

DE-MYSTIFYING CONTRIBUTING TO POSTGRESQL

PGDAY PARIS
2018-03-15

Lætitia AVROT
Loxodata

WHO



Lætitia Avrot

- PostgreSQL consultant and teacher
- DBA PostgreSQL for more than 10 years (and also Oracle and SQL Server)
- @l_avrot

LOXODATA

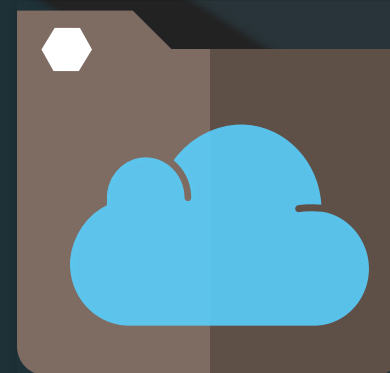
Company built on 3 essential pillars



PostgreSQL

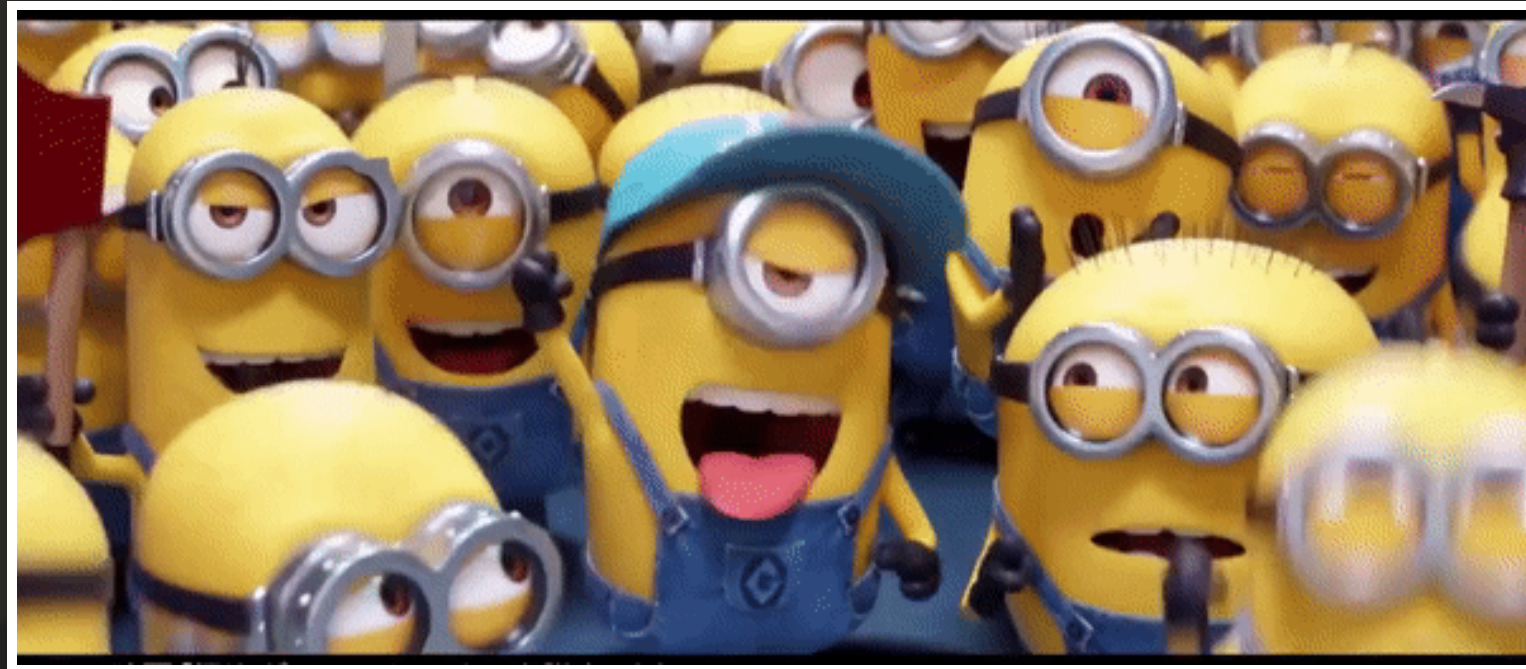


DevOps



Cloud

WHAT



Contributing to PostgreSQL

- The PostgreSQL community
- The PostgreSQL projects and tools
- The story of my patch
- How you can help

