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DE-MYSTIFYING CONTRIBUTING TO POSTGRESQL

FOSDEM
2018-02-03

Lætitia AVROT
Loxodata

@l_avrot

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WHO

Lætitia Avrot

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

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Company built on 3 essential pillars

PostgreSQL DevOps Cloud

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WHAT

Contributing to PostgreSQL

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

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THE COMMUNITY

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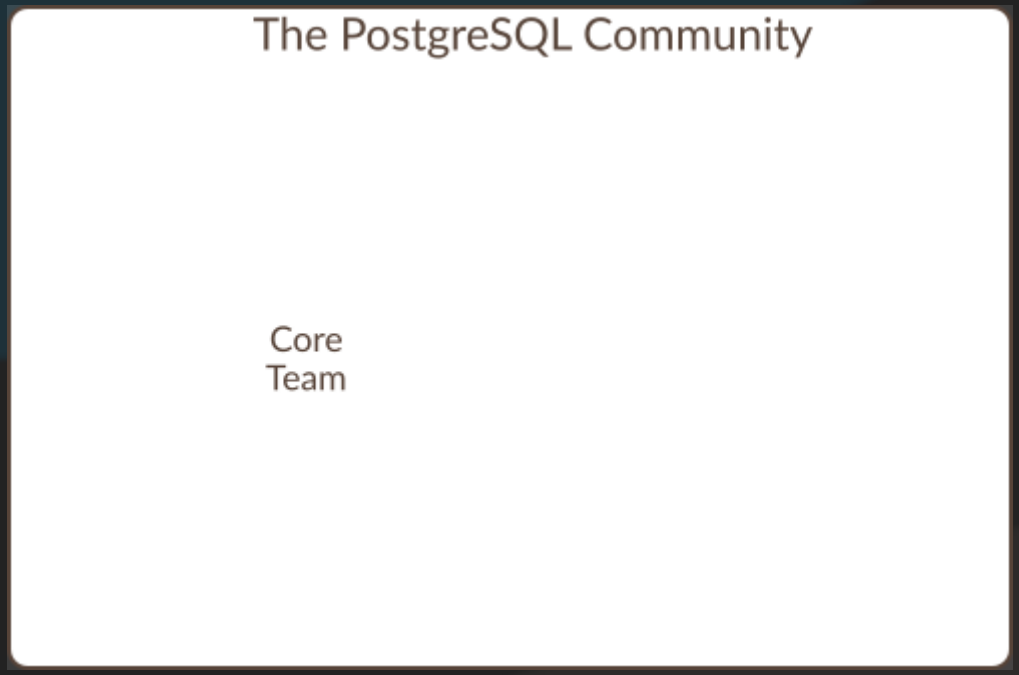

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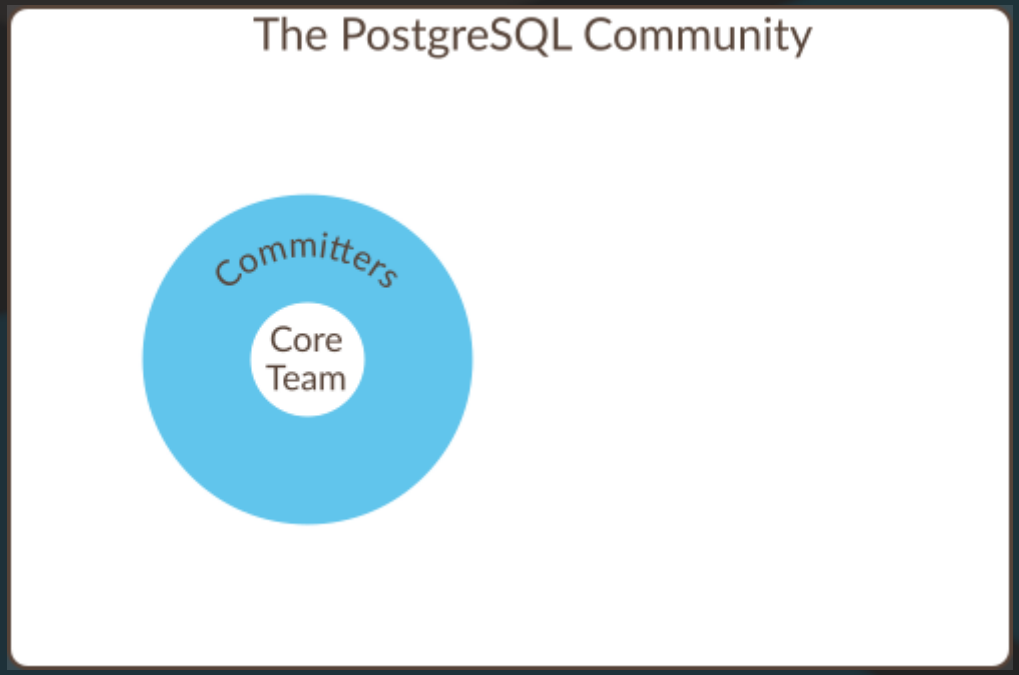

