey) scattered across a paved surface. Some are walking, some are sitting, and one is lying down. In the background, there's a grassy hill where more cats are resting.

No shared roadmap

Little governance



A cartoon illustration of a character with orange hair and a red shirt, holding a fan of green dollar bills. The character has a neutral expression and is looking towards the right side of the frame. The background is a light grey.

Liberal License





No Github?

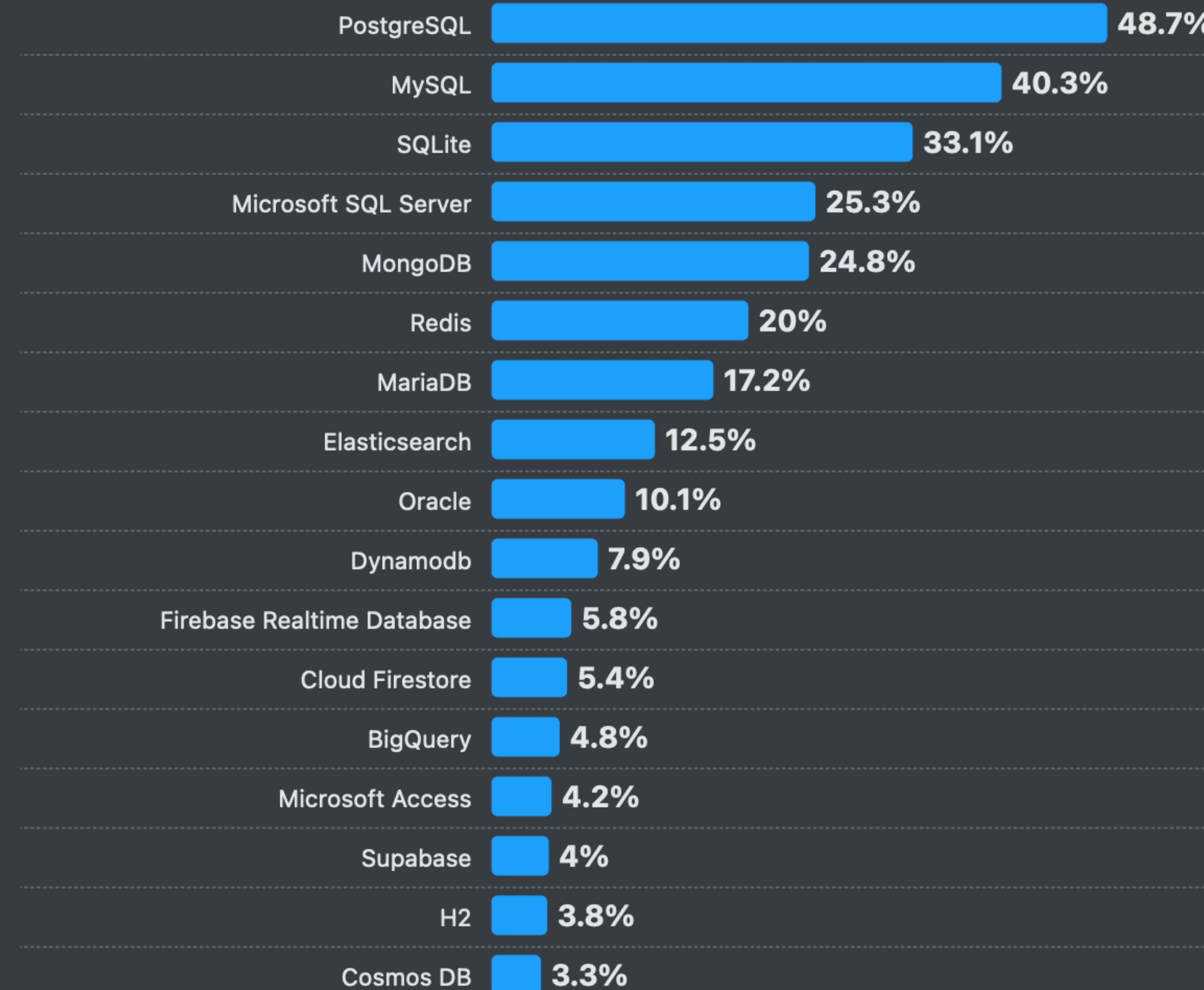
®



2024 Developer Survey

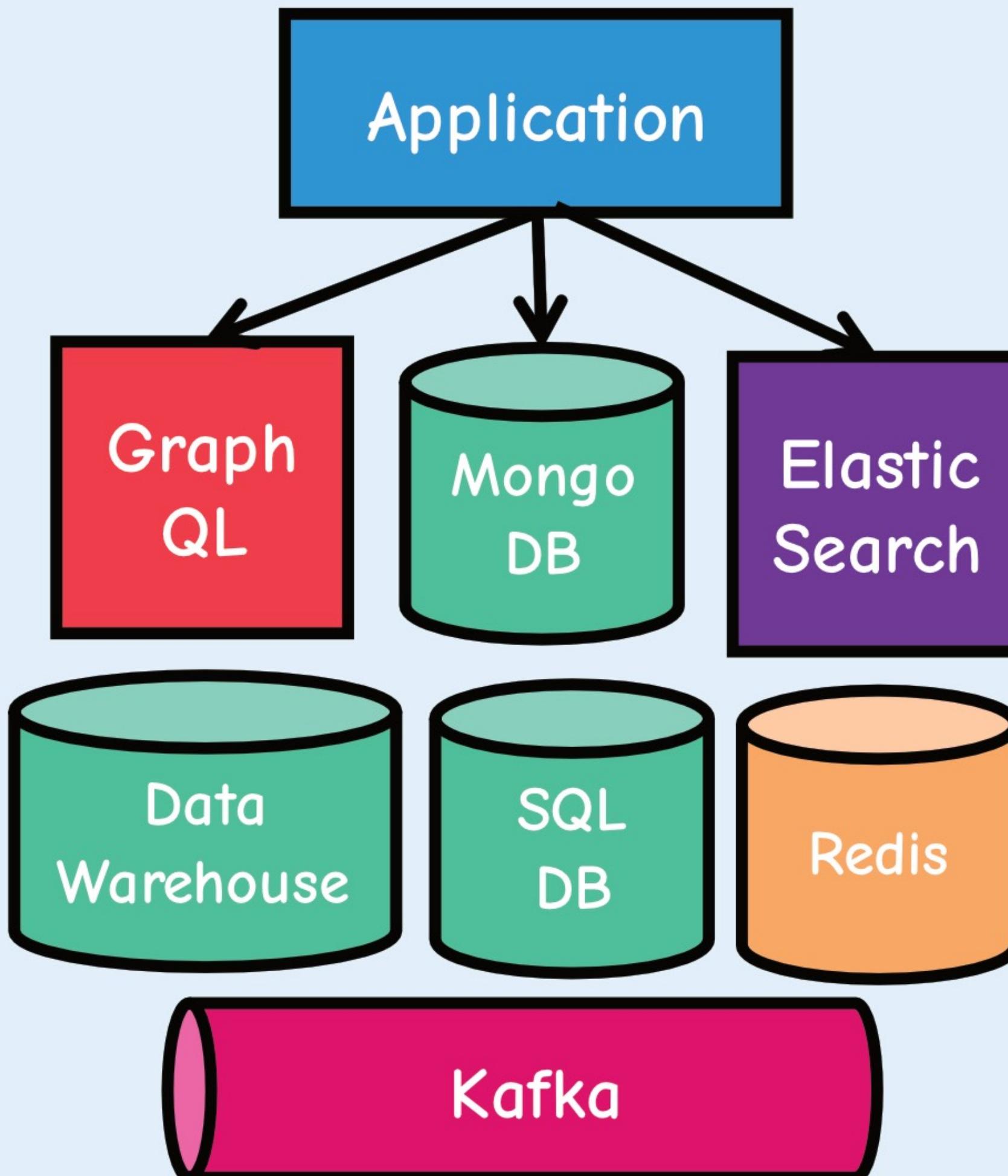
PostgreSQL **debuted in the developer survey in 2018** when 33% of developers reported using it, compared with the most popular option that year: MySQL, in use by 59% of developers. **Six years later, PostgreSQL is used by 49% of developers and is the most popular database for the second year in a row**

All Respondents Professional Developers Learning to Code Other Coders

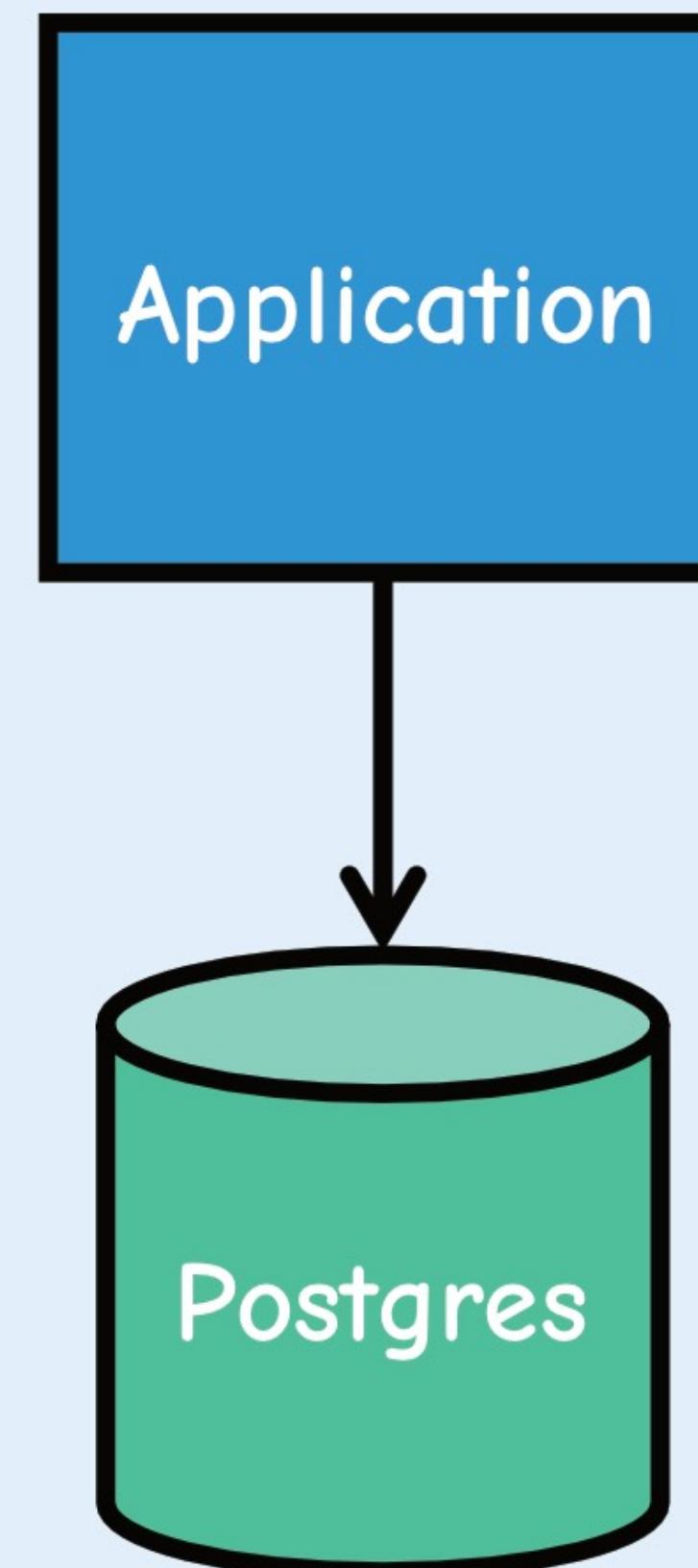


Just use Postgres for Everything

Complex Setup



Just Postgres





OpenStreetMap



Instagram



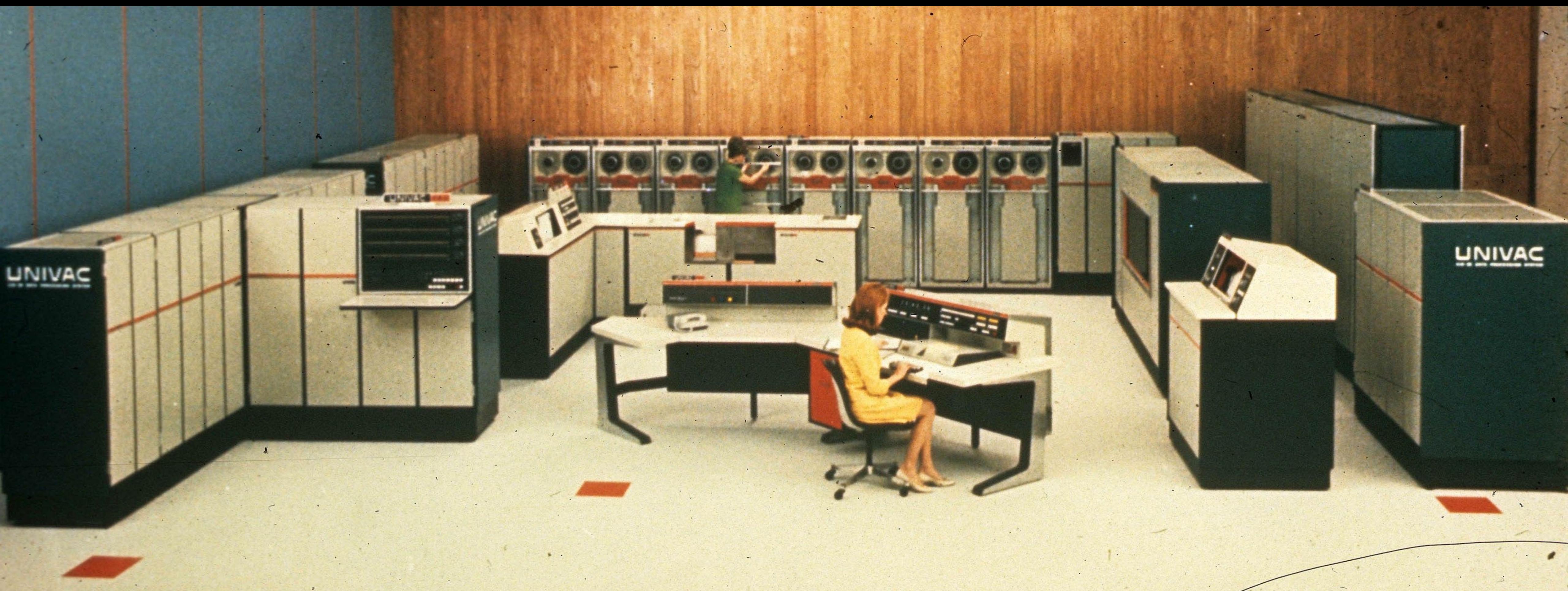
Spotify®

adyen



SMHI

Trustly



Research project at UC Berkeley started
by Michael Stonebraker in 1986

Successor to INGRES

Post INGRES ➔ POSTGRES

No SQL (*the query language was QUEL*)

IBM Informix (then Illustra)

Success was taking focus from research

Berkeley ended the project with the release of POSTGRES 4.2

Postgres95 in 1994

Replaced QUEL with SQL, added psql etc

PostgreSQL and PGDG

Postgres95 1.01 source code imported and
renamed PostgreSQL in July 1996

Bruce Momjian, Marc Fournier, Vadim B.
Mikheev

postgresql.org launched in October 1996

Release 6.0 in January 1997

(/ˌpəʊstgrɛskju'εl/ POHST-gres-kew-EL)

*"Arguably, the 1996 decision
to call it PostgreSQL instead
of reverting to plain Postgres
was the single worst mistake
this project ever made"*

- Tom Lane



@chastell.net 
@chastell

@sickill I agree in general, but want to migrate my current client from MySQL to Postgrayskull and the non-DSL queries are a total pain

11:19 AM · Jun 5, 2015

NEW
FOR
21



CASTLE GRAYSKULL®

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FOR HE-MAN AND HIS FOES



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Action Figure



@chastell.net @chastell

@sickill I agree in general, but want to migrate my current client from MySQL to Postgrayskull and the non-DSL queries are a total pain

11:19 AM · Jun 5, 2015

PostgreSQL
of today

Governance



PostgreSQL does not belong to anyone

PostgreSQL belongs to everyone

Carefully crafted independence to
prevent take-overs and ownership claims

Very few have any obligation to do
anything

Core Team

Committers

Project Committees and

Teams

Contributors

NPOs

Core Team is self appointed

Senior long-time community members

Tie-breaker

Owns permissions on infrastructure

Doesn't really do much..