THE COMMUNITY



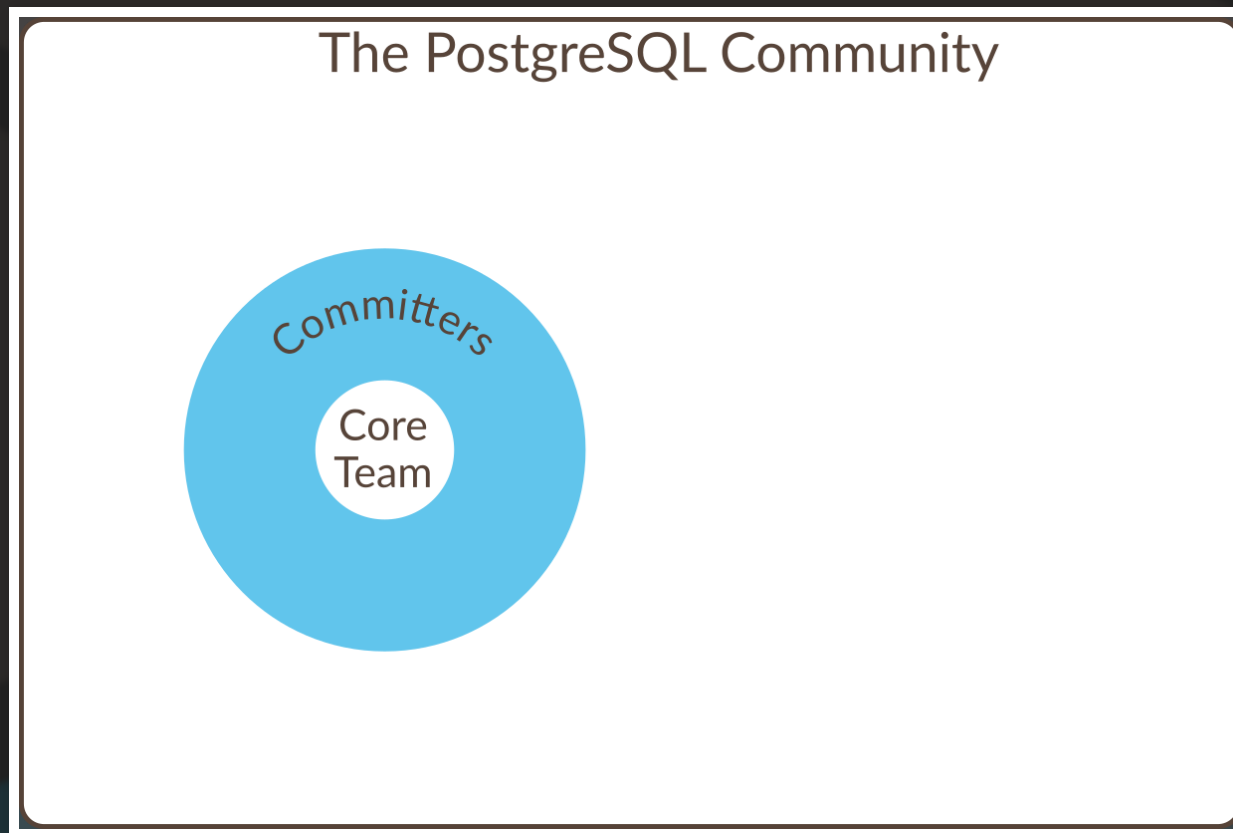
The PostgreSQL Community

The PostgreSQL Community

Core
Team

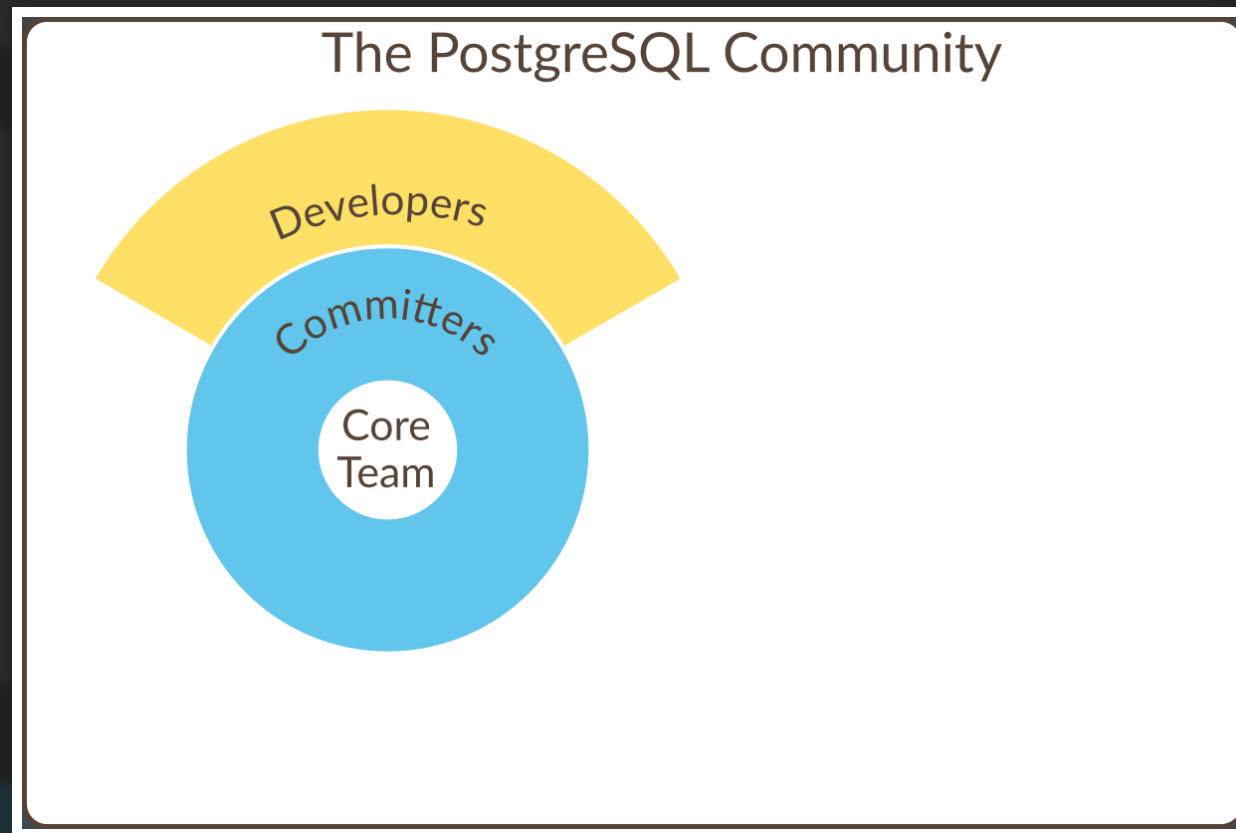
The core team

- 5 members
- Independant
- Act as project managers



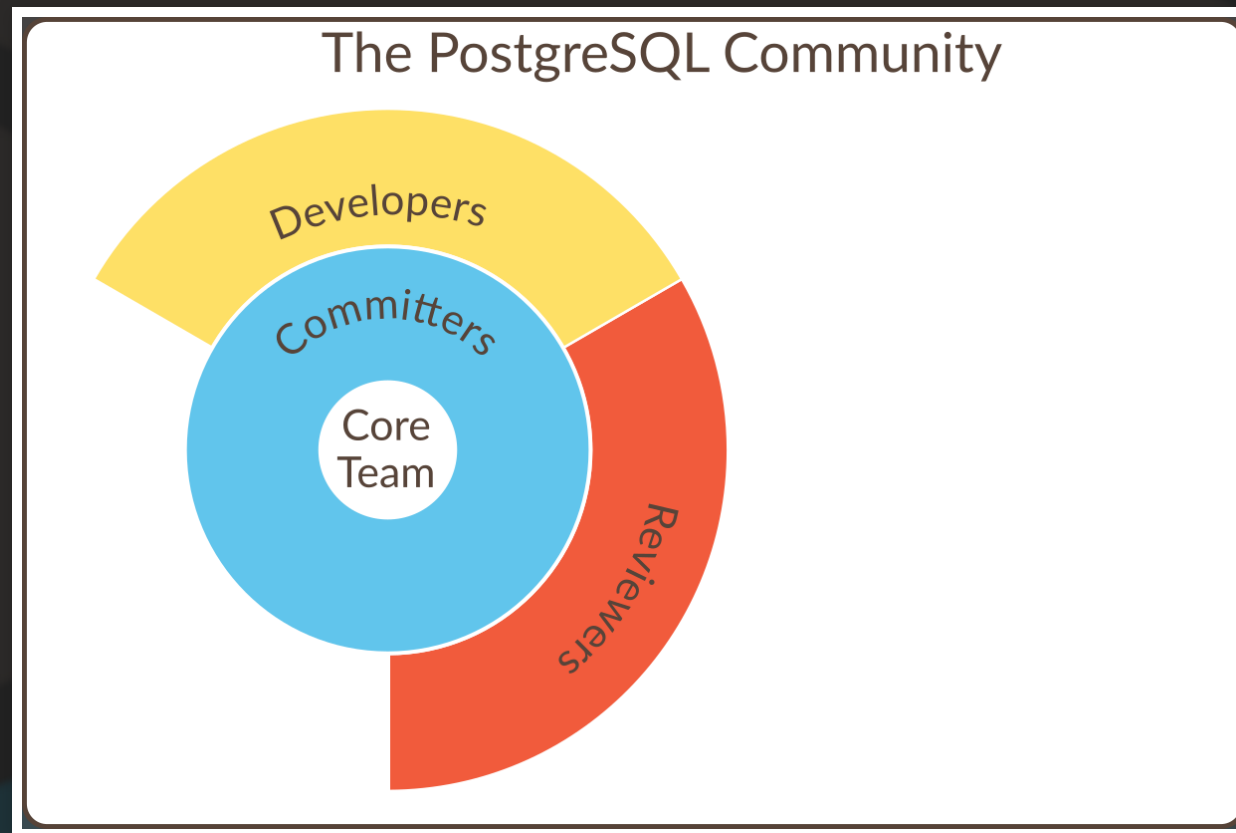
Committers

- More or less 15 members
- Have git push permissions
- Responsible for code quality



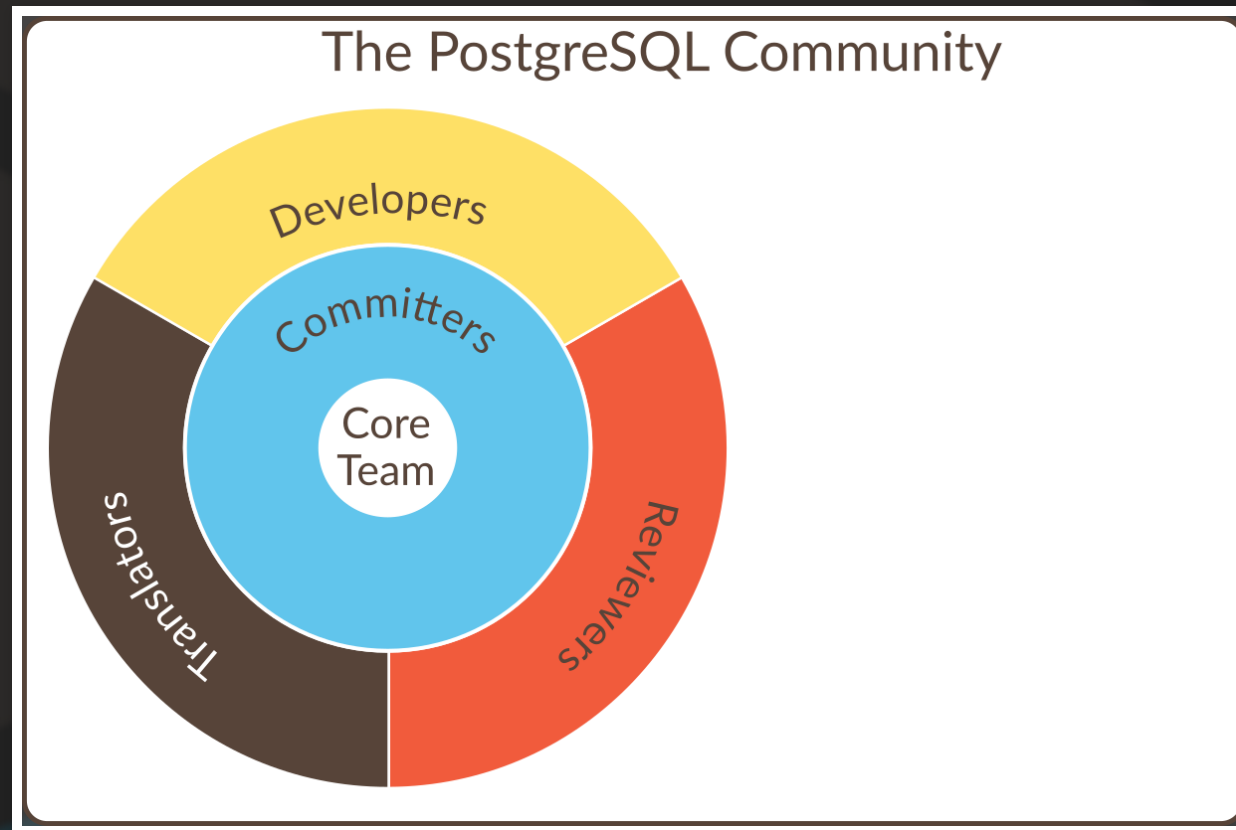
Developpers

- C code
- Need to comply with [style guide](#)
- Need to comment (a lot)