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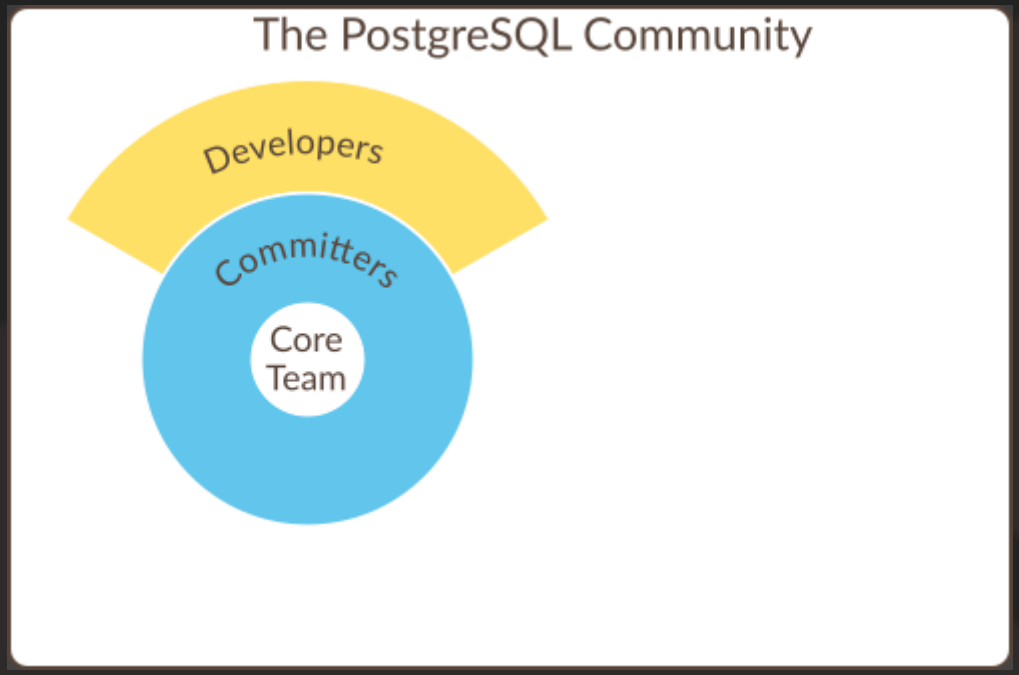
The PostgreSQL Community
Developers
Committers
Core
Team