Criticised for not being democratic

Teams and committees for specialized tasks, often with a need for privacy

Security Team

Sysadmin Team

Code of Conduct Committee

Funds group

Committers are the Postgres equivalent to what other projects call maintainers

Elected by current set of committers

Merge code on behalf of contributors

30 committers

Q: Which 13 companies employ the 30 Postgres committers? v17 timeframe, as of Aug/Sep 2024

MICROSOFT

7

Amit Langote *
Andres Freund
Daniel Gustafsson
David Rowley
Melanie Plageman
Thomas Munro
Tomas Vondra *

AWS

6

Jeff Davis
Joe Conway
Masahiko Sawada
Michaël Paquier
Nathan Bossart
Peter Geoghegan

EDB

6

Álvaro Herrera
Andrew Dunstan
Bruce Momjian
Peter Eisentraut
Richard Guo *
Robert Haas

NTT GROUP

2

Etsuro Fujita
Fujii Masao

CRUNCHY DATA

Tom Lane

FUJITSU

Amit Kapila

GOOGLE

Noah Misch

NEON

Heikki Linnakangas

REDPILL LINPRO

Magnus Hagander

SELF

John Naylor

SRA OSS LLC

Tatsuo Ishii

SUPABASE

Alexander Korotkov

UNIV OF CAMBRIDGE

Dean Rasheed

Contributors are not just contributing
code

Translations, Docs, Advocacy, User
groups, Conferences, and much more

232 code contributors in v17

Too many to count

Contributors are not just contributing code

Translations, Docs, Advocacy, User groups, Conferences, and much more

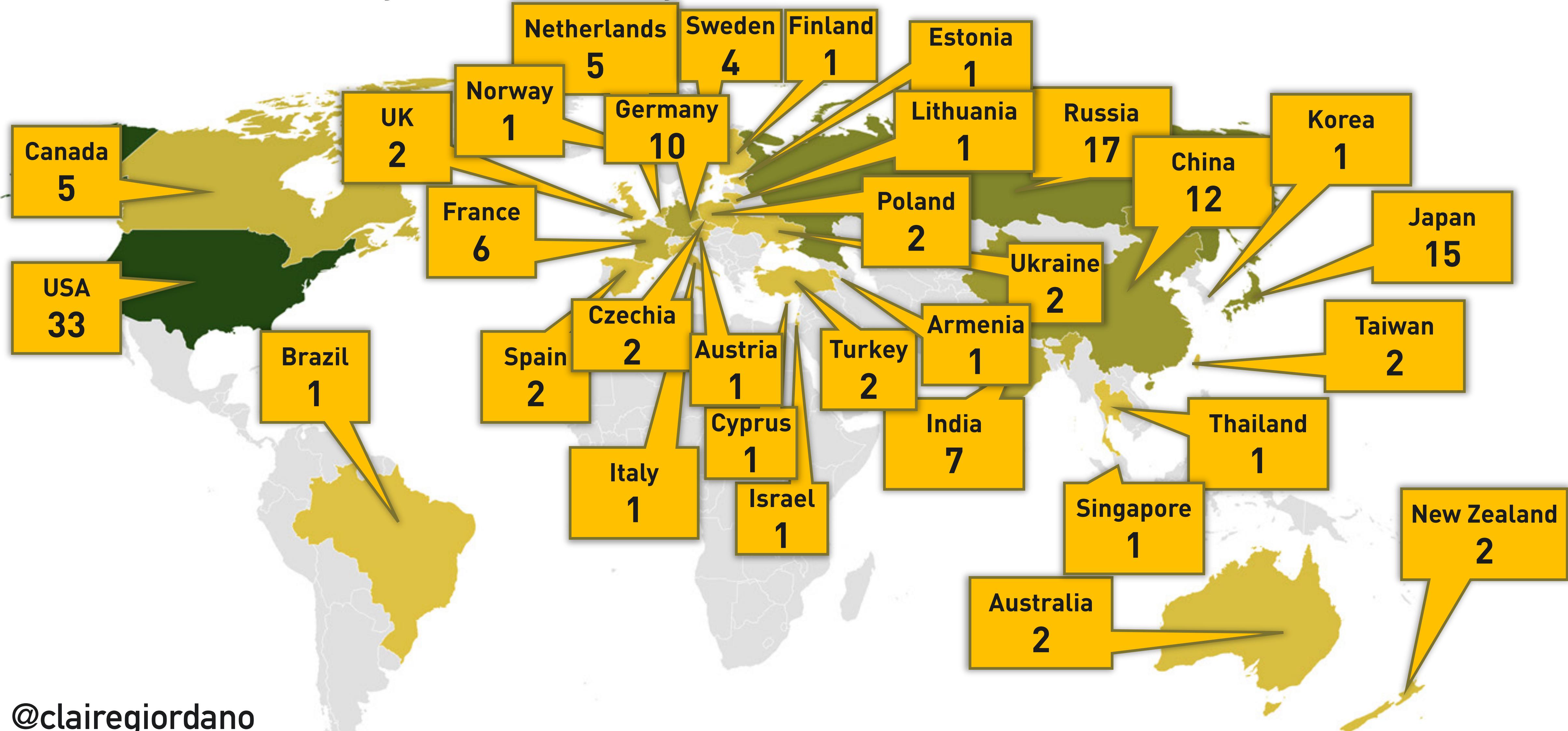
232 code contributors in v17

Too many to count



Q: What countries are 232 code authors from?

v17 timeframe. Only found country data for 145/232 authors = ~62%



Non-profit Organizations

PostgreSQL Community Association

PostgreSQL Europe

PostgreSQL United States

PG Events Canada



No shared roadmap

We enjoy allowing developers to explore the topics of their choosing, though we also ensure that all new features committed to PostgreSQL are thoroughly vetted by our community of contributors and committers.

<https://www.postgresql.org/developer/roadmap/>

Developers have personal roadmaps

Companies employing developers have
roadmaps

The community decides and vets

Everyone gets a say

Cause for friction

A cartoon illustration of a character with orange hair and a red shirt, holding a fan of green dollar bills. The character has a wide, toothy grin. The background is a light grey.

Liberal License

PostgreSQL License, similar to BSD or MIT

Forks are part of the community

Forks can be dual licensed

Cloud provider SaaS friendly

Incredibly unlikely to ever change



amazon
REDSHIFT



Timescale

 **yugabyteDB**



GREENPLUM
DATABASE[®]

 **NETEZZA**[®]
an IBM[®] Company



C

Systems language of choice in the 80's

"The power of assembly language and the convenience of.. assembly language"

- Denis Ritchie

Success through portability

No memory safety and weakly typed

Systems language of choice in the 80's

"The power of assembly language and the convenience of a high-level language"

enis Pichon

cesses through many weakly typed



```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);

if (ferror(file))
    ereport(ERROR,
            (errcode_for_file_access(),
             errmsg("could not read file \\\"%s\\\": %m",
                   filename)));

FreeFile(file);
```

```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);

if (ferror(file))
    ereport(ERROR,
            (errcode_for_file_access(),
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if (ferror(file))
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            (errcode_for_file_access(),
             errmsg("could not read file \\\"%s\\\": %m",
                   filename)),

FreeFile(file);
```

```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);
```

```
if (ferror(file))
    ereport(ERROR,
        (errcode_cannot_allocate,
         errmsg("could not read file \"%s\": %m",
                filename)));
FreeFile(file);
```



```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);

if (ferror(file))
    ereport(ERROR,
            (errcode_for_file_access(),
             errmsg("could not read file \\\"%s\\\": %m",
                   filename)),

FreeFile(file);
```

```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);

if (ferror(file))
    ereport(ERROR,
            (errcode_for_file_access(),
             errmsg("could not read file \\\"%s\\\": %m",
                   filename)));
}

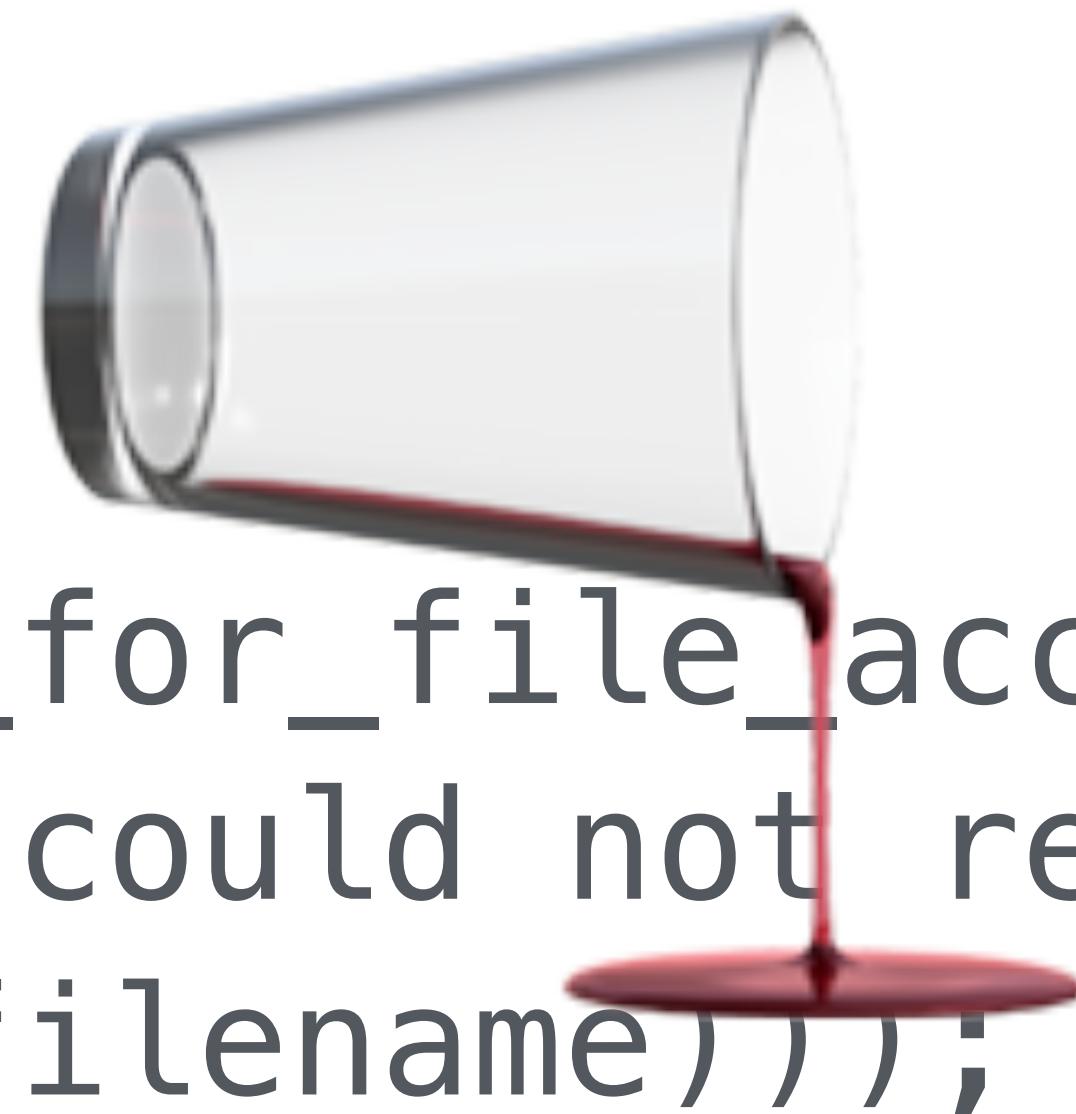
FreeFile(file);
```

Does not return

```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);

if (ferror(file))
    ereport(ERROR,
            (errcode_for_file_access(),
             errmsg("could not read file \\\"%s\\\": %m",
                   filename))));

FreeFile(file);
```



C, but not C, Postgres C

Managed memory and resources

Exceptions (*kind of sort of*)

Rich standard library

Safer, **not** safe

Tree of memory contexts

Almost no traditional *by the seat of your pants* `malloc()` and `free()` bookkeeping