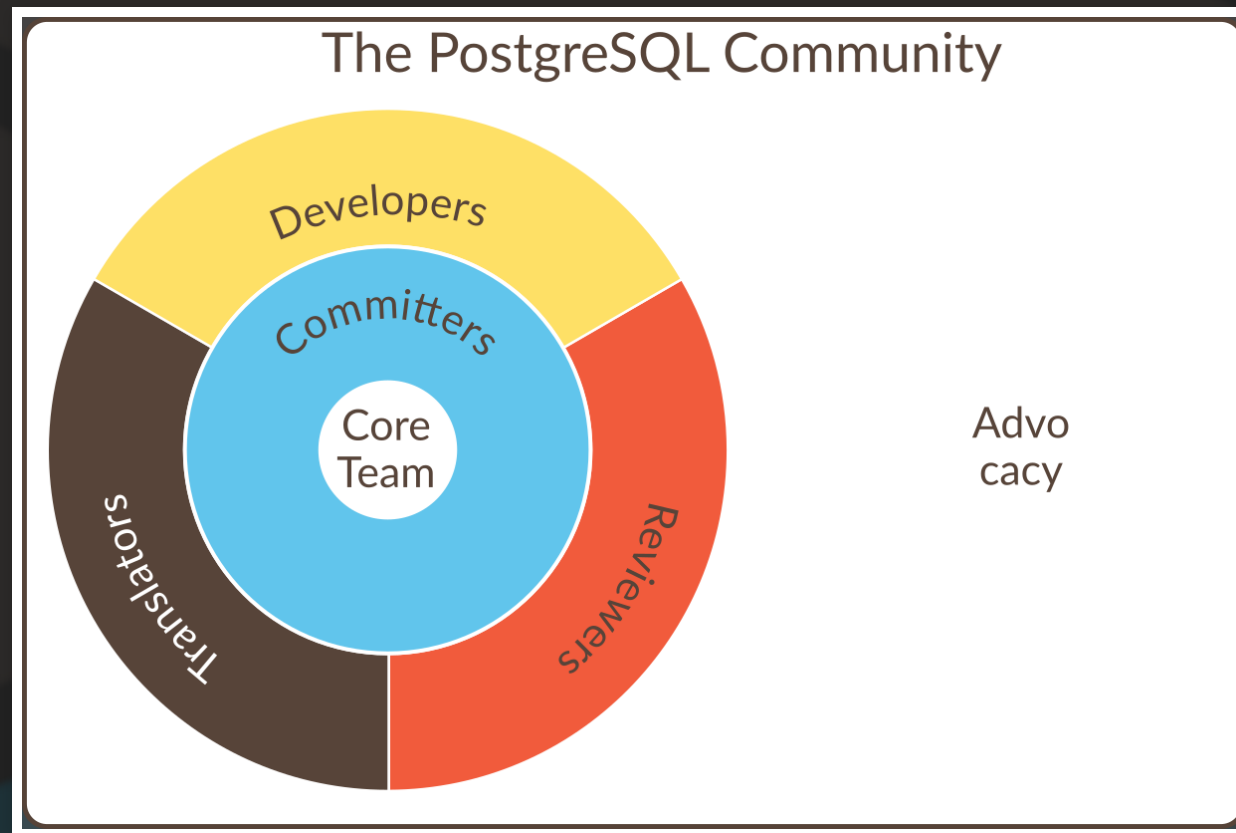
Reviewers

- No need to be a dev
- But technical background needed
- If you don't understand it, others won't



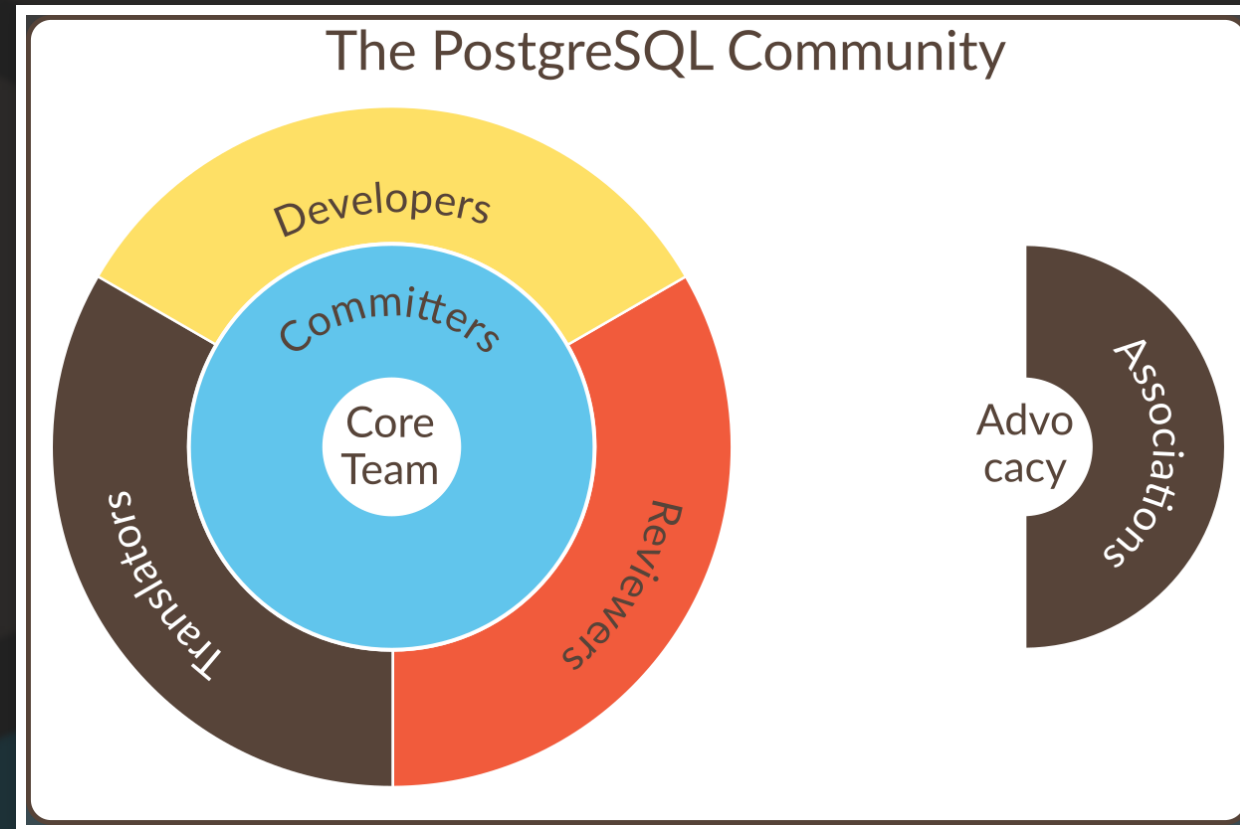
Translators

- No need to be a dev
- Software messages
- Documentation
- Others (press releases...)