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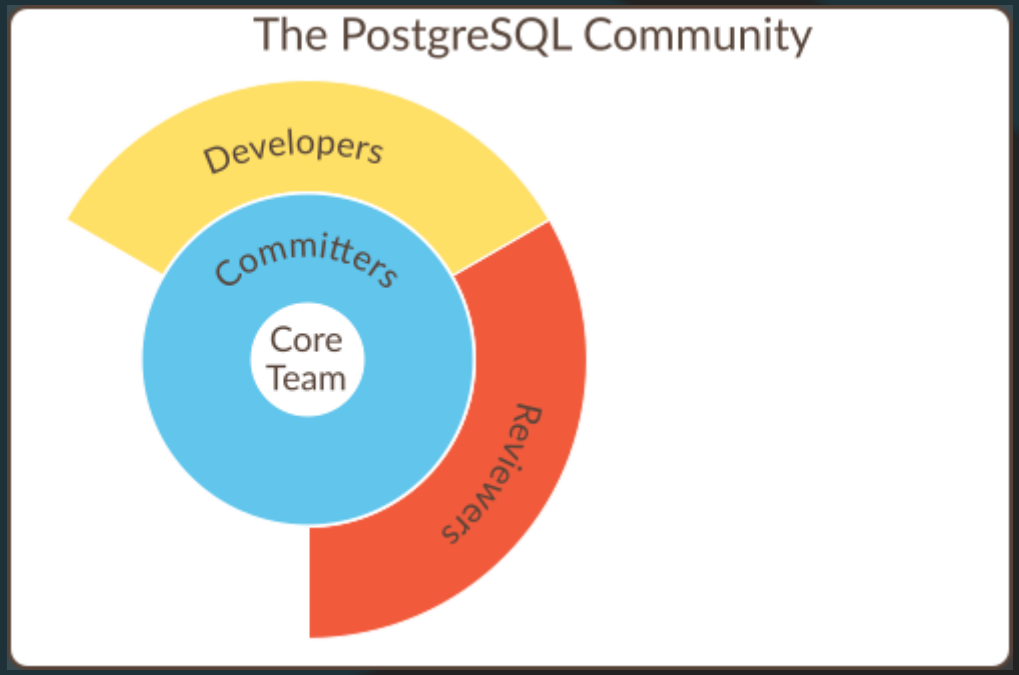
The PostgreSQL Community
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Reviewers