Can free on demand but generally done by waiting for end of query cleanup

Custom context allocators: bump, slab

TopMemoryContext

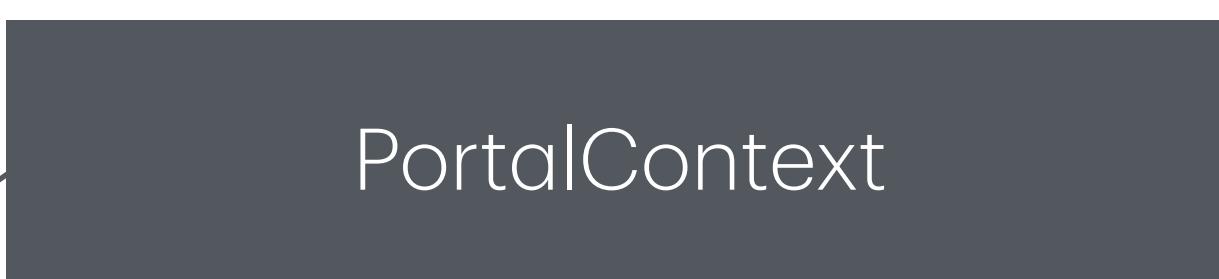
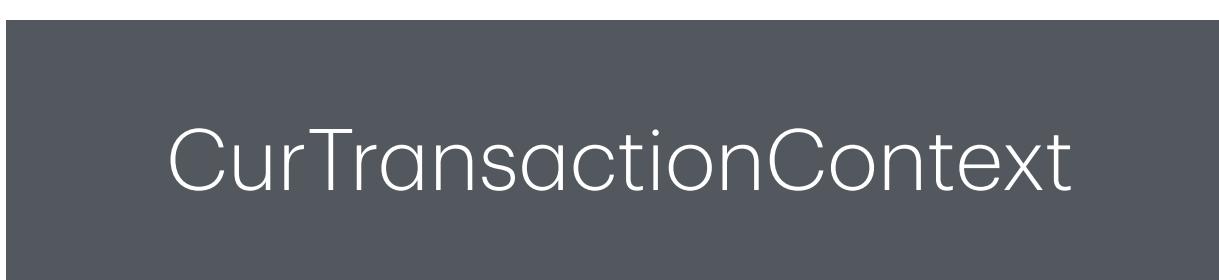
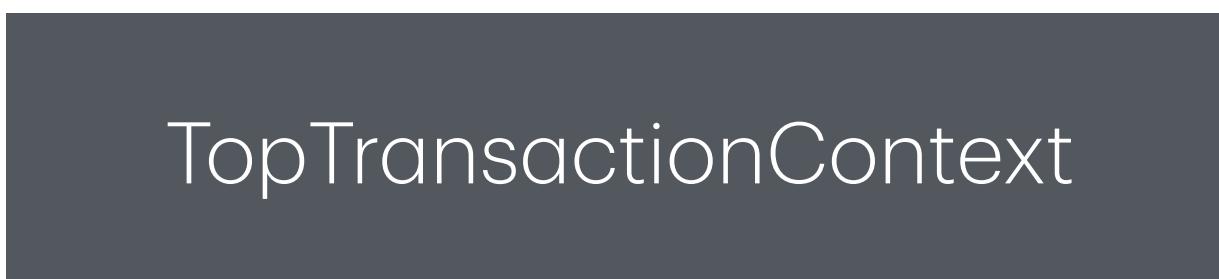
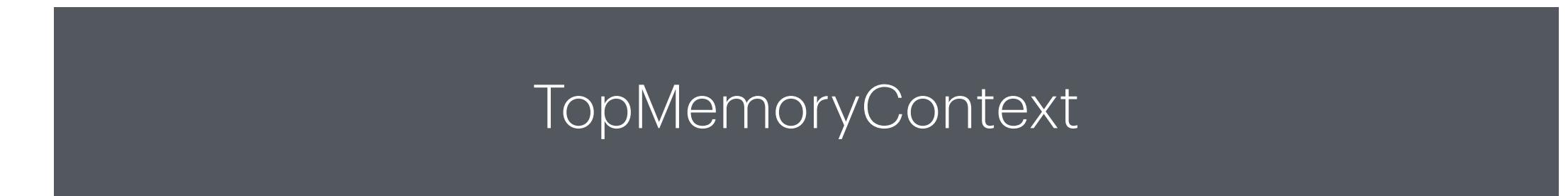
CacheMemoryContext

TopTransactionContext

CurTransactionContext

PortalContext

ErrorContext



CurrentMemoryContext

TopMemoryContext

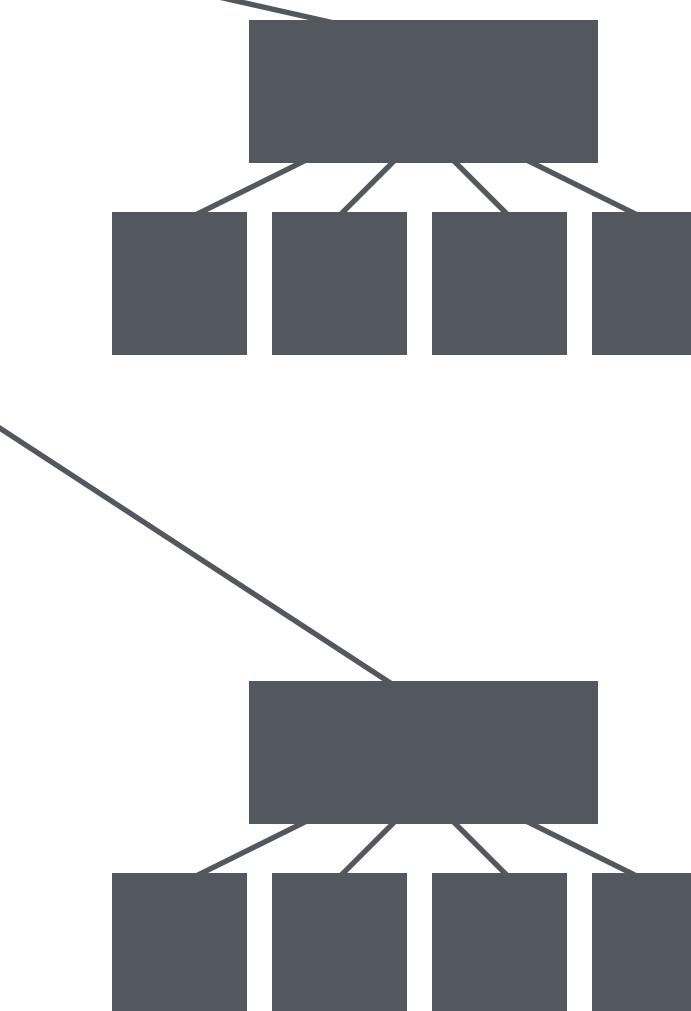
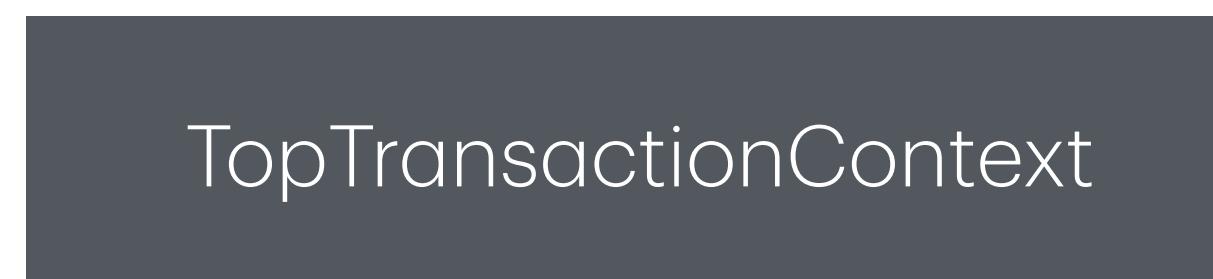
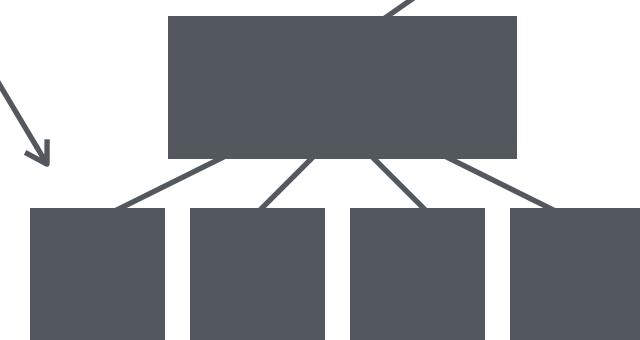
CacheMemoryContext

TopTransactionContext

CurTransactionContext

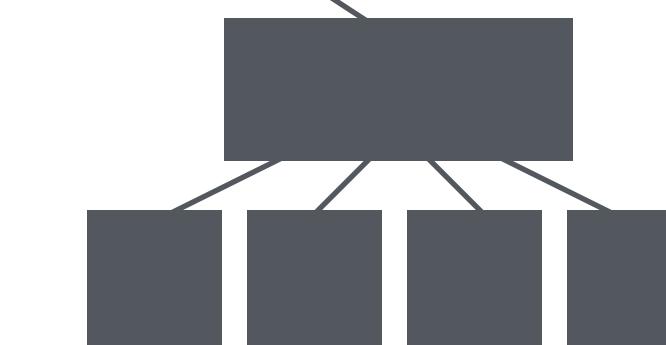
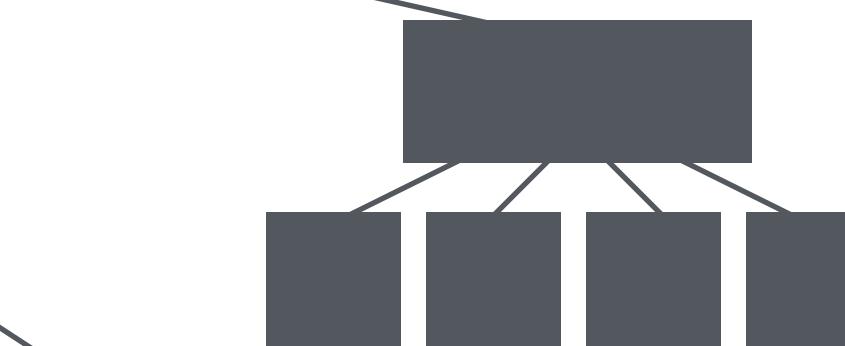
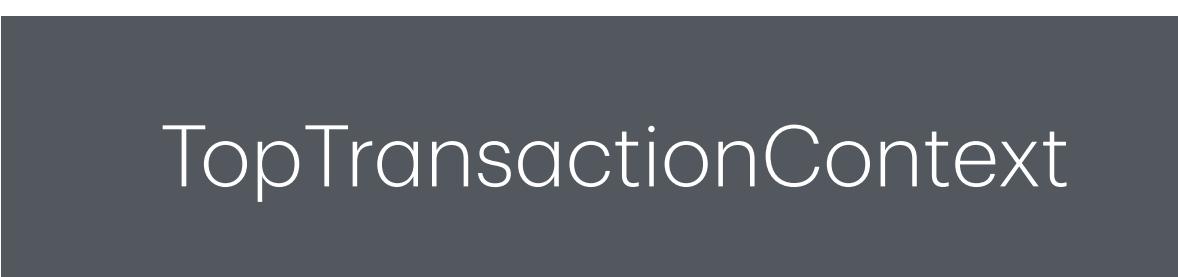
PortalContext