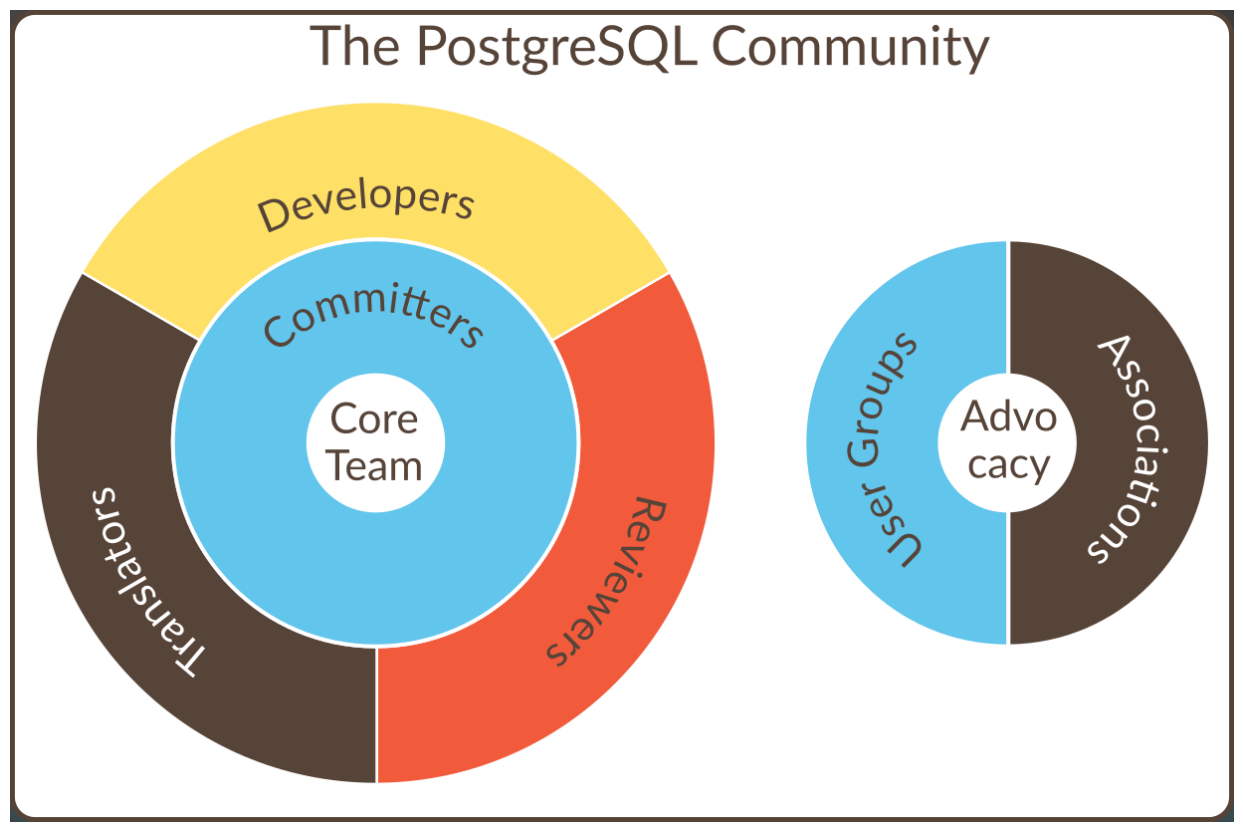
Advocacy

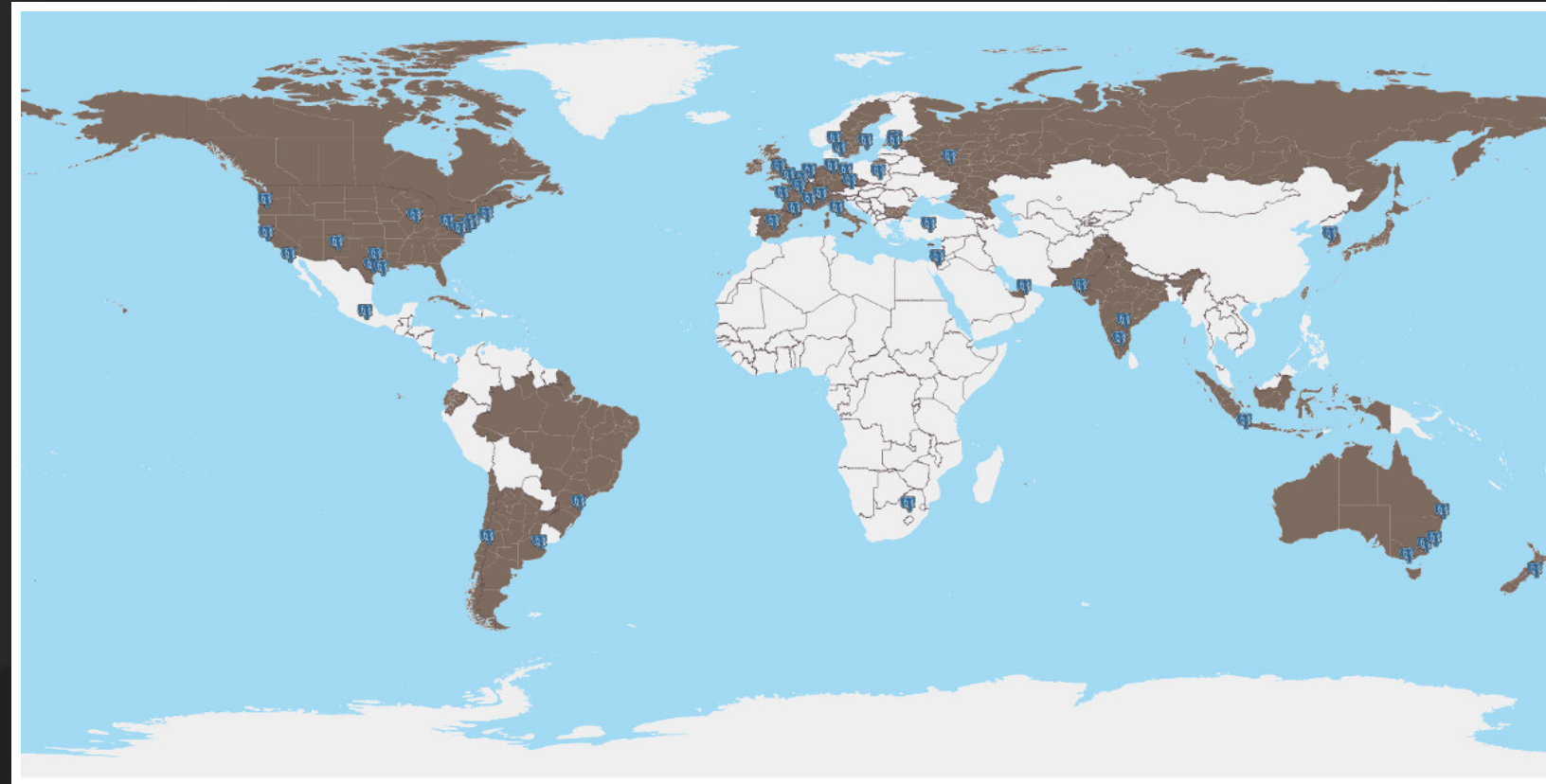
- Promote PostgreSQL use
- Share informations about PostgreSQL
- Regional [press contacts](#)



Associations

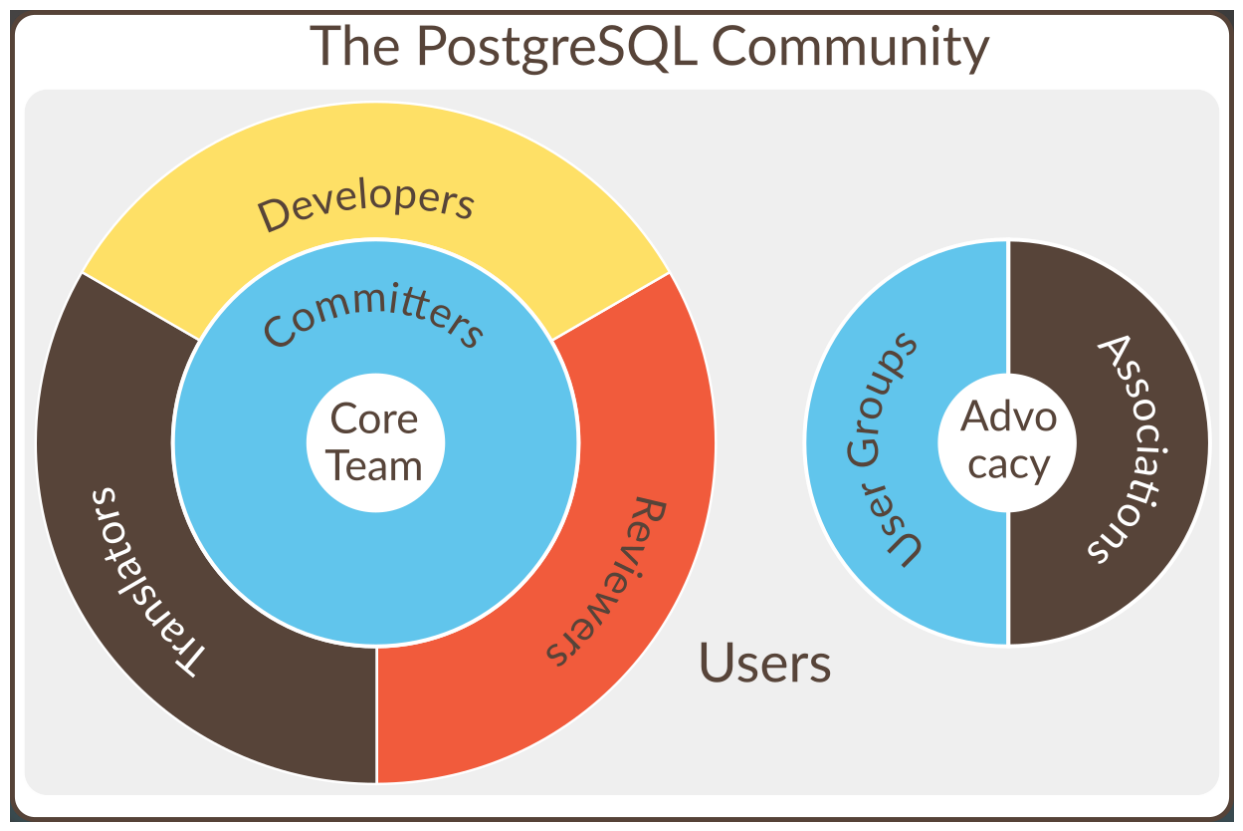
- Small to large groups of users
- National or international





Local User Groups and Meetups

- User gathering
- Sharing thoughts, use cases, issues...