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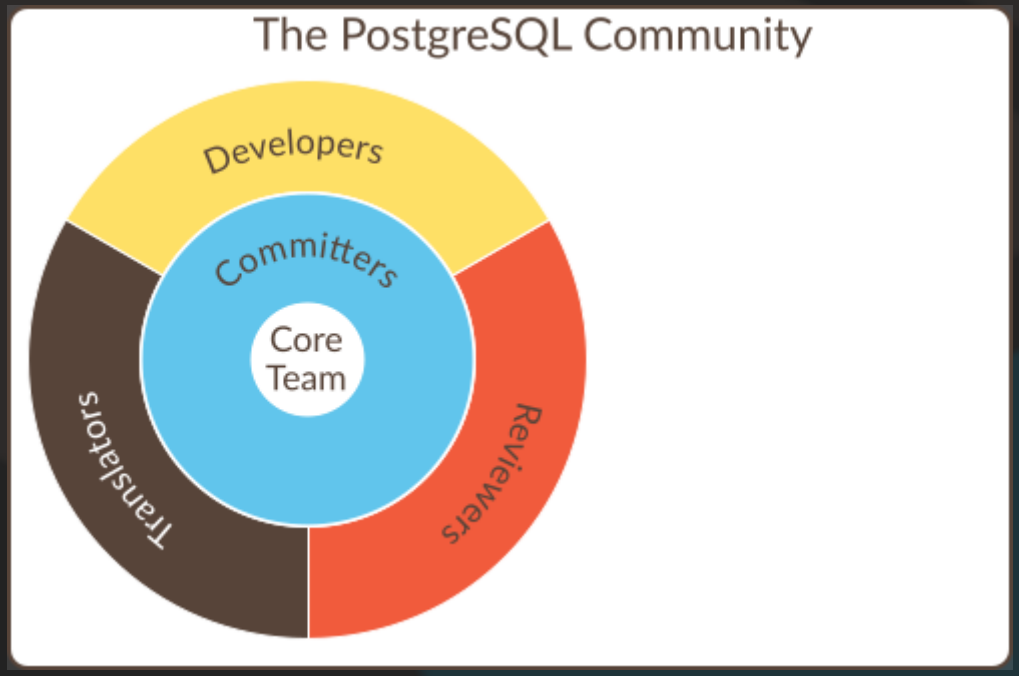
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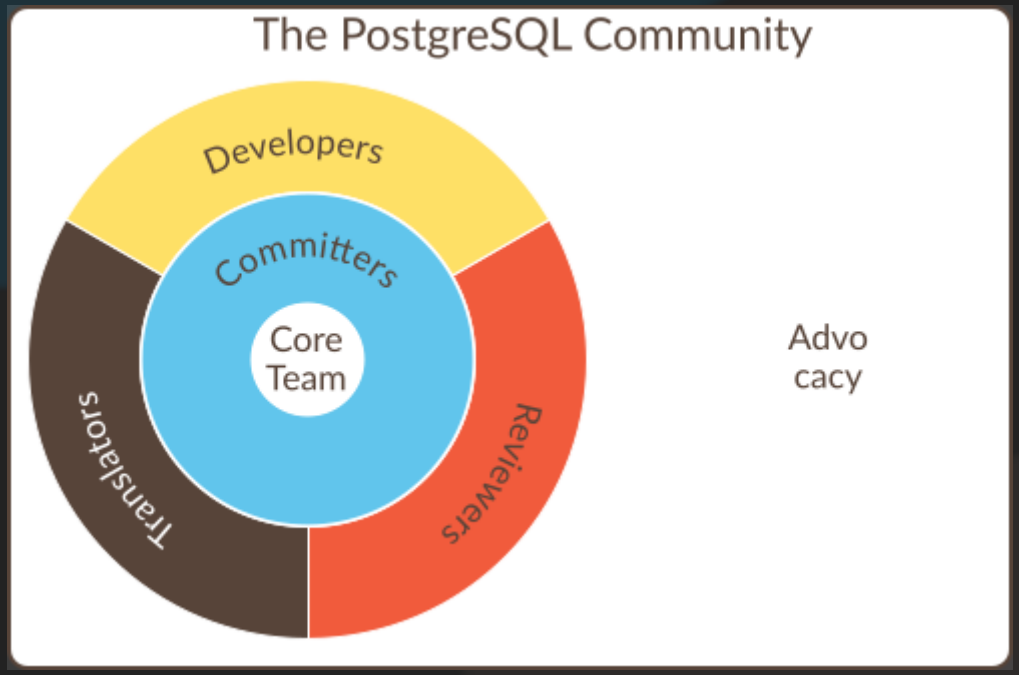
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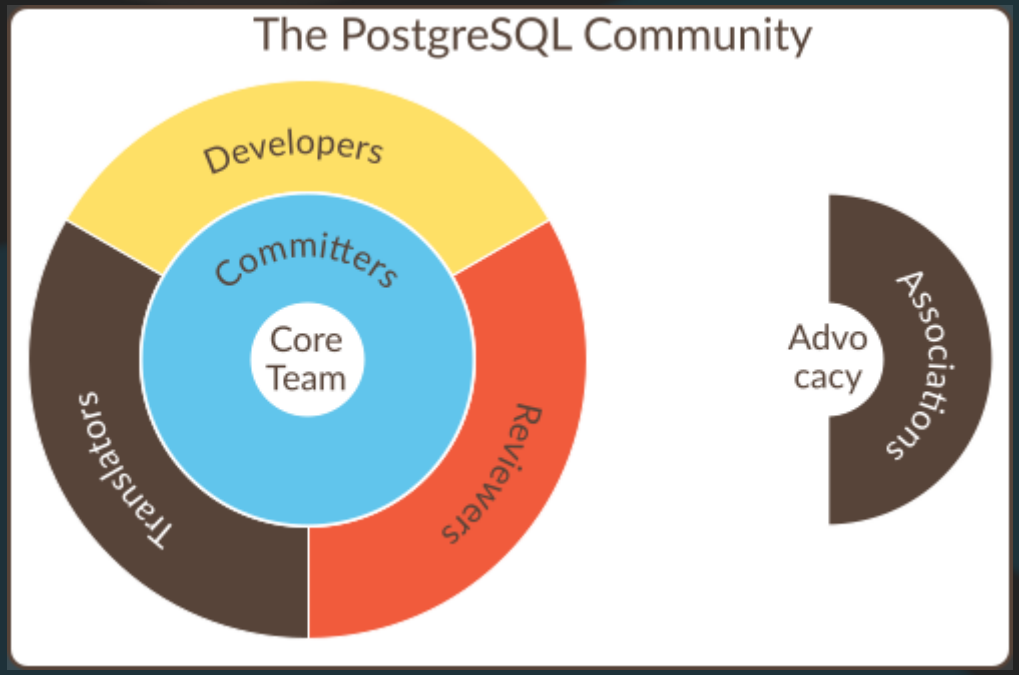
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Associations