ErrorContext



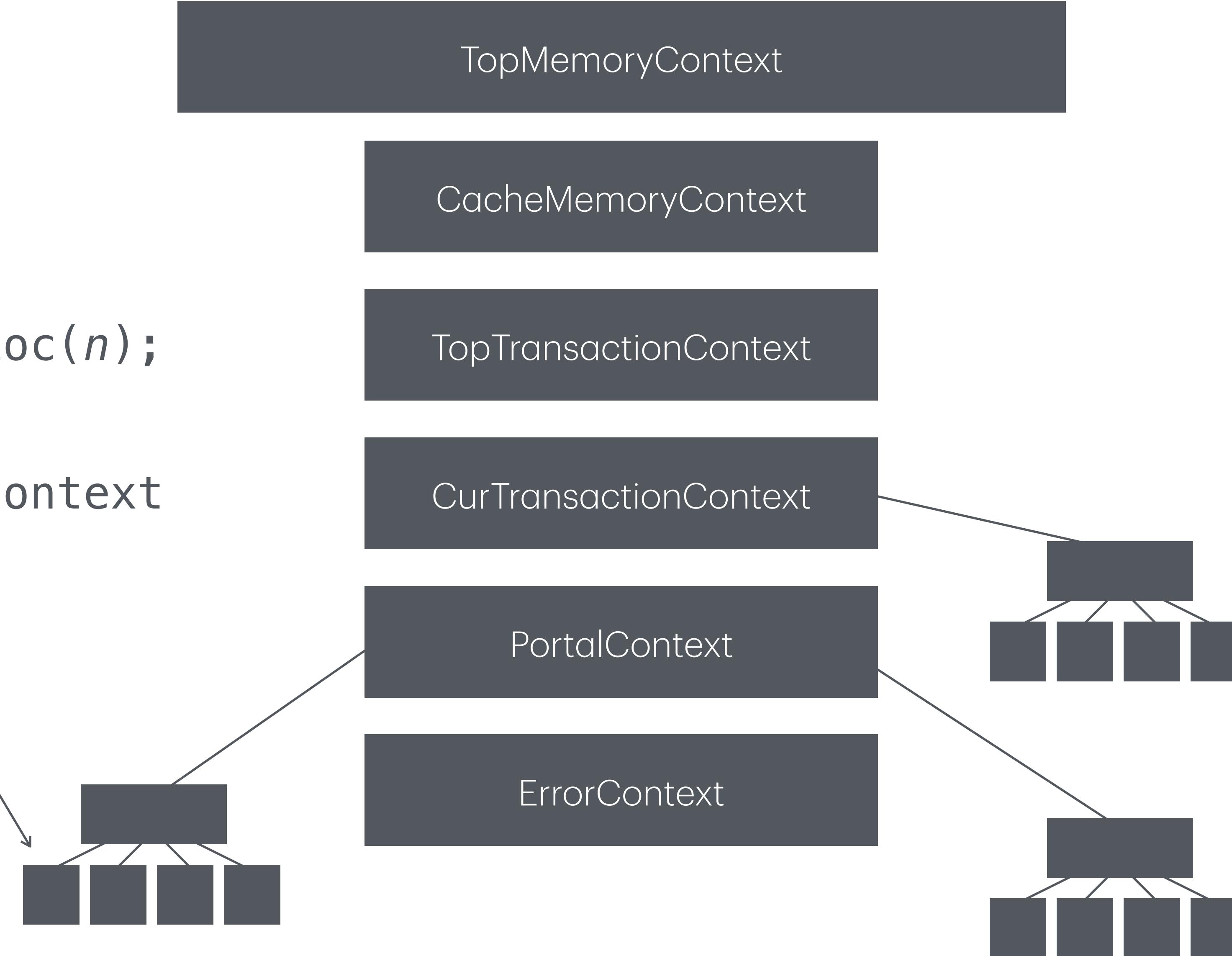
```
void *b = palloc(n);
```

CurrentMemoryContext



```
void *b = palloc(n);
```

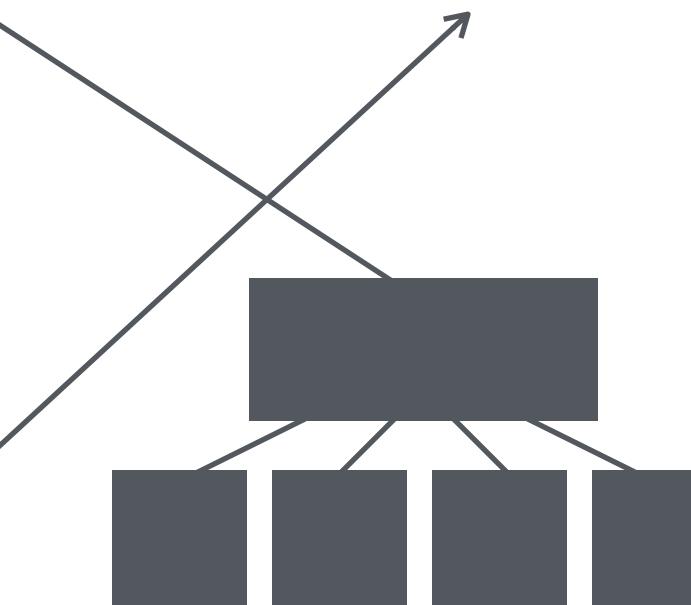
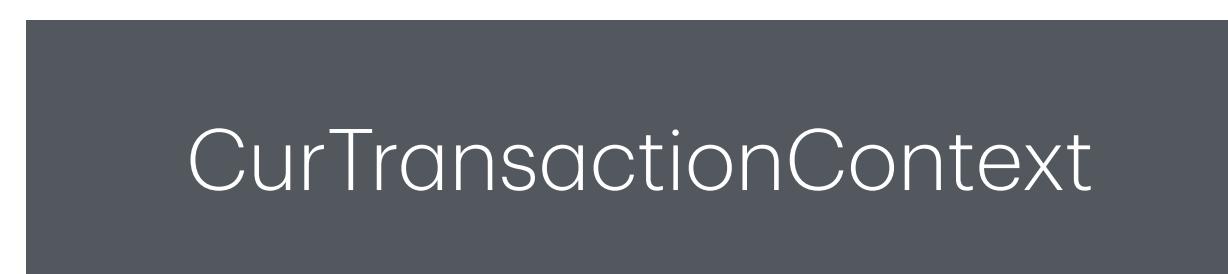
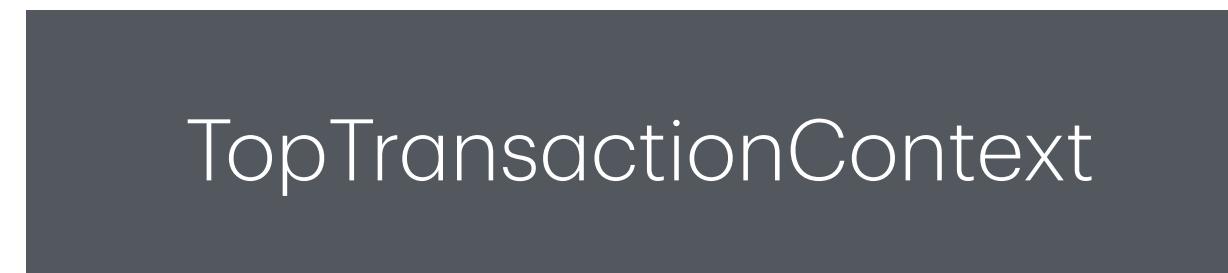
↓
CurrentMemoryContext

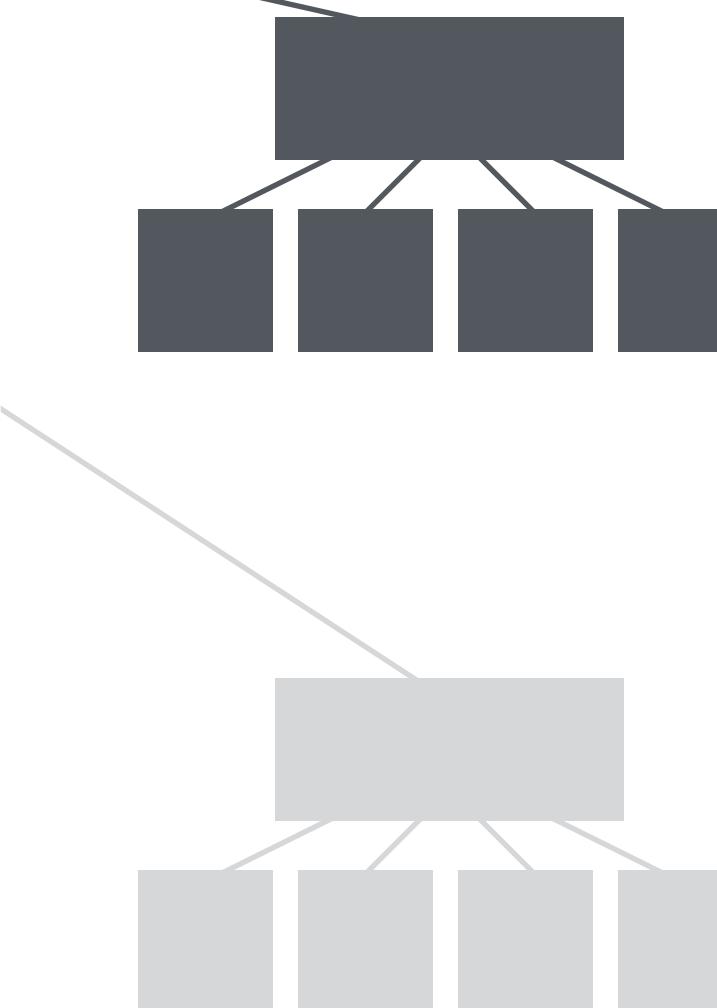
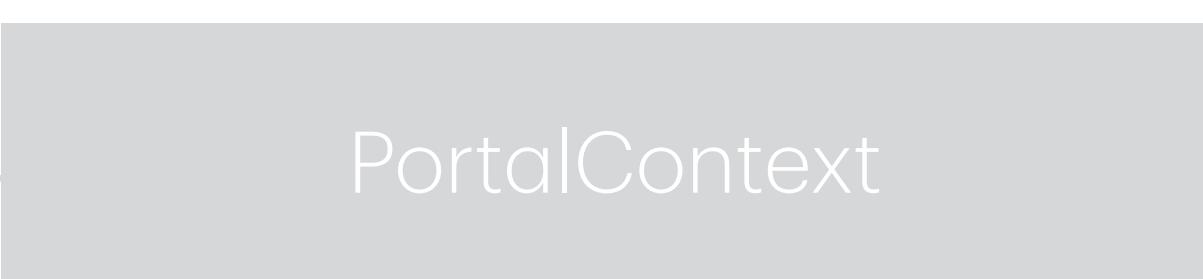
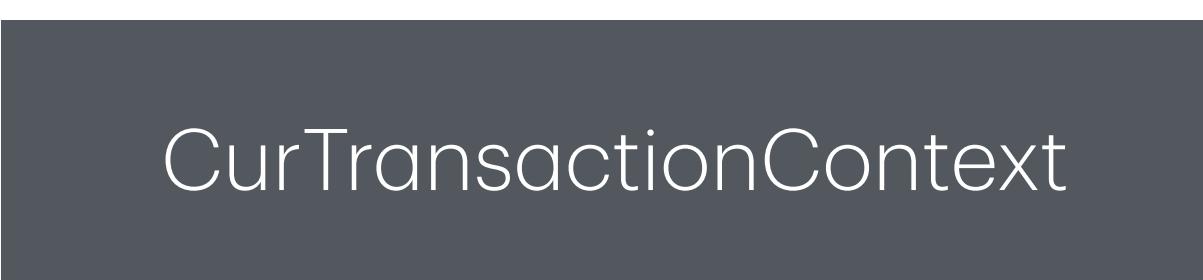
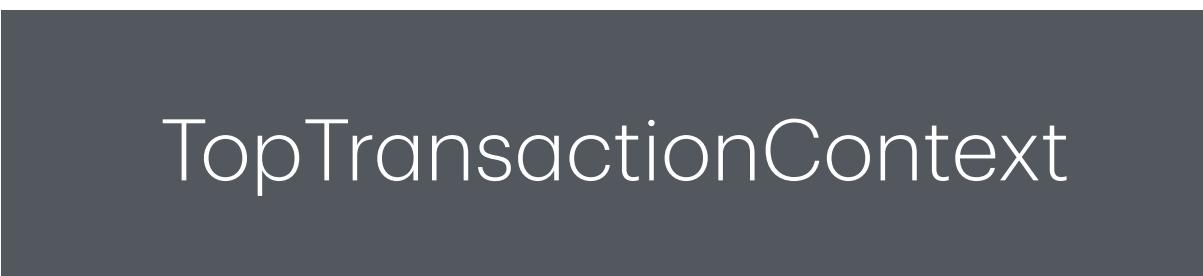
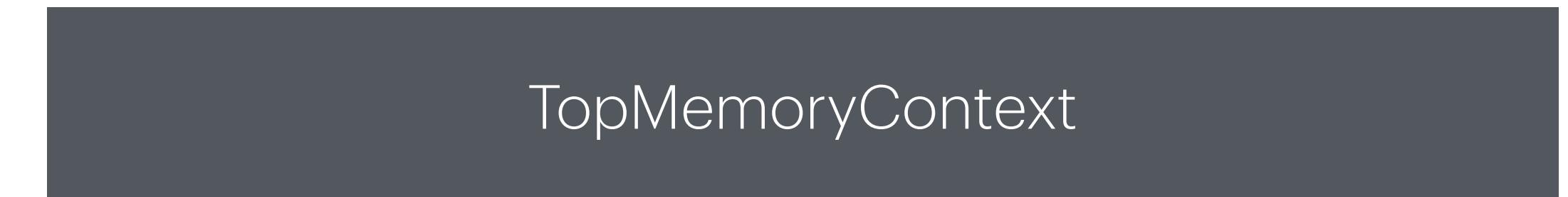


```
void *b = palloc(n);
```

↓
CurrentMemoryContext

```
void *b = MemoryContextAlloc(MyContext, n);
```





Exceptions, for some value of

`setjmp()`/`longjmp()`

Non-local jump to error handling

Automatic resource cleanup

```
PG_TRY();
{
    walrcv_alter_slot(wrconn, sub->slotname,
                      update_failover ? &opts.failover : NULL,
                      update_two_phase ? &opts.twophase : NULL);
}
PG_FINALLY();
{
    walrcv_disconnect(wrconn);
}
PG_END_TRY();
```

```
buf = (char *) palloc(bytes_to_read + 1);
bytes_to_read = fread(buf, 1, bytes_to_read, file);

if (ferror(file))
    ereport(ERROR,
            (errcode_for_file_access(),
             errmsg("could not read file \\\"%s\\\": %m",
                   filename)));

FreeFile(file);
```

```
ereport(ERROR ..
```

Emitting log entries

Cancelling current query

Resource manager cleanup

Memory context cleanup

PostgresMain(..)



```
ereport(ERROR ..
```

Emitting log entries

Cancelling current query

Resource manager cleanup

Memory buffer



Memory context cleanup

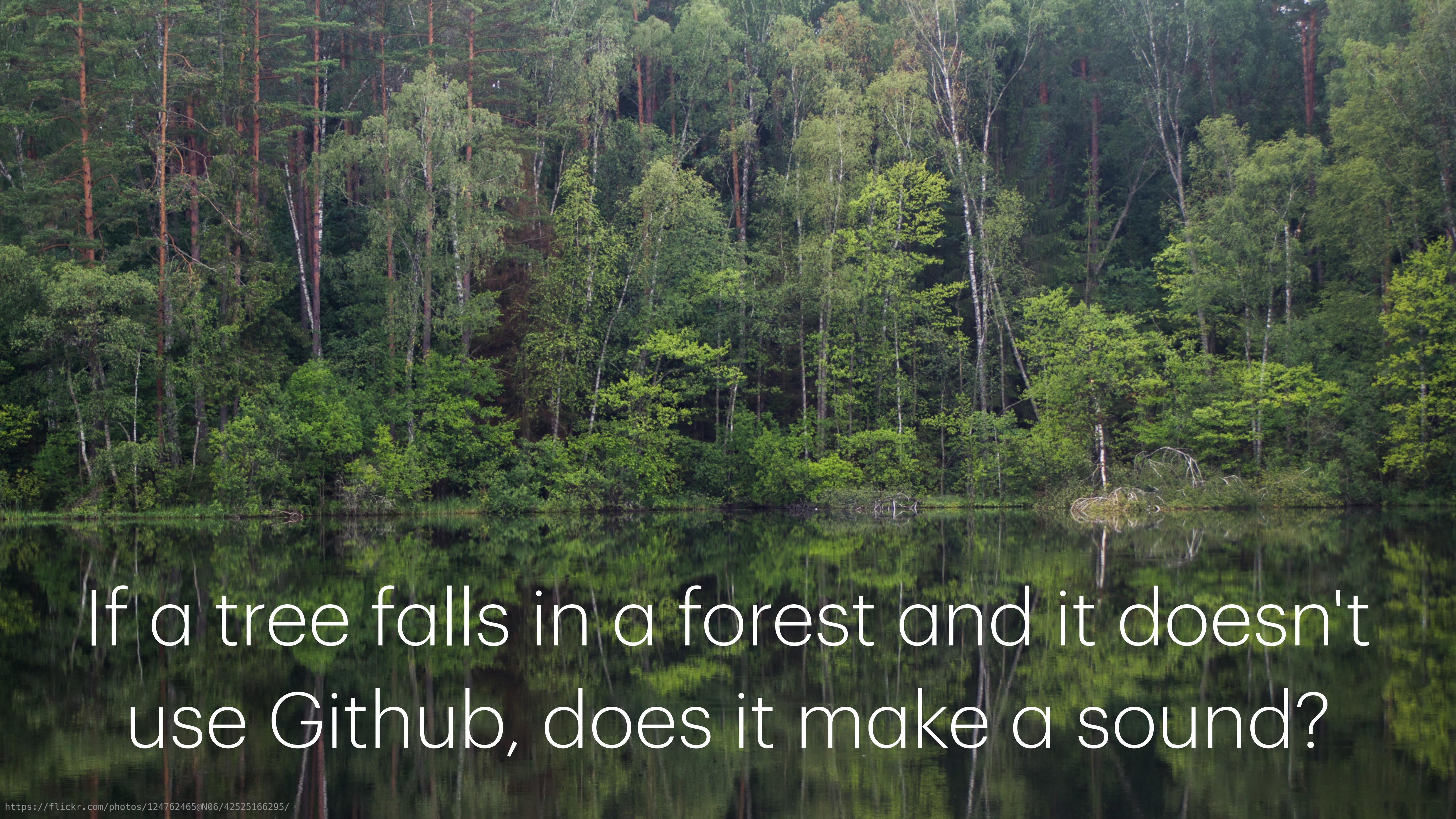
File descriptor

PostgresMain(..)