PROJECTS

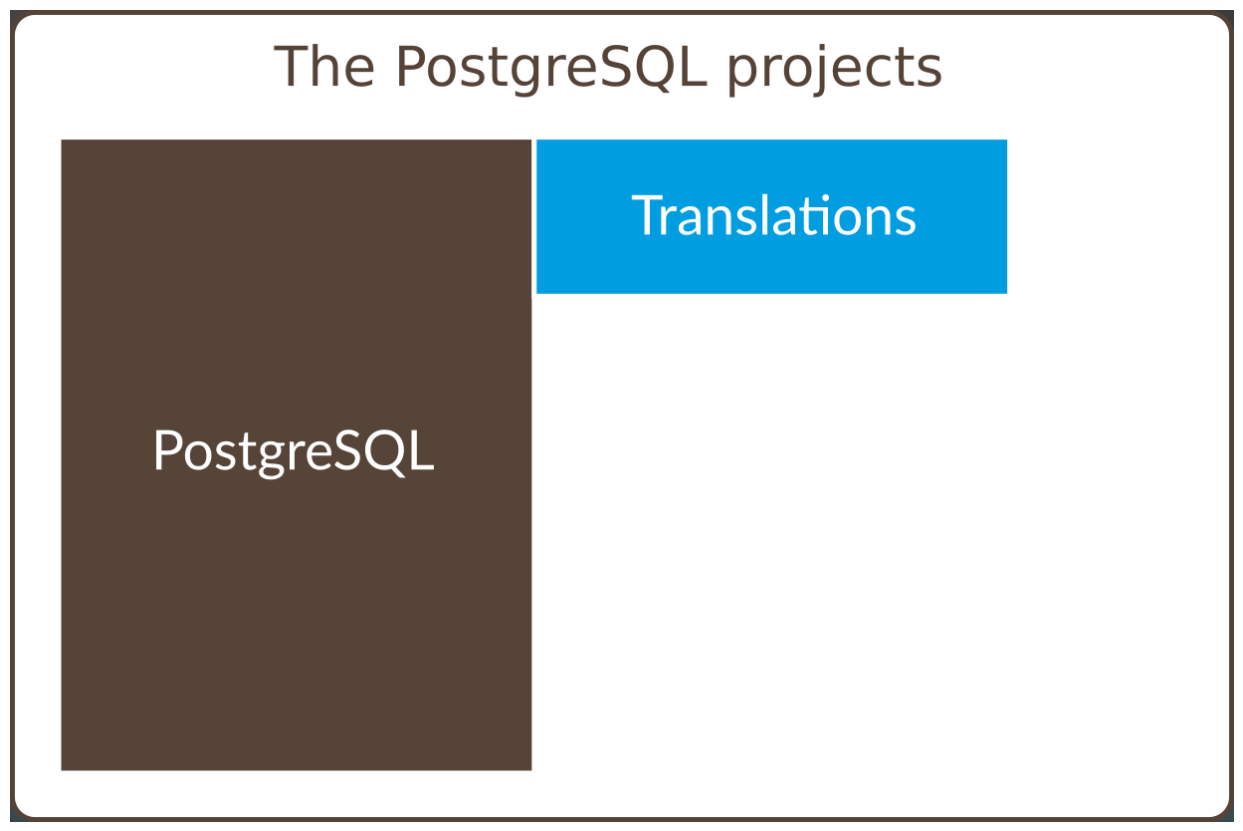


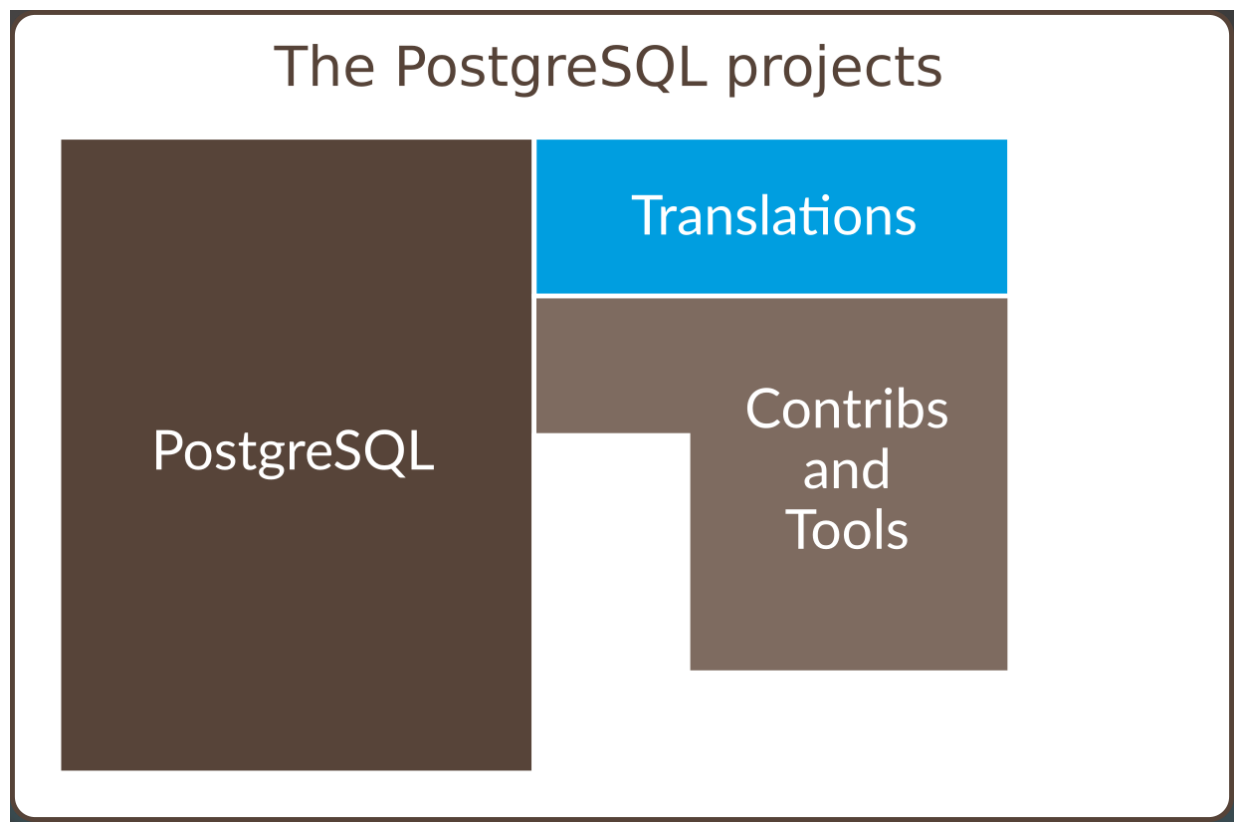
The PostgreSQL projects

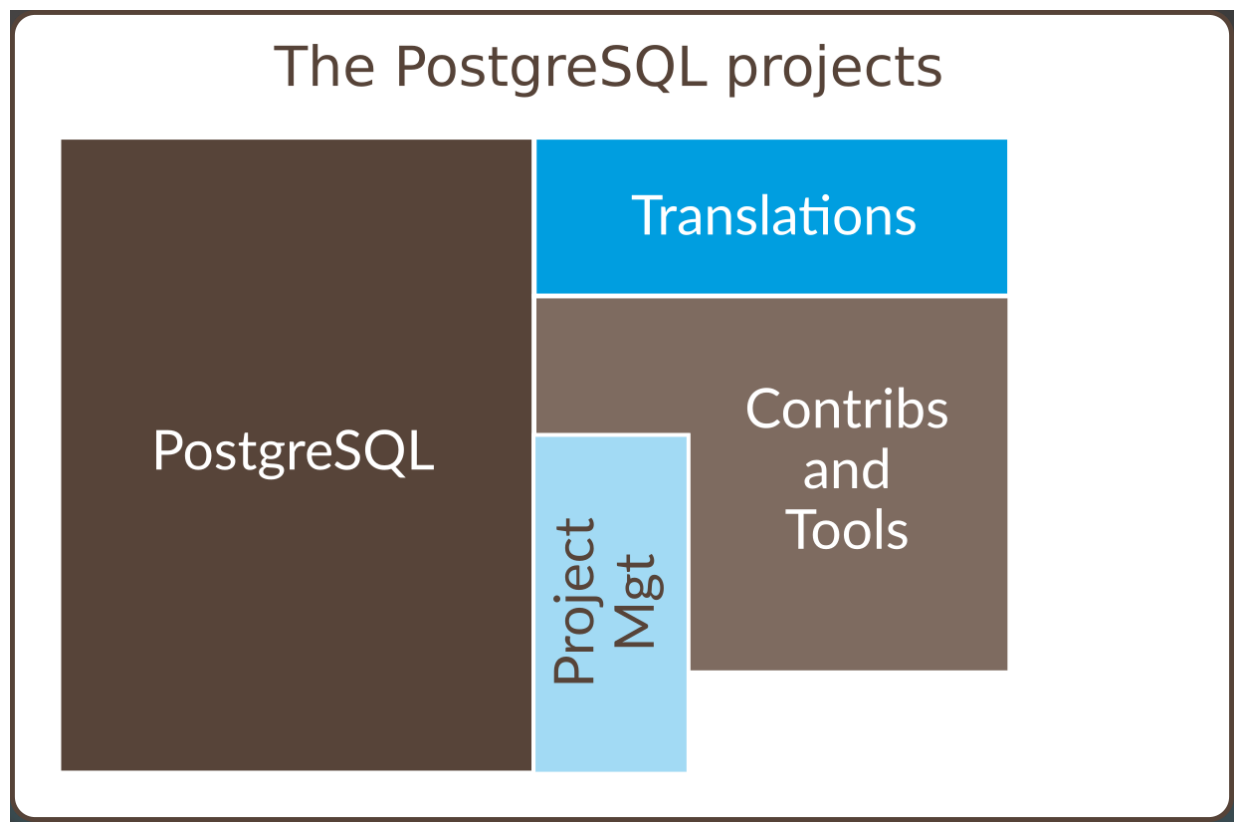
The PostgreSQL projects