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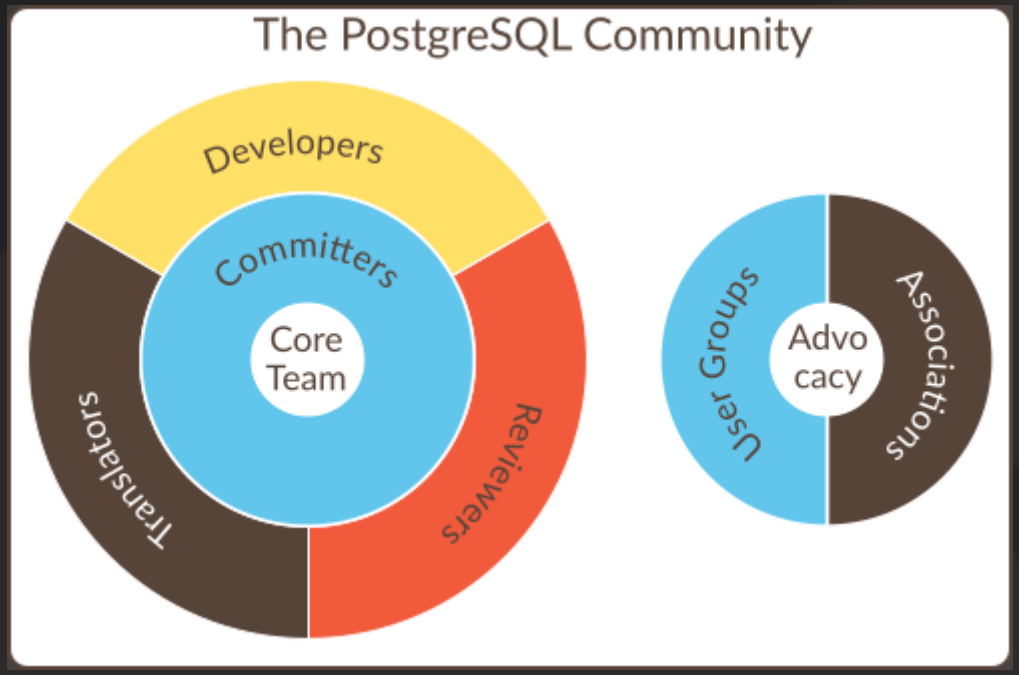
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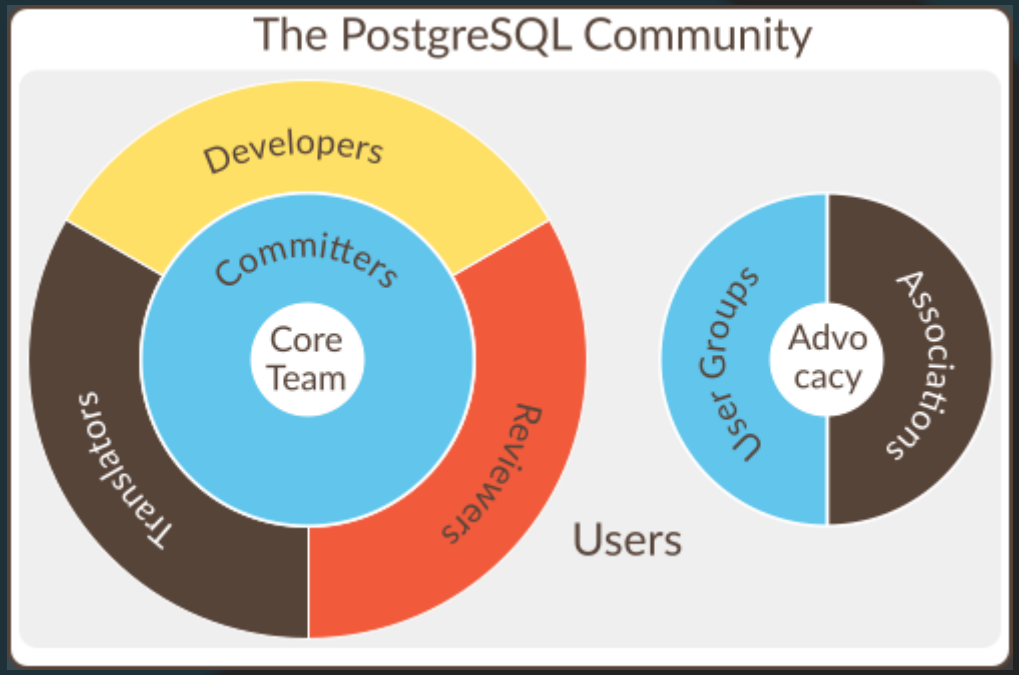
The PostgreSQL Community
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User Groups
Advo cacy
Associations
Users