Development

®

A photograph of a dense forest reflected in a calm lake. The forest consists of tall, thin trees, likely pines, with some birches having white bark. The water is very still, creating a perfect mirror image of the trees and the sky above. The overall atmosphere is peaceful and natural.

If a tree falls in a forest and it doesn't
use Github, does it make a sound?

No pull-requests

Patches and discussion on mailinglist

Commitfests

Two months of working

One month of reaching closure

Lists are archived forever with stable links
along with all attached patch versions

Threaded discussion

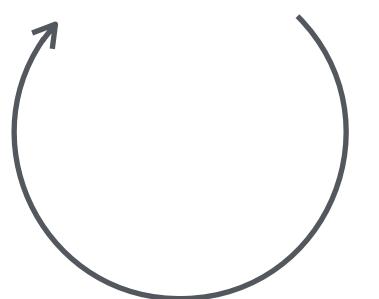
Not particularly convenient for
commenting on patches

Supports offline work

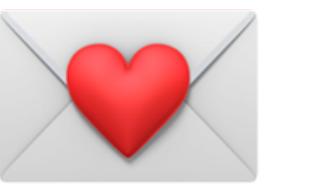
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Idea

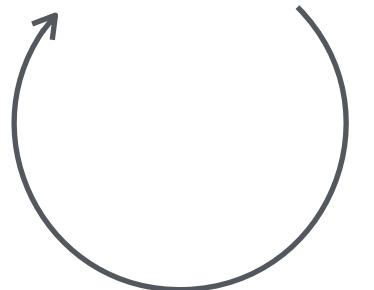


Hack

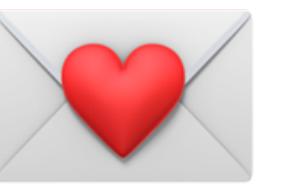


Idea

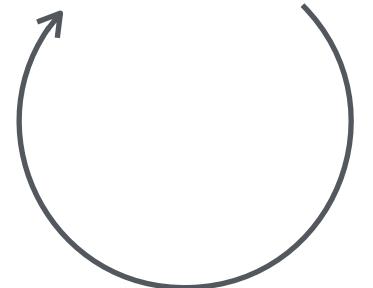
pgsql-hackers@



Hack

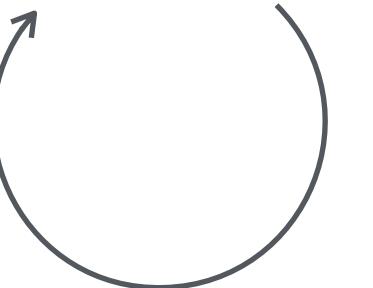


Idea



Hack

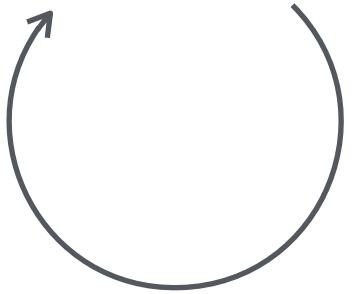
pgsql-hackers@



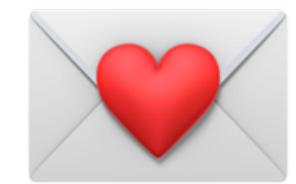
Review
Hack



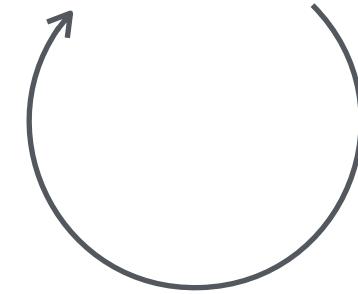
Idea



Hack



pgsql-hackers@



Review
Hack

Home / Commitfest 2024-11

Commitfest 2024-11

Search/filter Shortcuts ▾ New patch

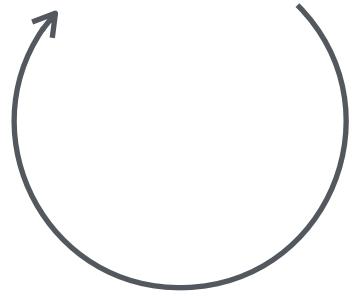
Status summary: Needs review: 207. Waiting on Author: 45. Ready for Committer: 19. Committed:

Active patches

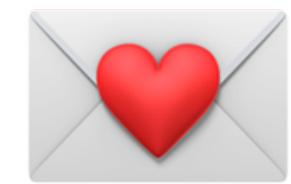
Patch	Status	Ver	Author
Bug Fixes			
pg_rewind WAL deletion pitfall	Ready for Committer		Alexander Kul Polina Bungin
pg_ctl start may return 0 even if the postmaster has been already started on Windows	Waiting on Author		Kyotaro Horig
"unexpected duplicate for tablespace" problem in logical replication	Waiting on Author	stable	Shenhao Wan
Network failure may prevent promotion	Waiting on Author		Kyotaro Horig



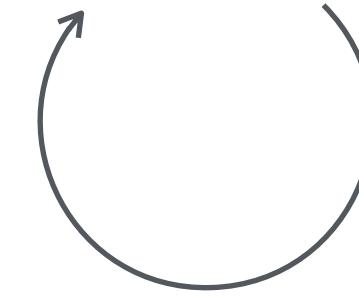
Idea



Hack



pgsql-hackers@



Review
Hack

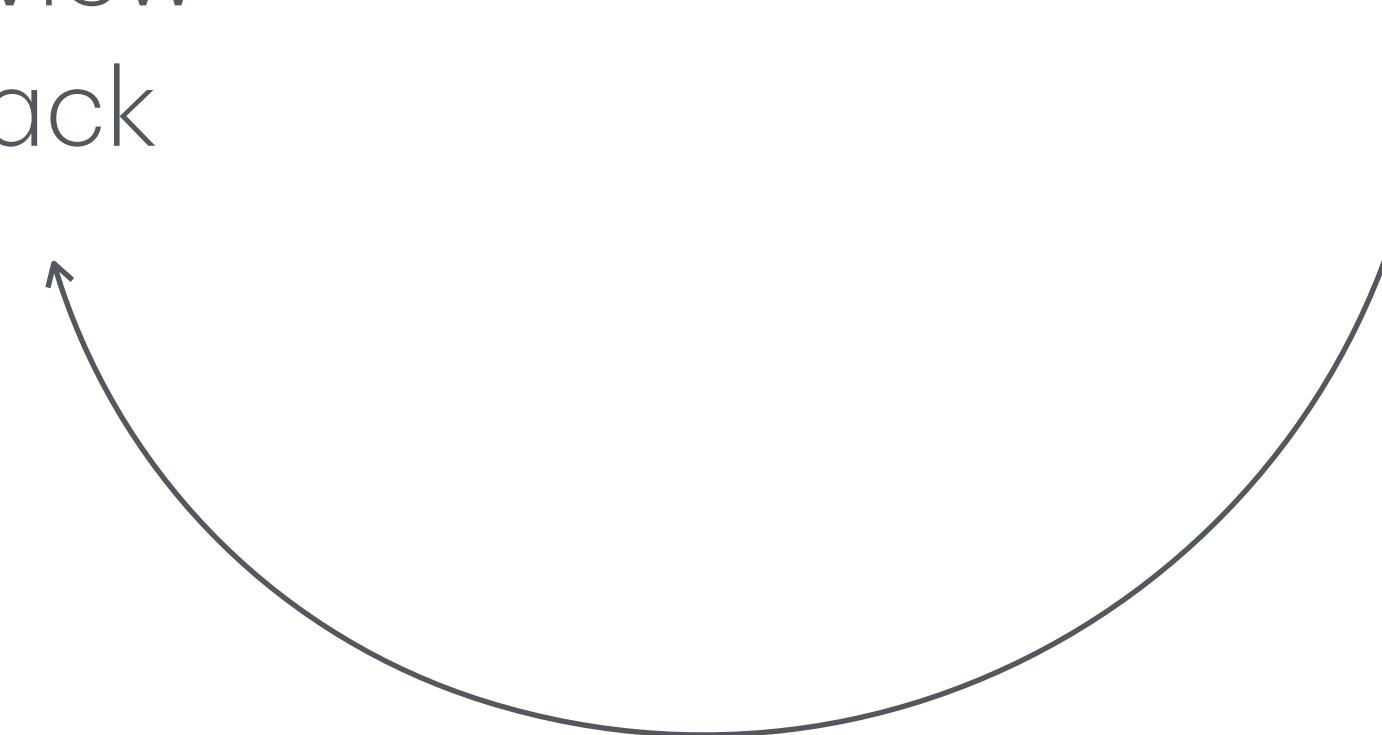
Home / Commitfest 2024-11

Commitfest 2024-11

Status summary: Needs review: 207. Waiting on Author: 45. Ready for Committer: 19. Committed: 19.

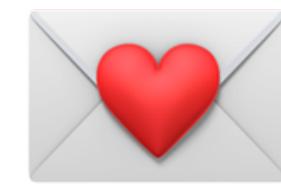
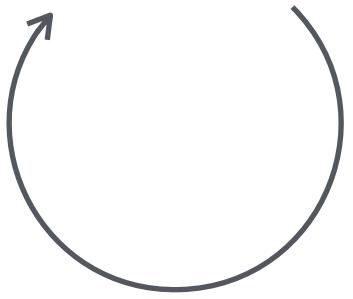
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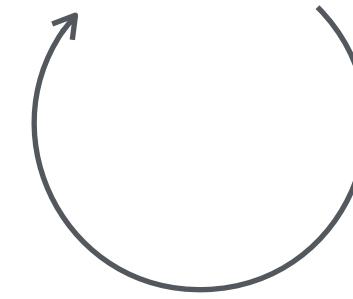




Idea

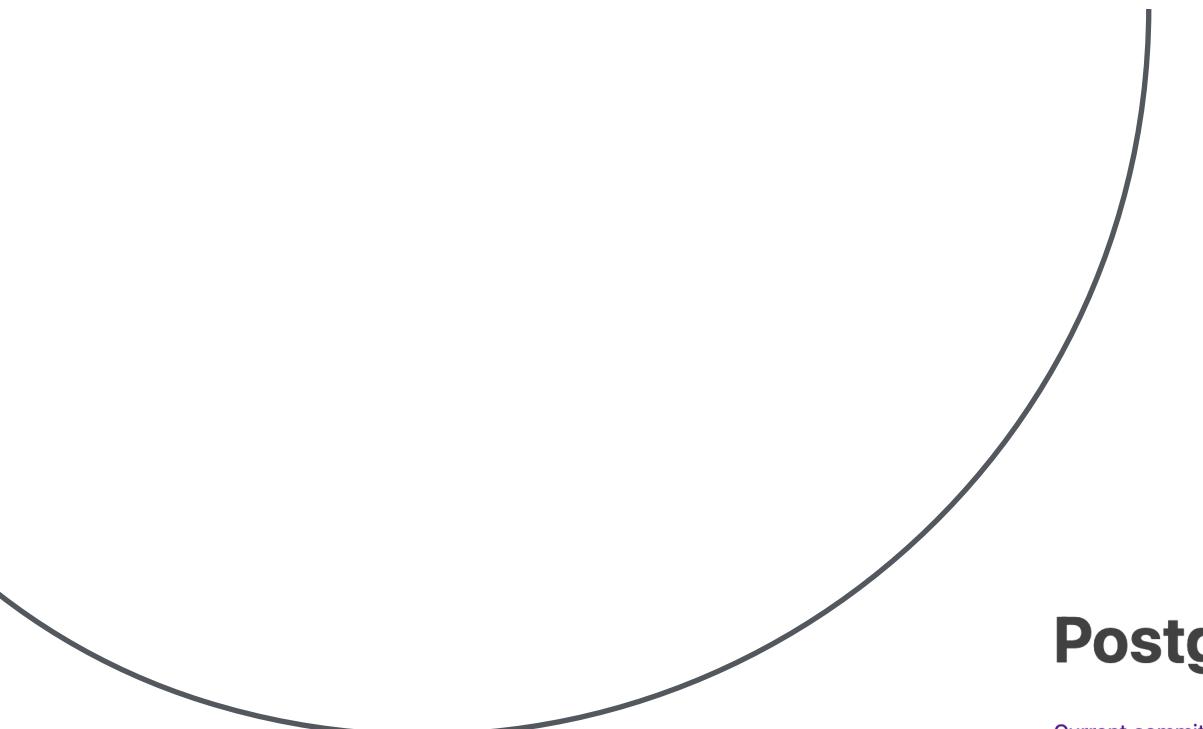


pgsql-hackers@



Hack

Review
Hack



Home / Commitfest 2024-11

Commitfest 2024-11

Search/filter Shortcuts ▾ New patch

Status summary: Needs review: 207. Waiting on Author: 45. Ready for Committer: 19. Committed:

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Patch	Status	Ver	Author
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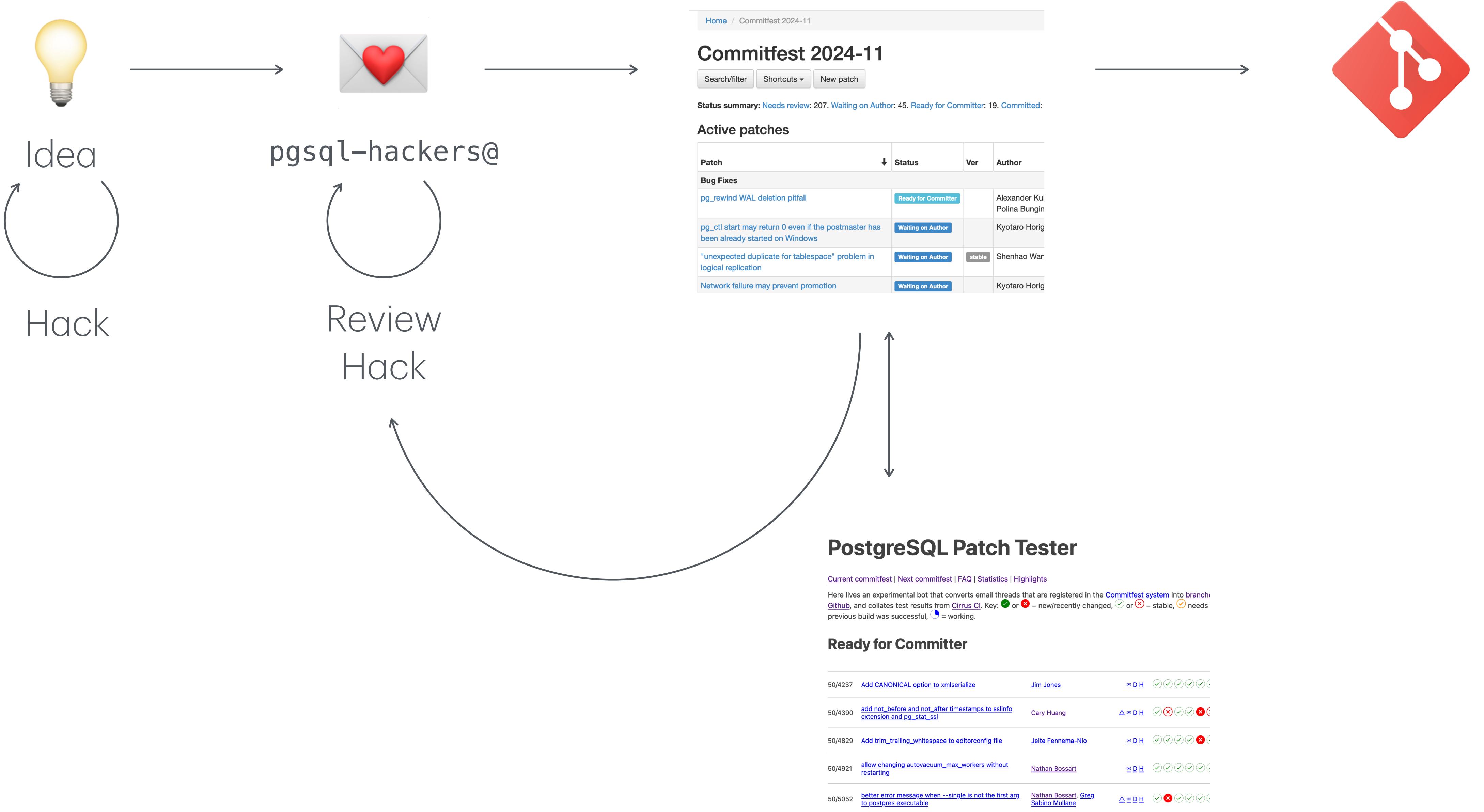
PostgreSQL Patch Tester

[Current commitfest](#) | [Next commitfest](#) | [FAQ](#) | [Statistics](#) | [Highlights](#)

Here lives an experimental bot that converts email threads that are registered in the [Commitfest system](#) into [branch](#) [Github](#), and collates test results from [Cirrus CI](#). Key: or = new/recently changed, or = stable, needs previous build was successful, = working.

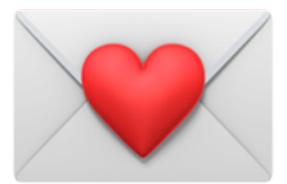
Ready for Committer

50/4237	Add CANONICAL option to xmlserialize	Jim Jones	✉ D H	
50/4390	add not_before and not_after timestamps to ssinfo extension and pg_stat_ssl	Cary Huang	✉ ✉ D H	
50/4829	Add trim_trailing_whitespace to editorconfig_file	Jelte Fennema-Nio	✉ D H	
50/4921	allow changing autovacuum_max_workers without restarting	Nathan Bossart	✉ D H	
50/5052	better error message when --single is not the first arg to postgres executable	Nathan Bossart, Greg Sabino Mullane	✉ ✉ D H	





Idea



pgsql-hackers@

Hack

Review
Hack

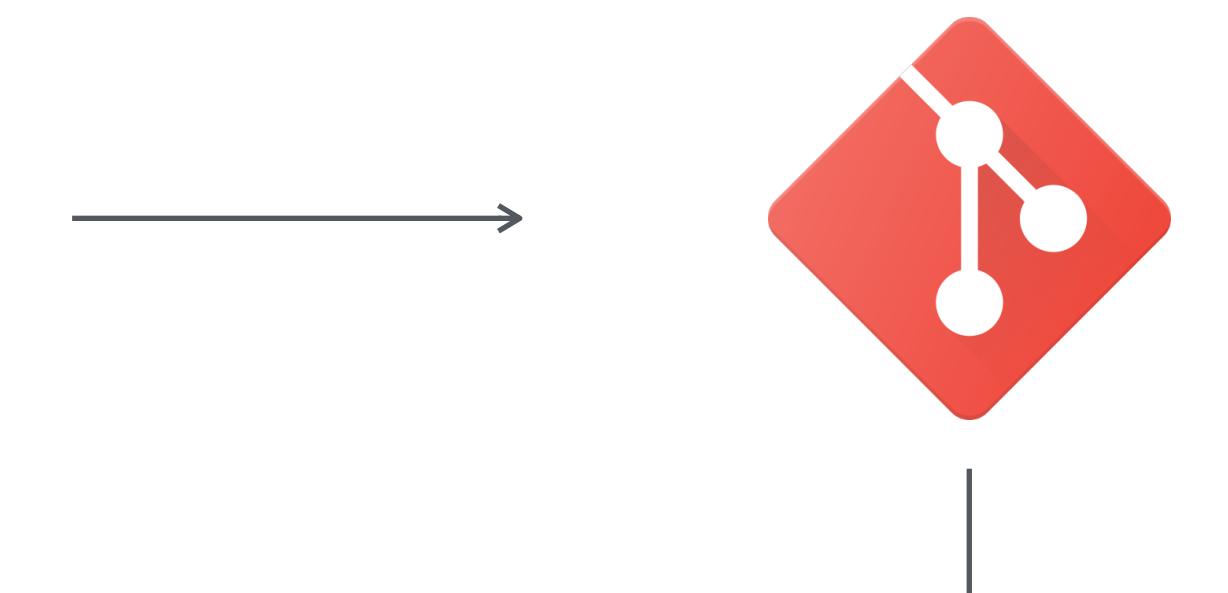
Home / Commitfest 2024-11

Commitfest 2024-11

Status summary: Needs review: 207. Waiting on Author: 45. Ready for Committer: 19. Committed: 1

Active patches

Patch	Status	Ver	Author
Bug Fixes			
pg_rewind WAL deletion pitfall	Ready for Committer		Alexander Kul Polina Bungin
pg_ctl start may return 0 even if the postmaster has been already started on Windows	Waiting on Author		Kyotaro Horig
"unexpected duplicate for tablespace" problem in logical replication	Waiting on Author	stable	Shenhao Wan
Network failure may prevent promotion	Waiting on Author		Kyotaro Horig



PostgreSQL BuildFarm

PostgreSQL BuildFarm Status

Legend: = cassandra = debug = gssapi = lvm = meson = nls = openssl = pam = perl = python = tap-tests = tcl = thread-safety = vpath = xml

Alias	System	Branch: master
blackneck	Debian GNU/Linux 10 clang 3.0.1 aarch64	00:15 ago OK [3f323eb] Config
sidewinder	NetBSD NetBSD 9.2 gcc clang 12.0.1 x86_64	00:54 ago OK [3f323eb] Config
krait	CentOS Stream 8 gcc 8.5.0 ppc64le (POWER9)	00:36 ago OK [3f323eb] Config
grison	Raspbian GNU/Linux 7.8 gcc 4.6.3 ARMv7	01:20 ago OK [3f323eb] Config
prión	Amazon Linux 2023 gcc 11.4.1 x86_64	01:57 ago OK [3f323eb] Config
nuthatch	ArchLinux rolling release GCC 13.1.1 loongarch64	00:30 ago OK [3f323eb] Config
morepork	OpenBSD OpenBSD 6.9 clang clang 10.0.1 x64	01:00 ago OK [3f323eb] Config
tayra	Oracle Linux Oracle Linux Server 9.4 gcc gcc version 11.4.1 20231218 (Red Hat 11.4.1-3.0.1) (GCC) x86_64	00:45 ago OK [3f323eb] Config
frogopper	Red Hat Enterprise Linux 9.4 (FIPS 140) gcc 11.4.1 s390x (z15)	01:01 ago OK [3f323eb] Config
loach	FreeBSD FreeBSD 12.2 clang clang 10.0.1 x86_64	01:05 ago OK [3f323eb] Config
schnauzer	OpenBSD 7.3 clang 13.0.0 x86_64	01:20 ago OK [3f323eb] Config
pike	Debian GNU/Linux 11 gcc 10.2.1 s390x (z15)	01:06 ago OK [3f323eb] Config
hake	OpenIndiana/illumos hipster, rolling release gcc 9.3.0 amd64	01:10 ago OK [3f323eb] Config
calman	Fedora Fedora Linux 42 (Xfce Prerelease) gcc gcc version 14.2.1 20240912 (Red Hat 14.2.1-3) (GCC) x86_64	01:15 ago OK [3f323eb] Config
montmort	Fedora Linux 38 clang 16.0.6 aarch64	01:24 ago OK [3f323eb] Config