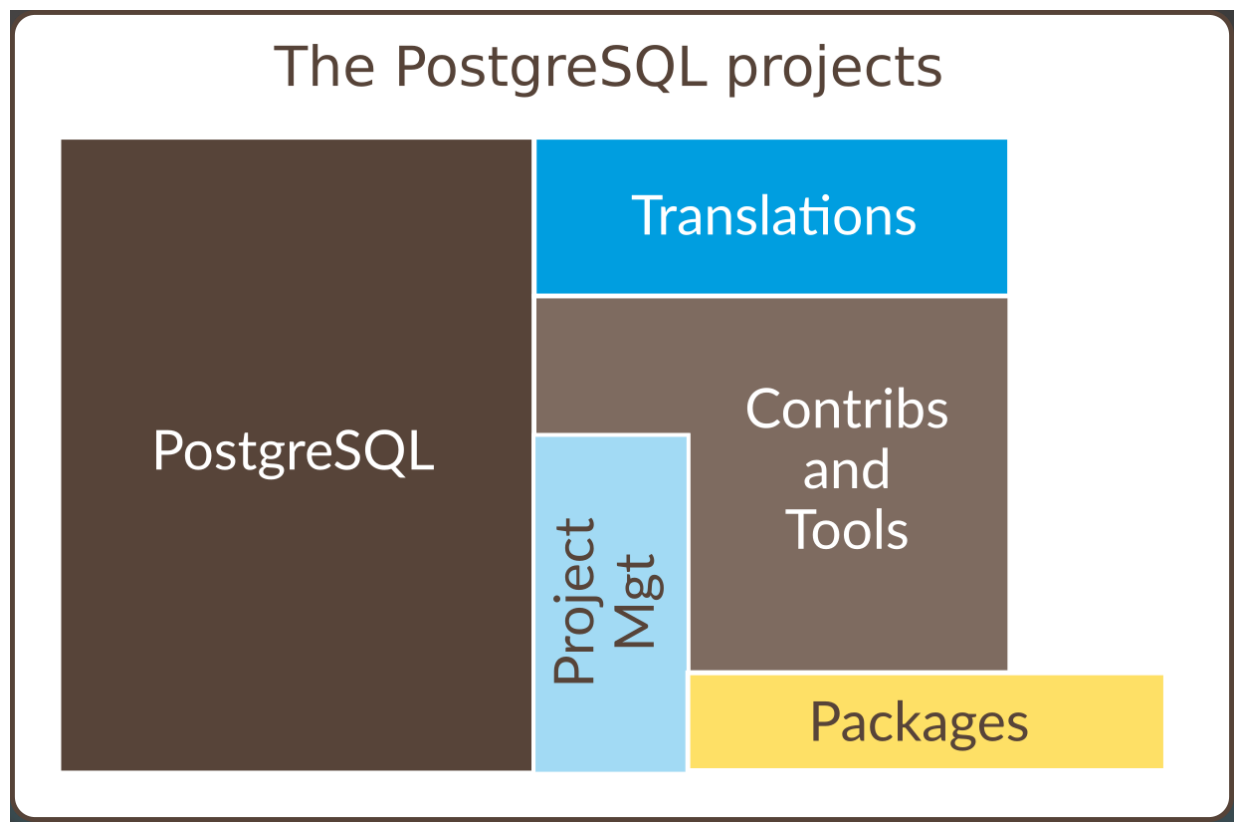


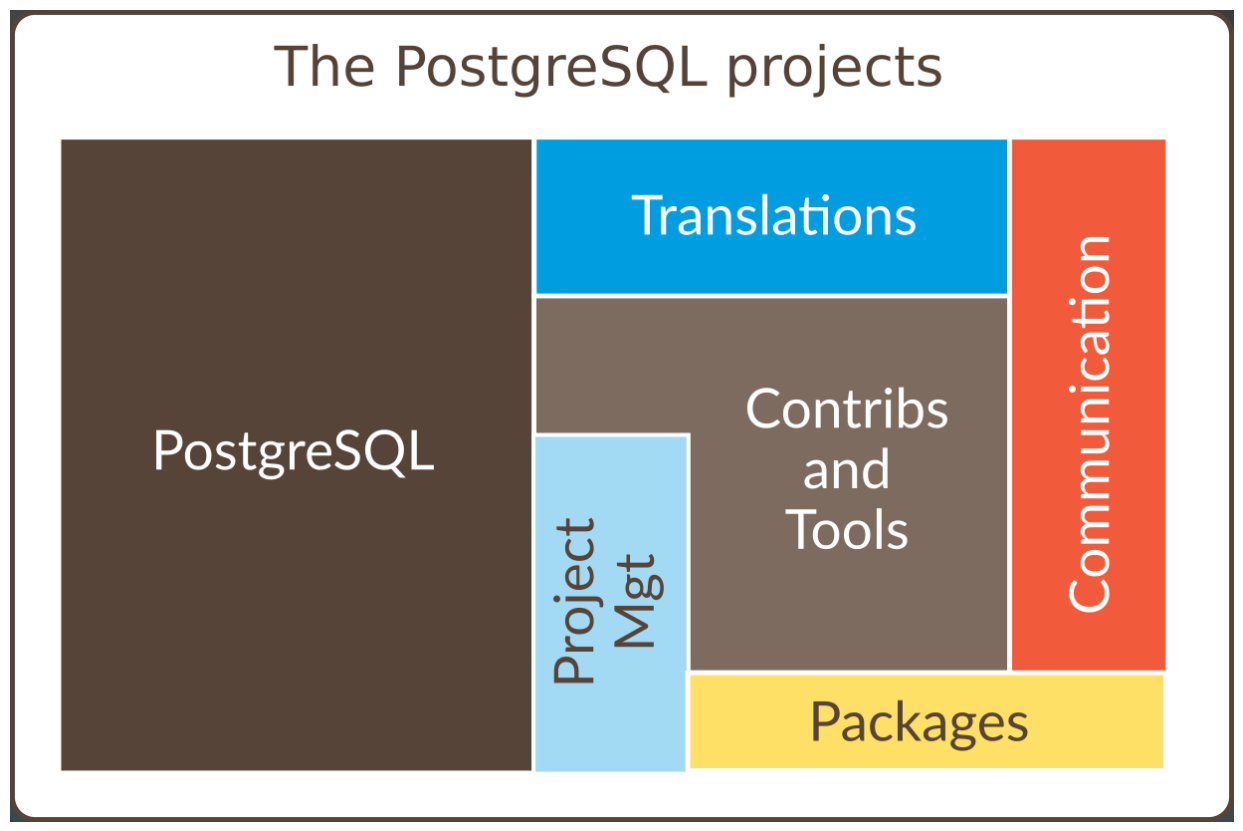
PostgreSQL













The road map

- 1 major release per year
- 1 minor release per quarter (minimum)