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The core team

- 5 members
- Independant
- Act as project managers

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Committers

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

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Developpers

- C code
- Need to comply with style guide
- Need to comment (a lot) (really, I'm serious)

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Reviewers

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

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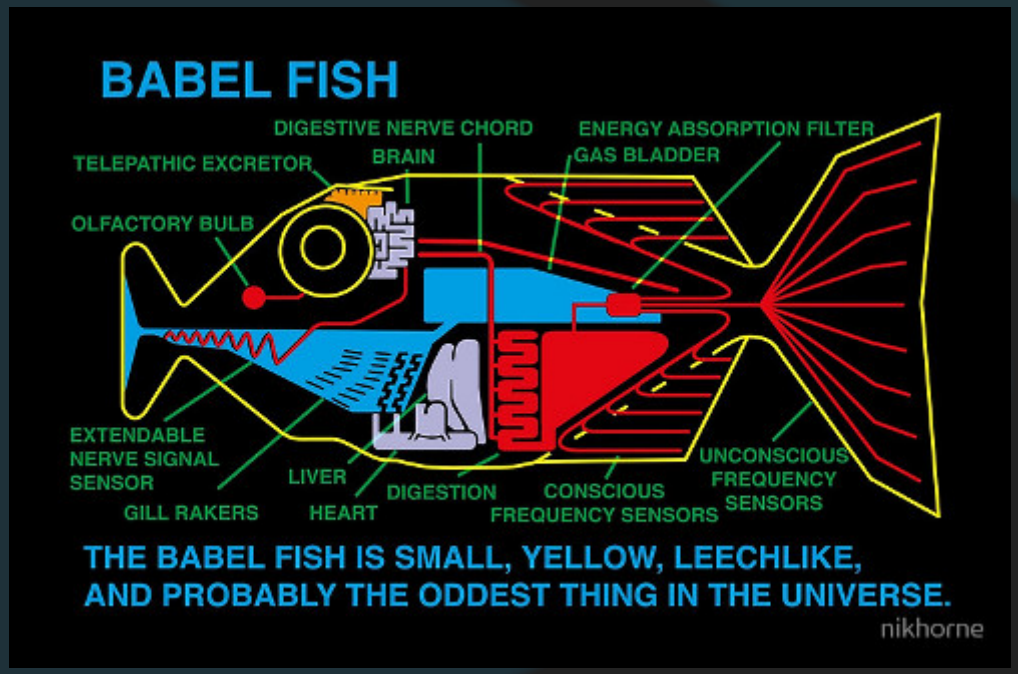

Translators

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

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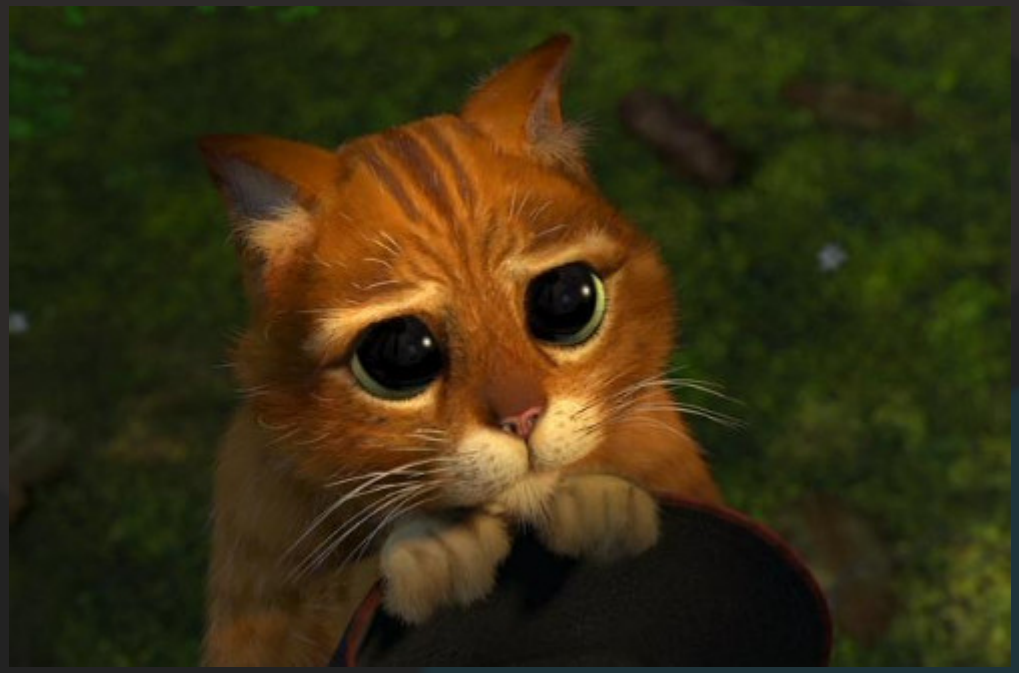