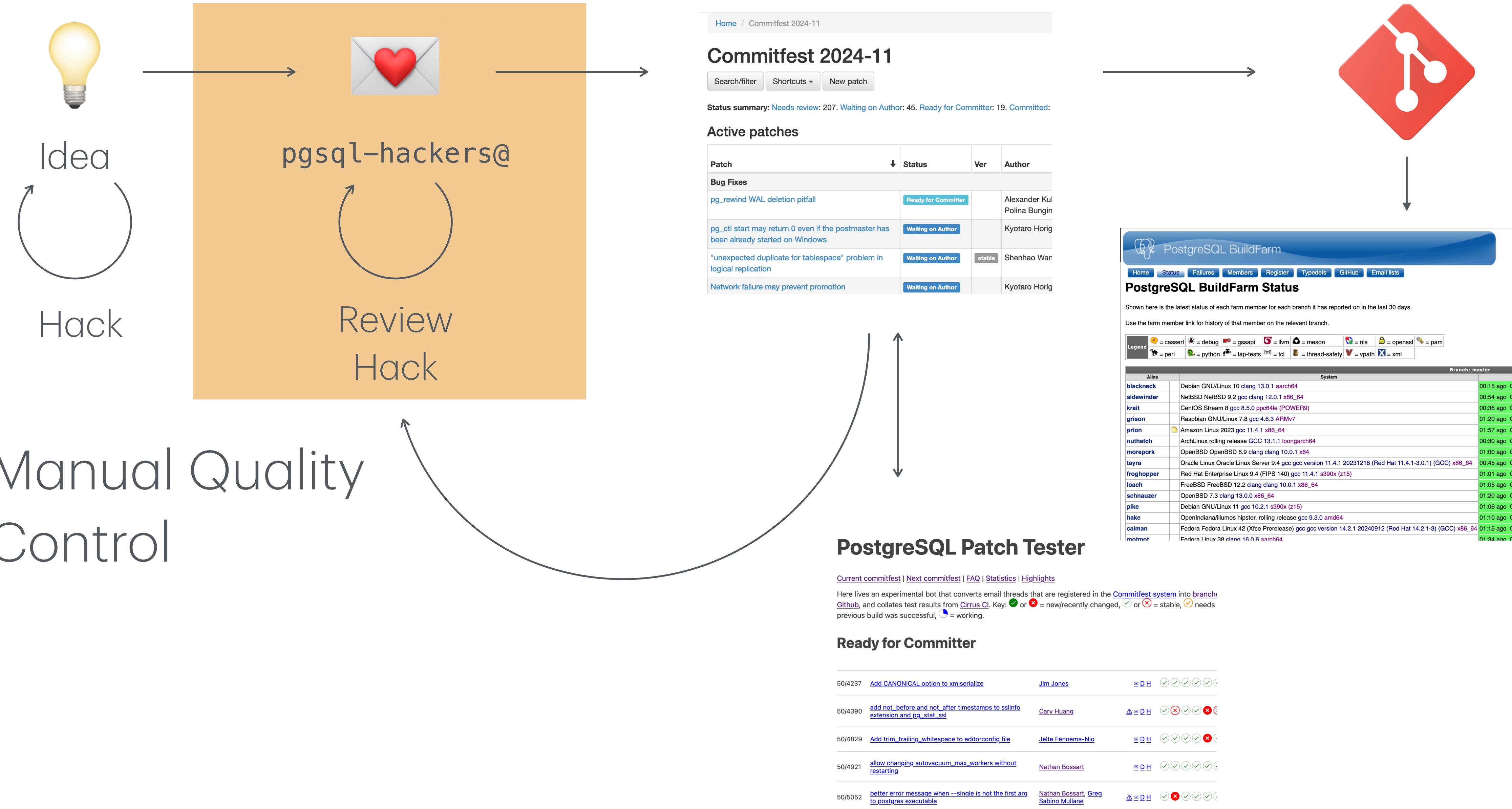
PostgreSQL Patch Tester

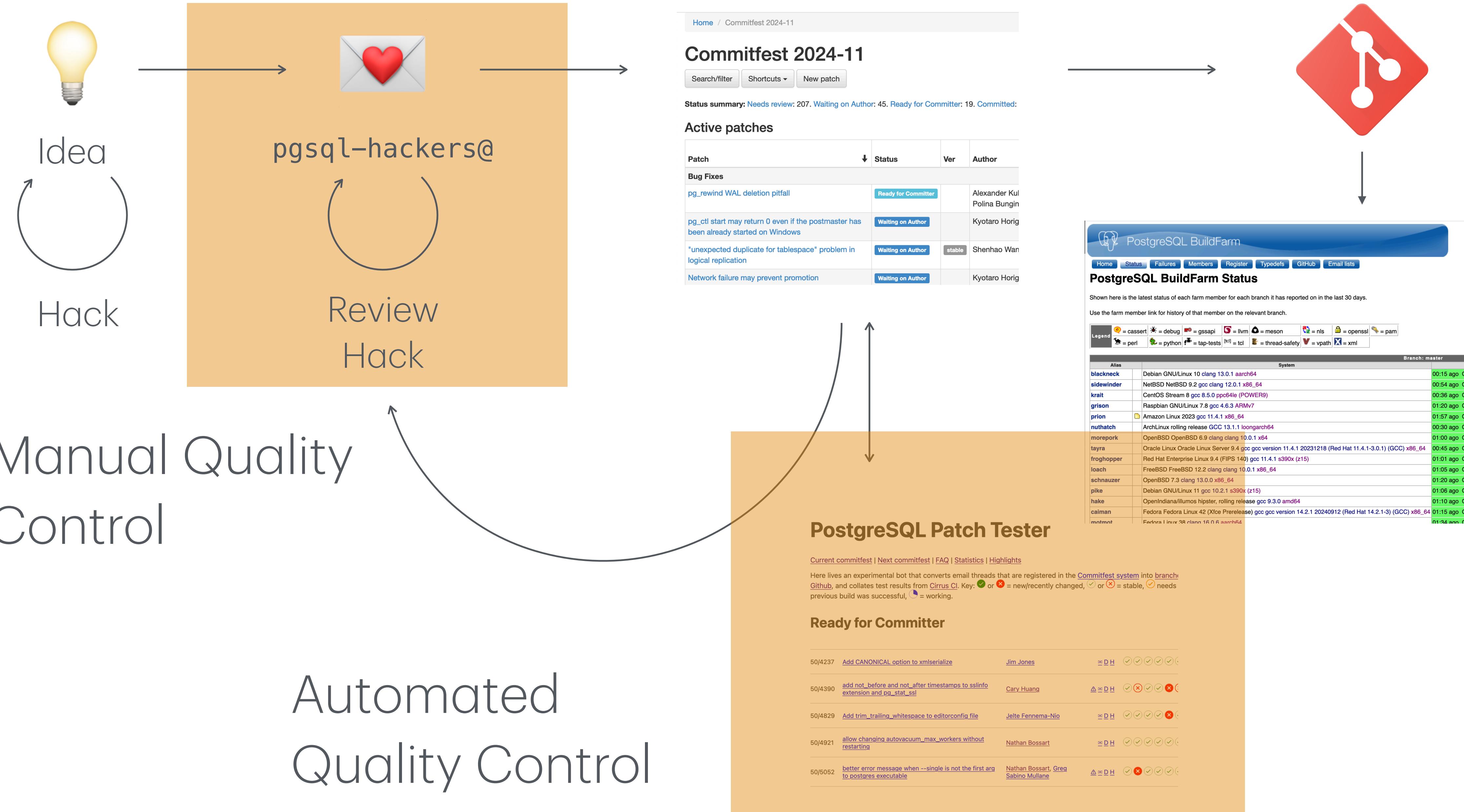
[Current commitfest](#) | [Next commitfest](#) | [FAQ](#) | [Statistics](#) | [Highlights](#)

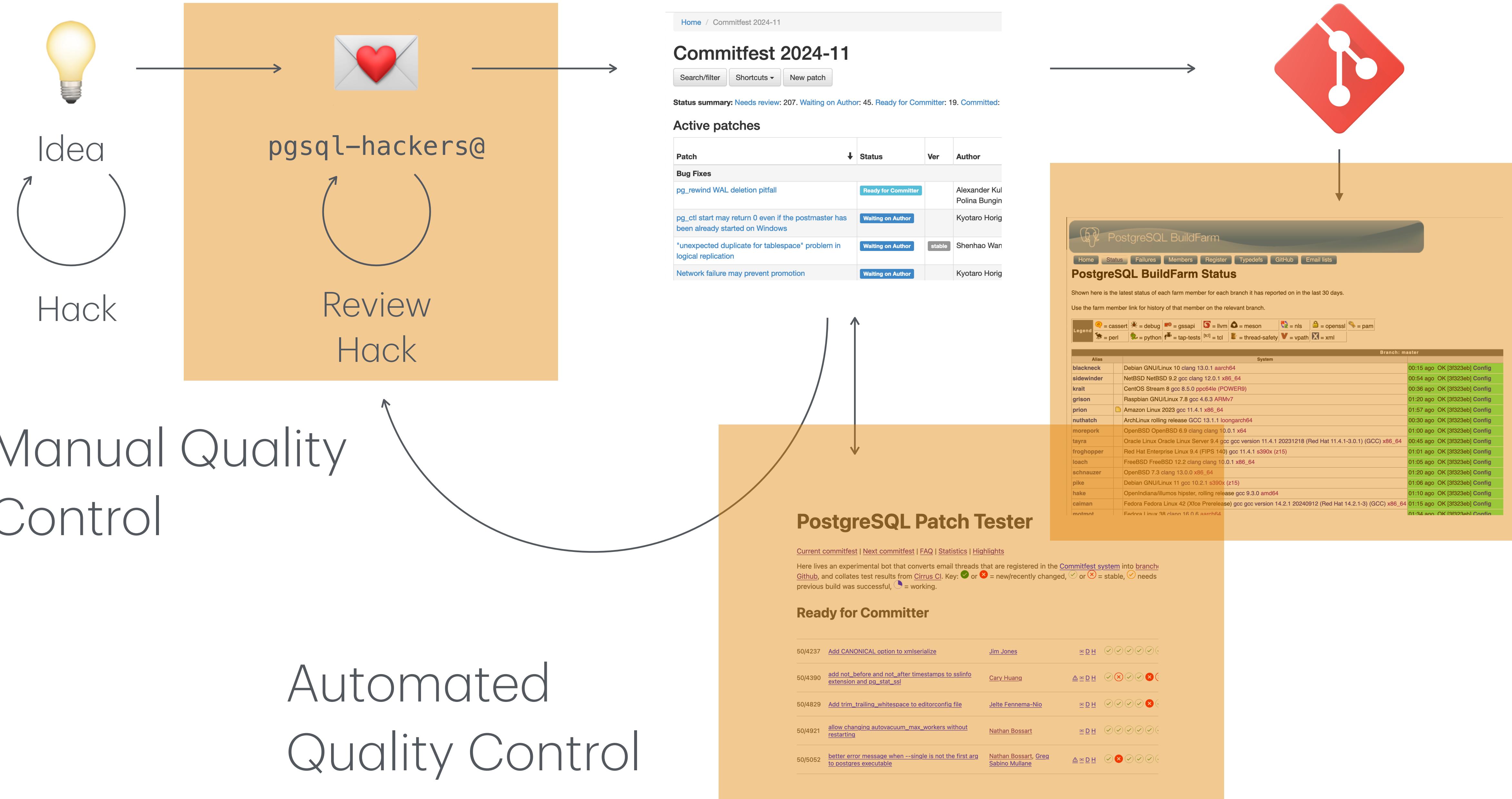
Here lives an experimental bot that converts email threads that are registered in the [Commitfest system](#) into [branch](#), [Github](#), and collates test results from [Cirrus CI](#). Key: = new/recently changed, = stable, = needs previous build was successful, = working.

Ready for Committer

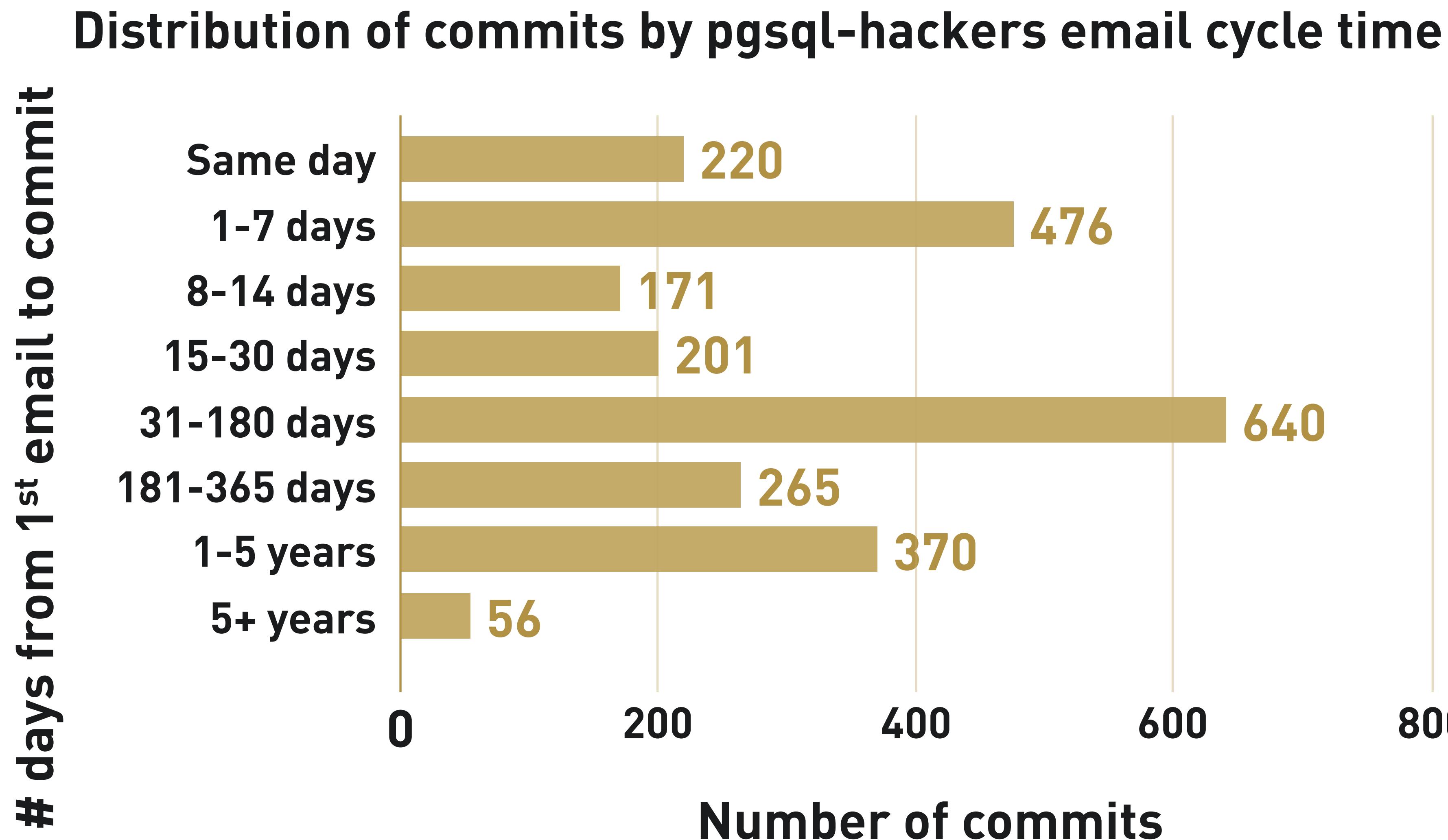
50/4237	Add CANONICAL option to xmlserialize	Jim Jones		
50/4390	add not_before and not_after timestamps to ssinfo extension and pg_stat_ssl	Cary Huang		
50/4829	Add trim_trailing_whitespace to editorconfig_file	Jelte Fennema-Nio		
50/4921	allow changing autovacuum_max_workers without restarting	Nathan Bossart		
50/5052	better error message when --single is not the first arg to postgres executable	Nathan Bossart, Greg Sabino Mullane		







Q: What is “cycle time” for commits—time between 1st email discussion & commit to PG17?



Long history. Processes are adapted over long period of time

Changes are scrutinized for long-term viability and sustainability

Project maintainers in control of the full supply-chain



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https://lists.postgresql.org

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If you have other email addresses, at the link above you'll be able to go through a short process to verify you have control over those other email addresses and then you'll be able to see the lists subscribed using those addresses as well.

If you are a moderator of PostgreSQL mailing lists, you'll have a link at the bottom of the page which says "Manage/Moderate lists". If you believe you should have such a link and you do not, please contact the PostgreSQL WWW Mailing list.

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Do you need help to unsubscribe? Please follow the instructions on [this page](#).

Commitfest 2024-11

https://commitfest.postgresql.org/50/

Home / Commitfest 2024-11 / Activity log / Log in

Commitfest 2024-11

Search/filter Shortcuts ▾

Status summary: Needs review: 199. Waiting on Author: 46. Ready for Committer: 18. Committed: 61. Rejected: 1. Returned with Feedback: 1. Withdrawn: 10. Total: 336.

Active patches

Patch	Status	Ver	Author	Reviewers	Committer	Num cfs	Latest activity	Latest mail
Bug Fixes								
pg_ctl start may return 0 even if the postmaster has been already started on Windows	Waiting on Author		Kyotaro Horiguchi (horiguti)	Hayato Kuroda (ha-kun), Yasir Shah (yasir.hussain.shah.gmail.com)		6	2024-10-07 04:24	2024-07-19 18:32
"unexpected duplicate for tablespace" problem in logical replication	Waiting on Author	stable	Shenhai Wang (wangshenhai)	Masahiko Sawada (masahikosawada)		5	2024-10-07 04:24	2024-07-24 21:51
Network failure may prevent promotion	Waiting on Author		Kyotaro Horiguchi (horiguti)			5	2024-10-07 01:08	2024-05-14 14:16
data loss bug in initial sync of logical replication	Needs review		Tomas Vondra (fuzzycz)	Nitin Motiani (nitinmotiani)		4	2024-10-04 11:20	2024-10-08 09:51
Fix rare recovery shutdown hang	Ready for Committer		Thomas Munro (macdice)	Noah Misch (nmisch), Martijn Wallet (mwallet)		3	2024-10-05 09:25	2024-10-25 18:17
Run deferred triggers in the correct security context	Ready for Committer	18	Laurenz Albe (laurenz)	Pavel Stehule (okbobcz)		3	2024-10-19 17:13	2024-11-04 17:25
Recheck foreign key if a referenced collation was nondeterministic	Needs review	17	Paul Jungwirth (pjungwir)	Peter Eisentraut (petere), Jian He (stayreal)		3	2024-11-07 12:17	2024-11-15 14:46

PostgreSQL Patch Tester

cfbot.cputube.org

PostgreSQL Patch Tester

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Here lives an experimental bot that converts email threads that are registered in the [Commitfest system](#) into [branches on Github](#), and collates test results from [Cirrus CI](#). Key:  or  = new/recently changed,  or  = stable,  needs rebase but previous build was successful,  = working.