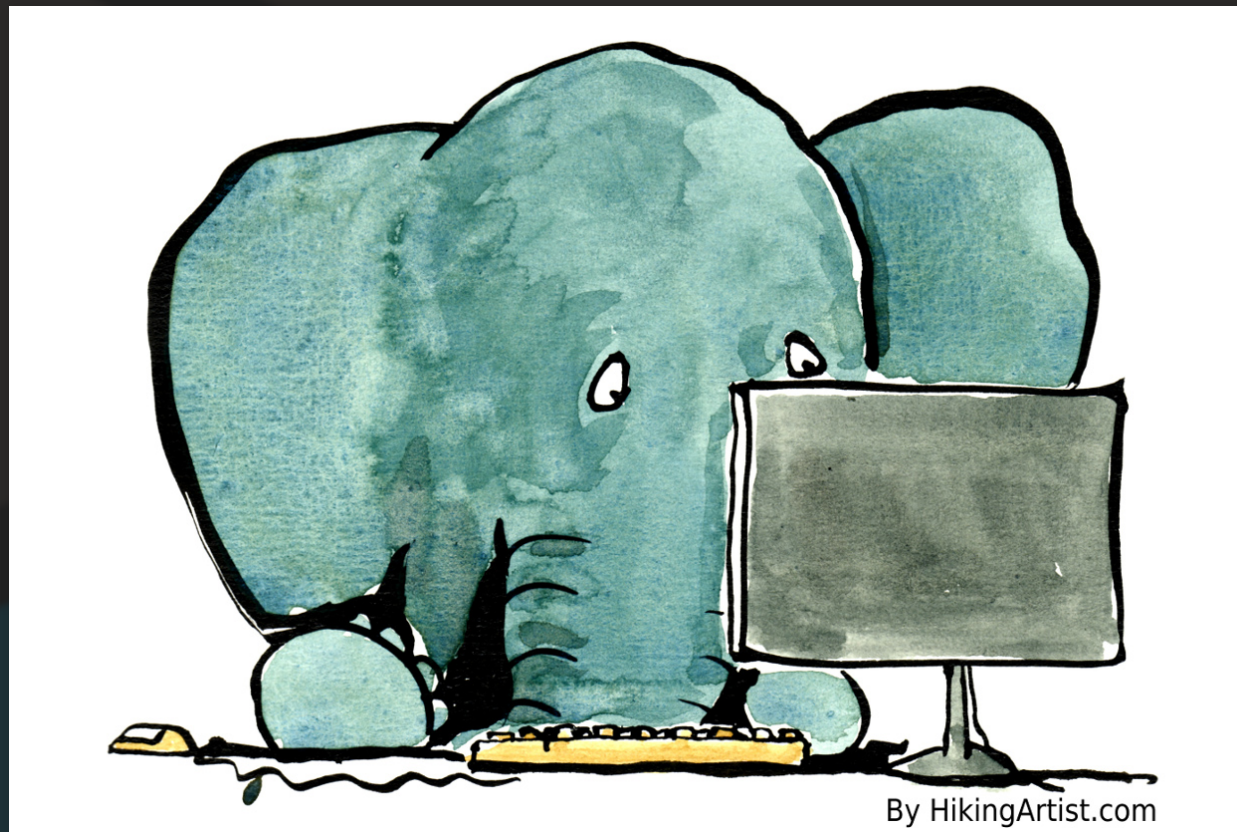
Commitfests

- 1 month long
- When most patches are committed
- Needs a commitFest Manager

commitfest.postgresql.org

TOOLS





Websites

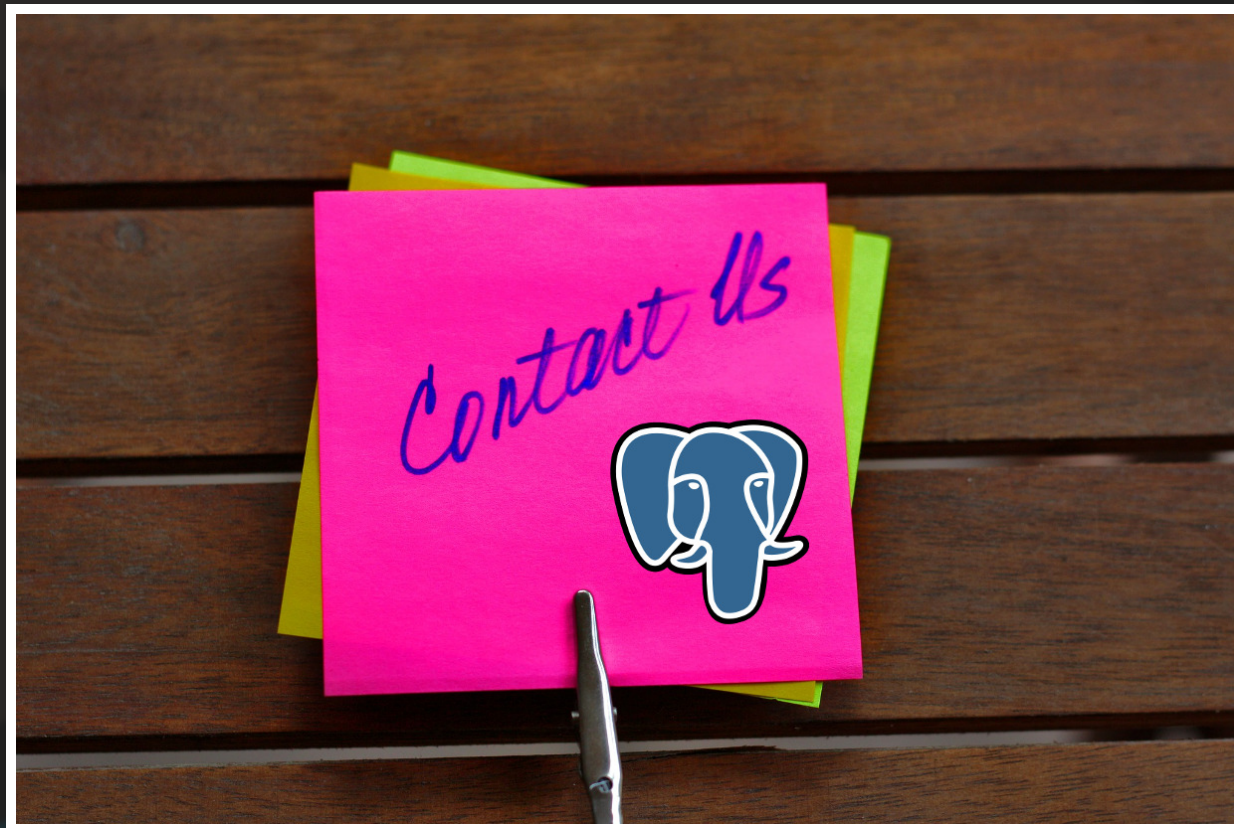
Websites

www.postgresql.org

wiki.postgresql.org

www.postgresql.org/docs

planet.postgresql.org



Mailing-lists

- Bug submission (use the [form](#))
- postgresql-novice for newcomers
- Special lists for associations and local groups
- postgresql-hackers (be carefull, these guys are SO chatty)

Security issues :
security@postgresql.org



IRC

- Chanel #postgresql on irc.freenode.net
- Live chat with other PostgreSQL users
- Don't ask to ask, just ask!

irc.freenode.net



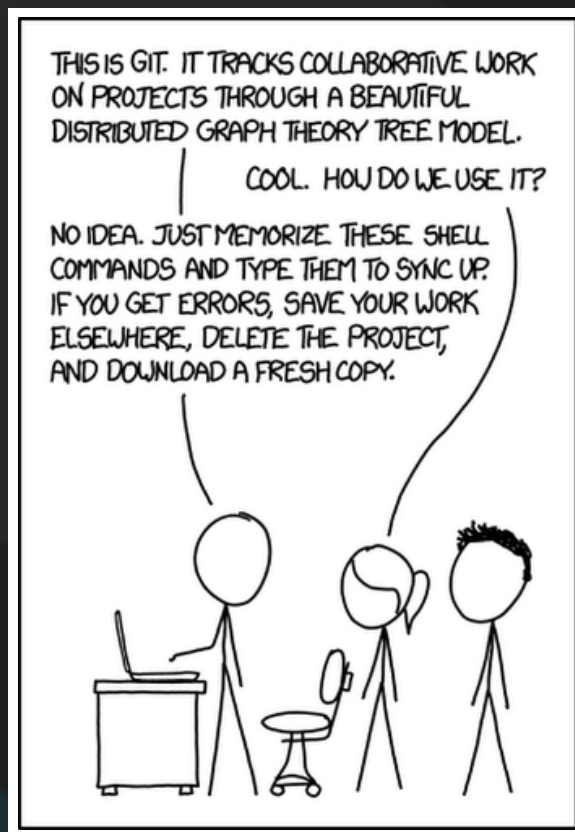
Twitter

- Stay in touch with other PostgreSQL users
- Brand new community account : @postgresql



Other ways to stay in touch

- Postgres [Slack](#)
- Postgres [hangout](#)
- Forums (as [stackexchange](#))



Git

- if you don't know git, don't be afraid
 - `git clone`
 - `git pull --rebase`
 - `git diff`
- Use the PostgreSQL [Wiki page](#)

MY FIRST PATCH





What's a patch?

A patch is a piece of software designed to update a computer program or its supporting data, to fix or improve it.

Source : Wikipedia



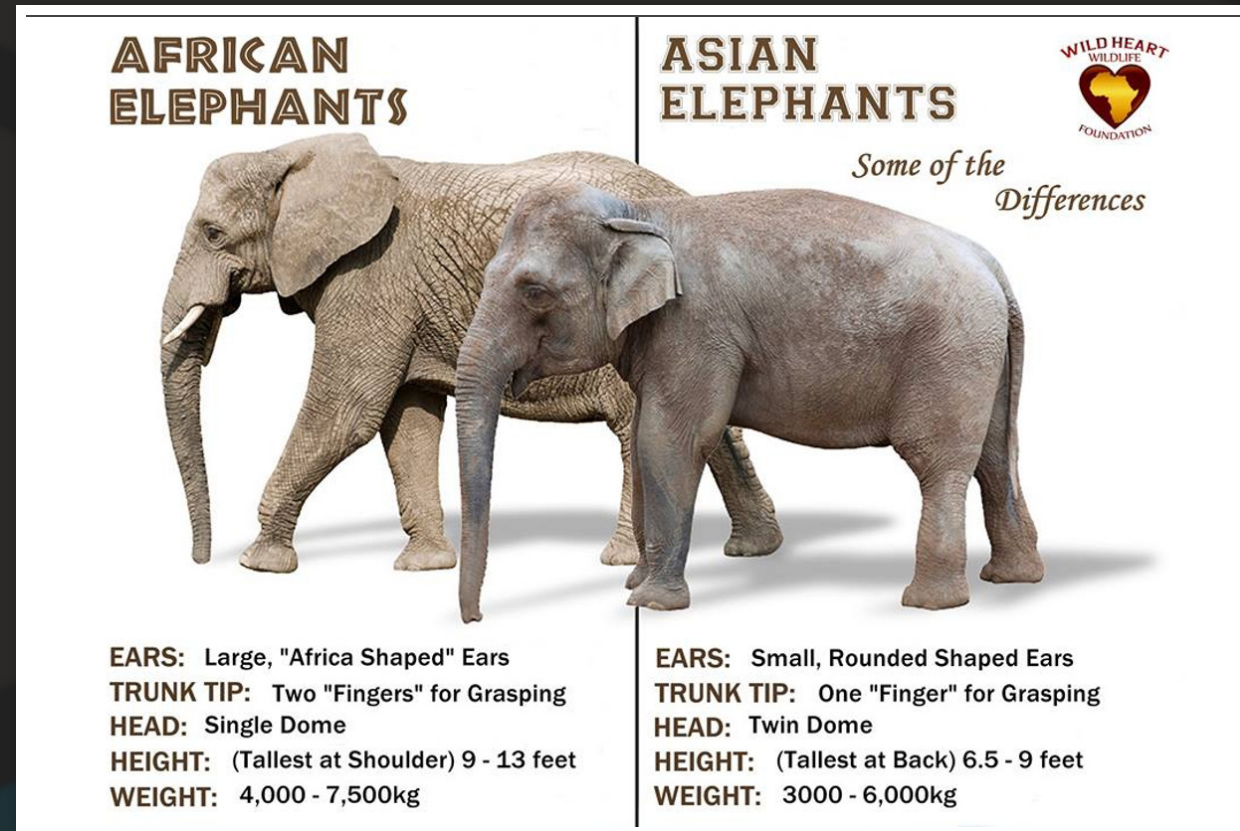
My story

- Missing section in ALTER TABLE documentation
- Discussion with peers
- Bug reporting
- Patch creation with guru mentors
- Patch submission



Creating the patch

- PostgreSQL `git clone`
- Building from source code
- Building documentation from source code
- Copy/Paste missing section from `CREATE TABLE` to `ALTER TABLE`
- Re-building documentation from source code



git diff

- With context
- Use the wiki [Creating clean patches](#) page
- [Format your git diff output](#)

But sometimes, even the best men don't follow instructions...

```
On Fri, Aug 3, 2012 at 2:56 AM, Qi Huang <huangqiyx(at)outlook(dot)com> wrote:
> Hi, hackers
> I was exporting my project to a patch file. As the patch review
> requires, the patch needs to be in context diff format
> (http://wiki.postgresql.org/wiki/Reviewing\_a\_Patch). But the git diff
> exports in a format similar to unified format. What is everyone doing with
> patching currently? Is there any standard way?

When I want a context diff, I just do:

git diff | filterdiff --format=context

--
Robert Haas
EnterpriseDB: http://www.enterprisedb.com
The Enterprise PostgreSQL Company
```

git diff without context to the left,
git diff with context to the right

<pre>diff --git a/doc/src/sgml/ref/alter_table.sgml index 7bcf242..26eda7e 100644 --- a/doc/src/sgml/ref/alter_table.sgml +++ b/doc/src/sgml/ref/alter_table.sgml @@ -96,6 +96,17 @@ ALTER TABLE [IF EXISTS] < [MATCH FULL MATCH PARTIAL MATCH SIMP [DEFERRABLE NOT DEFERRABLE] [INITIALLY D +<phrase>and <replaceable class="parameter">ta + +[CONSTRAINT <replaceable class="parameter">c +{ CHECK (<replaceable class="parameter">expr + UNIQUE (<replaceable class="parameter">col + PRIMARY KEY (<replaceable class="parameter + EXCLUDE [USING <replaceable class="paramet + FOREIGN KEY (<replaceable class="parameter + [MATCH FULL MATCH PARTIAL MATCH SIMP +[DEFERRABLE NOT DEFERRABLE] [INITIALLY D + +<phrase>and <replaceable class="parameter">ta + + [CONSTRAINT <replaceable class="paramete</pre>	<pre>diff --git a/doc/src/sgml/ref/alter_table.sgml index 7bcf242..26eda7e 100644 *** a/doc/src/sgml/ref/alter_table.sgml --- b/doc/src/sgml/ref/alter_table.sgml ***** *** 96,101 **** ALTER TABLE [IF EXISTS] <rep --- 96,112 ---- [MATCH FULL MATCH PARTIAL MATCH SIM [DEFERRABLE NOT DEFERRABLE] [INITIALLY + +<phrase>and <replaceable class="parameter">t + +[CONSTRAINT <replaceable class="parameter"> +{ CHECK (<replaceable class="parameter">exp + UNIQUE (<replaceable class="parameter">co + PRIMARY KEY (<replaceable class="paramete + EXCLUDE [USING <replaceable class="parame + FOREIGN KEY (<replaceable class="paramete + [MATCH FULL MATCH PARTIAL MATCH SIM +[DEFERRABLE NOT DEFERRABLE] [INITIALLY + +<phrase>and <replaceable class="parameter">t + + [CONSTRAINT <replaceable class="paramet</pre>
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My submission

Hi,

In documentation, I've found that `table_constraint` is used in the ALTER TABLE synopsis but that definition of `table_constraint` is missing, so I submitted bug #14873.