Ready for Committer

Patch ID	Patch Description	Author	Status	Test Results
50/4237	Add CANONICAL option to xmlserialize	Jim Jones	 	      
50/4390	add not_before and not_after timestamps to sslinfo extension and pg_stat_ssl	Cary Huang	  	      
50/4829	Add trim_trailing_whitespace to editorconfig file	Jelte Fennema-Nio	 	      
50/4921	allow changing autovacuum_max_workers without restarting	Nathan Bossart	  	      
50/5052	better error message when --single is not the first arg to postgres executable	Nathan Bossart, Greg Sabino Mullane	 	      
50/5158	Blast-RADIUS mitigation	Thomas Munro	 	      

PostgreSQL BuildFarm Status X +

https://buildfarm.postgresql.org/cgi-bin/show_status.pl

PostgreSQL BuildFarm

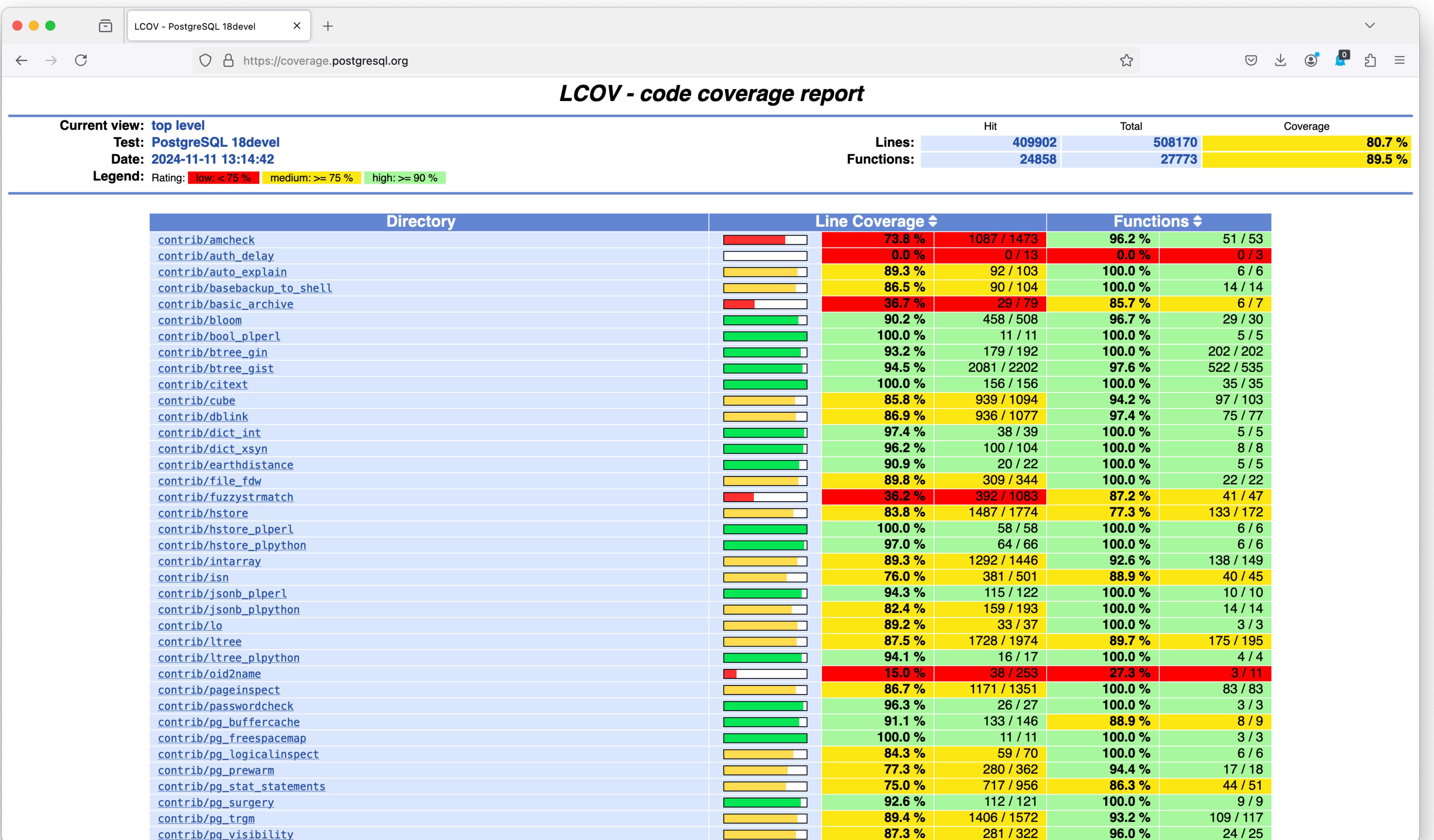
Home Status Failures Members Register Typedefs GitHub Email lists

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	= gssapi	= llvm	= meson	= nl	= openssl	= pam											
		= perl	= python	= tap-tests	[tcl]	= tcl	= thread-safety	= vpath	= xml											
Branch: master																				
Alias	System	Status			Flags															
chameleon	Ubuntu 20.04.6 LTS (Focal Fossa) gcc 9.4.0 ppc64le (POWER9)	00:21 ago	OK	[c1c0900]	Config															
turbot	Ubuntu 22.04.3 LTS gcc 11.4.0 aarch64	01:02 ago	OK	[c1c0900]	Config															
gokiburi	Debian sid clang 11.0.1 aarch64	00:42 ago	OK	[c1c0900]	Config															
dogfish	Alpine Linux 3.20.1 gcc 13.2.1 x86_64	01:13 ago	OK	[c1c0900]	Config															
chimaera	Debian GNU/Linux 9 (stretch) gcc 6.3.0 ppc64le (POWER9)	01:20 ago	OK	[c1c0900]	Config															
hamerkop	Windows Server 2016 Visual C++ Visual Studio 2017 AMD64	01:47 ago	OK	[c1c0900]	Config															
lorikeet	Cygwin64/Windows 3.4.9/10 gcc 11.4.0 x86_64	02:52 ago	OK	[c1c0900]	Config															
basilisk	Alpine Linux 3.20.1 gcc 13.2.1 x86_64	02:08 ago	OK	[c1c0900]	Config															
lammergeier	Debian GNU/Linux 12 (bookworm) gcc 12.2.0 ppc64le (POWER9)	02:06 ago	OK	[c1c0900]	Config															
ruddy	SUSE Linux Enterprise Server 15 SP2 gcc 11.2.1 s390x (z15)	02:14 ago	OK	[c1c0900]	Config															
widowbird	Debian 11.5 gcc 10.2.1 aarch64	04:17 ago	OK	[c1c0900]	Config															
nuthatch	ArchLinux rolling release GCC 13.1.1 loongarch64	02:47 ago	OK	[c1c0900]	Config															
frog'hopper	Red Hat Enterprise Linux 9.4 (FIPS 140) gcc 11.4.1 s390x (z15)	03:39 ago	OK	[c1c0900]	Config															
drongo	Windows Server 2019 Visual Studio 2019 x86_64	05:25 ago	OK	[c1c0900]	Config															
splitfin	Ubuntu 20.04.6 LTS (Focal Fossa) clang 18.1.3 ppc64le (POWER10)	03:33 ago	OK	[c1c0900]	Config															
molamola	Ubuntu 24.04 LTS (Noble Numbat) clang 18.1.3 ppc64le (POWER10)	03:17 ago	OK	[c1c0900]	Config															



NLS Status Tables

The tables below shows which areas of the PostgreSQL source are prepared for translation, and the progress of those translations. The numbers are percents of translated messages. By following the links, you can download freshly baked PO files that are merged up against the latest program sources. No PostgreSQL source tree is needed for translation work.

The highlighted boxes are the files that have a sufficient fraction of strings translated to be considered for release. Files that are 100% translated are specially highlighted. All other files will not be part of the PostgreSQL release.

The grey numbers are translations that do not exist yet, but where this web site has initialized the translations files for you with data from the existing translations for the same language.

You can work in several branches. Please see the status information below and follow the announcements on the [mailing list \(subscribe\)](#) about when a branch is about to be released.

- [17 branch](#) — complete this now
- [16 branch](#) — maintenance
- [15 branch](#) — maintenance
- [14 branch](#) — maintenance
- [13 branch](#) — maintenance
- [12 branch](#) — maintenance

Other information: [contributor/translator information \(wiki\)](#)

17 branch

Last update: Mon Nov 11 2024 10:24:52 GMT+0100 (Central European Standard Time)

	af	cs	de	el	es	fa	fr	he	hr	hu	id	it	ja	ka	ko	nb	nl	pl	pt_BR	ro	ru	sk	sl	sv	ta	tr	uk	vi	zh_CN	zh_TW	30
ecpg (130 strings)		93	100	99	100		100	2	3	1	10	99	97	100	99	1	1	86	99	7	100	10	3	100	1	90	100	89	95	99	18 (96)
ecpglib (32 strings)		100	100	100	100		100					100	100	100	100			100	100		100			100	100	100	100	100	100	18 (100)	
initdb (205 strings)		65	100	88	98		100	32	4		14	81	100	100	88	3	5	32	86	20	100	11	14	98	16	62	98	33	97	87	23 (69)
libpq (301 strings)	3	17	99	95	99		100	14	3		4	19	99	99	95	3		15	95	1	99	3	7	99	9	15	99	1	18	94	24 (54)
pg_amcheck (119 strings)		26	100	81	99	1	100	15	5	1	10	81	100	100	81	5	2	22	34	12	100	12	9	100	6	25	100	8	73	81	13 (92)
pg_archivecleanup (30 strings)	3	63	100	73	100	3	100	13	3	3	13	73	96	100	73	13	6	16	73	13	100	16	16	100	10	56	100	16	93	73	18 (78)
pg_basebackup (481 strings)		49	100	67	95		100	10	1		5	66	99	100	67	2	1	10	9	1	100	5	3	100	1	47	100	13	50	67	20 (62)
pg_checksums (75 strings)	1	61	100	78	100	1	100	9	6	1	20	78	82	100	78	6	8	30	78	22	100	18	16	100	6	52	100	9	62	78	16 (84)
pg_combinebackup (174 strings)		22	100	52	95		100	5	4	1	14	55	100	99	56	3	4	20	32	10	100	12	9	99	3	24	99	5	55	54	8 (99)

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Not set in stone

The background of the image is a clear, light blue sky. Overlaid on it is a massive, dense cloud of balloons. The balloons are primarily three colors: blue, yellow, and orange. They are scattered throughout the frame, creating a sense of depth and movement as if they are floating upwards. The balloons vary in size and are densely packed in certain areas, particularly towards the center and edges.

Releasing



Packaged for all popular Linux distros, all
the major *BSD's, macOS and Windows

Windows installers

macOS installer

Mac.app

Major version annually

Minor version(s) at least every quarter

Off-schedule minor releases happen sometimes

Minors never include features

Backwards compatibility is a priority

PostgreSQL: Out-of-cycle release scheduled for November 21, 2024

https://www.postgresql.org/about/news/out-of-cycle-release-scheduled-for-november-21-2024-2958/

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November 14, 2024: PostgreSQL 17.1, 16.5, 15.9, 14.14, 13.17, and 12.21 Released!

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Out-of-cycle release scheduled for November 21, 2024

Posted on **2024-11-15** by PostgreSQL Global Development Group


The PostgreSQL Global Development Group is planning for an out-of-cycle release on November 21, 2024 to address two regressions that were released as part of the **November 14, 2024 update release**, which included releases for **17.1, 16.5, 15.9, 14.14, 13.17, and 12.21**. As part of this release, we will issue fixes for all supported versions (17.2, 16.6, 15.10, 14.15, 13.18), and for 12.22, even though PostgreSQL 12 is now EOL.

While these regressions may not impact all users, the PostgreSQL Global Development Group determined that it would be better to address these sooner than the **next scheduled release on February 13, 2025**. A high-level description of the regressions are as follows.

1. The fix for **CVE-2024-10978 prevented `ALTER USER ... SET ROLE ...` from having any effect**. This will be fixed in the upcoming release.
2. Certain PostgreSQL extensions took a dependency on an Application Binary Interface (ABI) that was modified in this release and **caused them to break**. Currently, this can be mitigated by rebuilding the extensions against the updated definition.

If you are impacted by either of these issues, we advise to wait for the availability of 17.2, 16.6, 15.10, 14.15, 13.18, and 12.22 before upgrading.

More?



Malmö PostgreSQL User Group!

Copenhagen PostgreSQL User Group

NORDIC PGDAY 2025

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NORDIC PGDAY 2025

March 18 - Copenhagen

The 2025 edition of Nordic PGDay will be held in Copenhagen, Denmark, on March 18 at the Copenhagen Marriott Hotel.

Nordic PGDay 2025 is an excellent chance to learn more about the worlds most advanced open source database among your peers in the Nordic region.

Latest news

Nordic PGDay returns to Denmark in 2025!

⌚ 2024-09-05 by Daniel Gustafsson

Nordic PGDay will once again return to Copenhagen for a day of PostgreSQL by the sea. Our call for papers has opened and we look forward to hearing your stories. We have also opened for sponsorships with two levels available, at a first come first serve basis.

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PGDay/MED 2024 - PGDay/MED 202X +

https://2024.pgdaymed.org

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PGDAY/MED 2024

December 05 - Napoli, Italy

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This year's edition of PGDay/MED will be held in Napoli, Italy on

Our Talking Postgres podcast about human side of PG

Recent guests: David Rowley, Melanie Plageman, & Tom Lane...



TalkingPostgres.com



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2025

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TL;DR

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for good and bad

Vibrant and active community

Strong independence

Solid foundation in any stack

More ways to get involved than what can
be mentioned here

Code, Patch review, Translations, Testing,
Documentation, Buildfarm, Committees,
User Groups, Conferences, Sponsoring,
Advocacy and much more

Postgres is all of us

Your contribution

matters



Thank you!

daniel@yesql.se