I found the `table_constraint` definition in the CREATE TABLE synopsis and I just copied/pasted it on the ALTER TABLE synopsis.

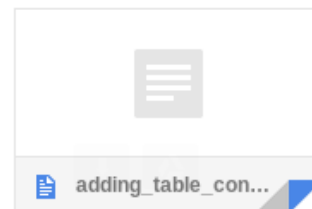
The patch should apply to MASTER. I build and tested it successfully on my computer.

There shouldn't be any platform-specific content.

You will find enclosed my patch. I tried my best to follow instructions on how to submit a patch.

Regards,

Lætitia



Use the [Submitting a patch](#) Wiki page

The result

Thanks, this looks pretty reasonable, but did you happen to look for any other keywords in the ALTER TABLE that should really be in ALTER TABLE also?

I'm specifically looking at, at least, `partition_bound_spec`. Maybe you could propose an updated patch which addresses that also, and any other cases you find?

Thanks again!

Patch corrected

Ah, yes. I remember having left out `partition_bound_spec` simply because I thought it was kind of how it was supposed to be done, seeing that neither `column_constraint` and `table_constraint` were expanded in the ALTER TABLE's synopsis.

It seems that there are indeed a couple of other things that need to be brought over to ALTER TABLE synopsis including `partition_bound_spec`. [9f295c08f877 \[1\]](#) added `table_constraint`, but missed to add the description of `index_parameters` and `exclude_element` which are referenced therein.

Attached find updated version of the Lætitia's patch.

Thanks,
Amit

Commit fest

ALTER TABLE Missing column_constraint explanation	Needs review	Lætitia AVROT (arkhena)	Amit Langote (amitlan), Vik Fearing (xocolatl)	sfrost	2018-01-14 02:14	2018-01-15 01:32
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Oh no!

Here's an update to move the new stuff to the correct side of the closing "`</synopsis>`". Builds for me, and the typesetting looks OK. I'm not sure why the preexisting bogo-productions have inconsistent indentation levels (looking at `table_constraint_using_index`) but that's not this patch's fault.

And another section was missing!

Thanks for fixing that.

I noticed that `partition_bound_spec` in the patch is missing hash partition bound syntax that was added after the original patch was written. Fixed in the attached.

Thanks,
Amit

It's ready!

ALTER TABLE Missing column_constraint explanation	Ready for Committer	Lætitia AVROT (arkhena)	Amit Langote (amitlan), Vik Fearing (xocolatl)
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And it's committed!

ALTER TABLE Missing column_constraint explanation	Committed	Lætitia AVROT (arkhena)	Amit Langote (amitlan), Vik Fearing (xocolatl)	sfrost
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... Now I can die without regret!

Improve **ALTER TABLE** synopsis master

```
author      Stephen Frost <sfrost@snowman.net>
             Fri, 2 Feb 2018 11:30:04 +0100 (05:30 -0500)
committer   Stephen Frost <sfrost@snowman.net>
             Fri, 2 Feb 2018 11:30:04 +0100 (05:30 -0500)
commit      a2a22057617dc84b500f85938947c125183f1289
tree        a73675e821780ce2e363eba48b9449466590bd62   tree | snapshot
parent      ad25a6b1f25baf09c869c903c9c8e26d390875f5   commit | diff
```

Improve ALTER TABLE synopsis

Add into the ALTER TABLE synopsis the definition of
partition_bound_spec, column_constraint, index_parameters and
exclude_element.

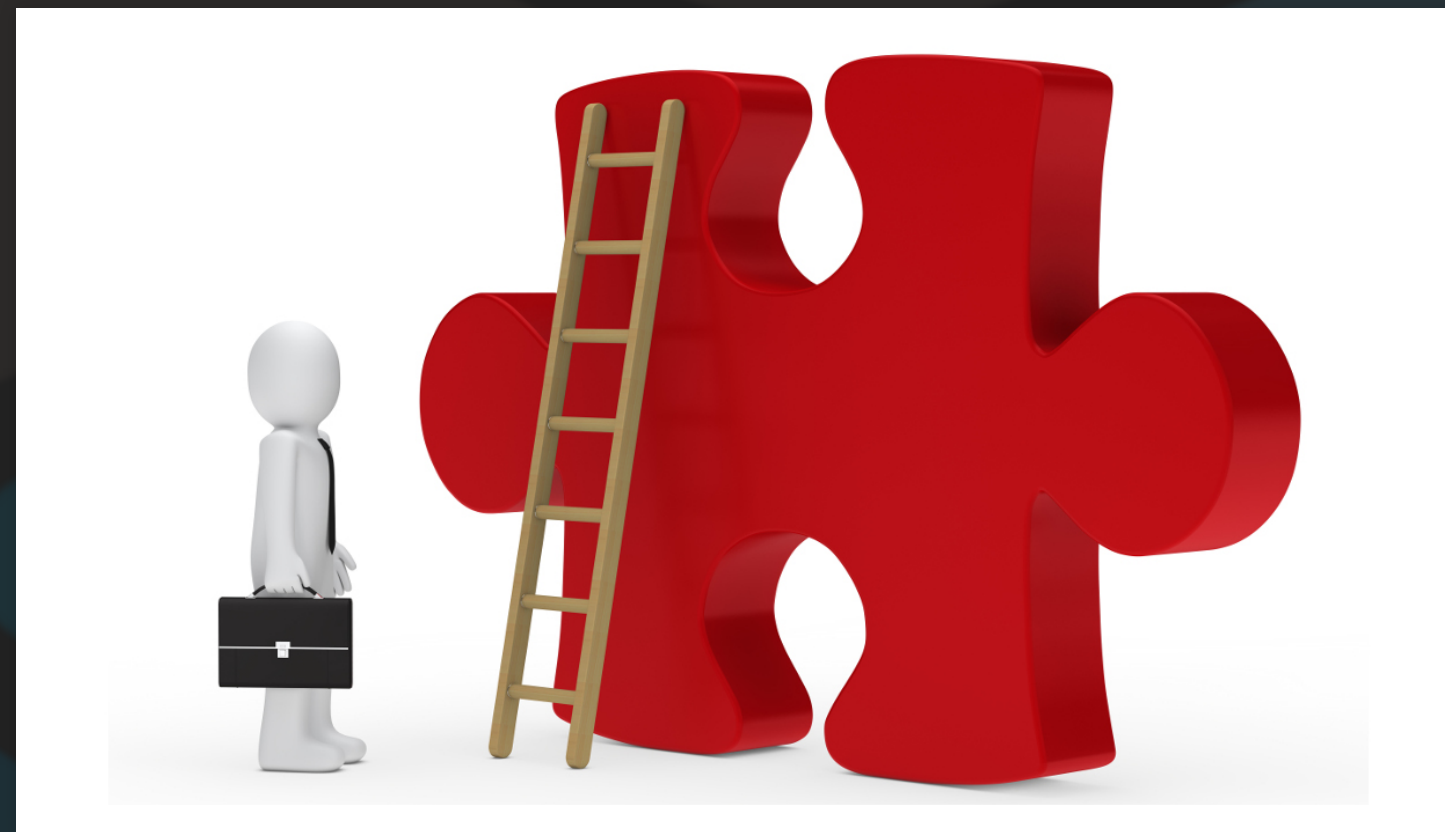
Initial patch by Lætitia Avrot, with further improvements by Amit
Langote and Thomas Munro.



What next ?

- Correcting some spelling errors in french translation
- Studying the code
- Observing reviewing in January Commit fest
- Proposed conf talks (and got accepted each time for now)

HOW YOU CAN HELP





Simple contributor

- use PostgreSQL
- share your experience
- answer other users' questions



Great Contributor

- Create/help organizing user group/Meetup
- Create/help organizing event
- Invest time/money in PostgreSQL Associations



Super Contributor

- Report bugs
- Create patches
- Review patches

CONCLUSION



**KEEP
CALM
AND
LISTEN TO THE
CONCLUSION**



It's all about you

- You're already contributing
- So, next step ?





Please join us!

QUESTIONS?



The end

- We're hiring!
- recrutement@loxodata.com

Thanks to Dimitri, Greg, Vik, Robert and Alvaro for your patience and time

Thanks to Frits Ahlefeldt, Freepik, Grzm, Alvaro Herrera, Pixabay and Xkcd.com for illustrations and photos