Advocacy

- Promote PostgreSQL use
- Share informations about PostgreSQL
- Regional press contacts

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Associations

- Small to large groups of users
- National or international

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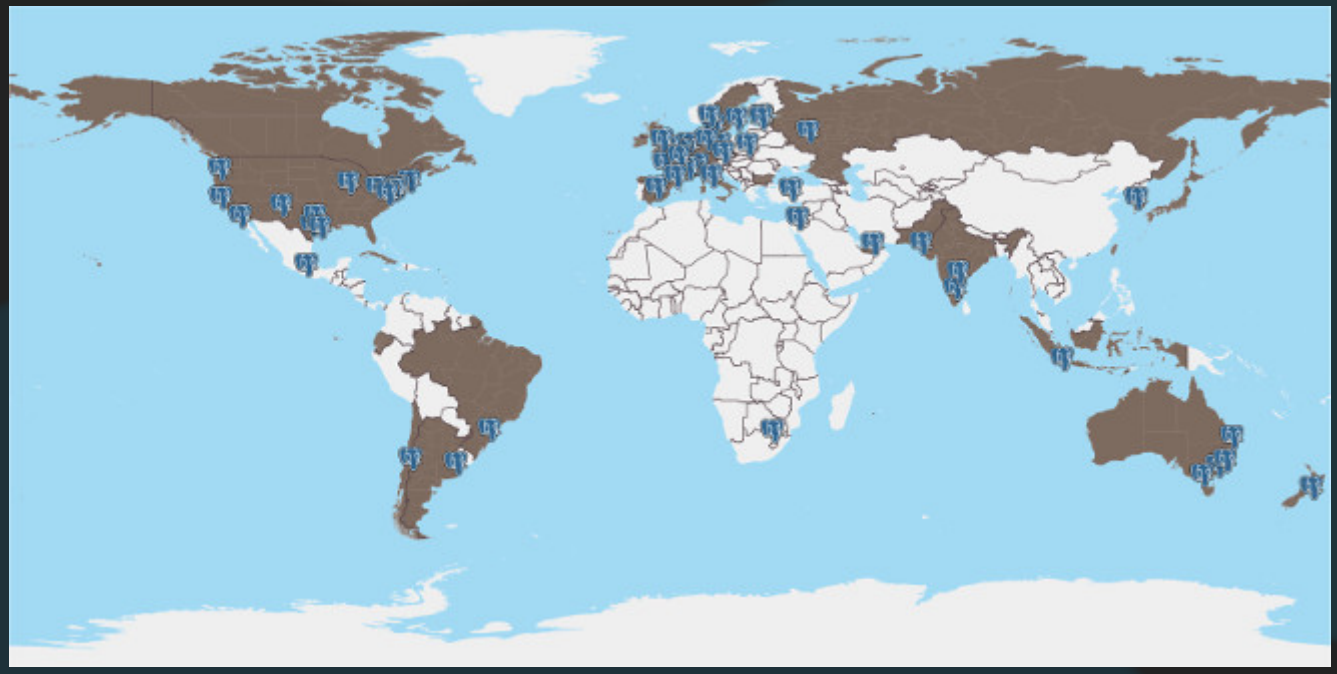

Local User Groups and Meetups

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

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PROJECTS

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The PostgreSQL projects

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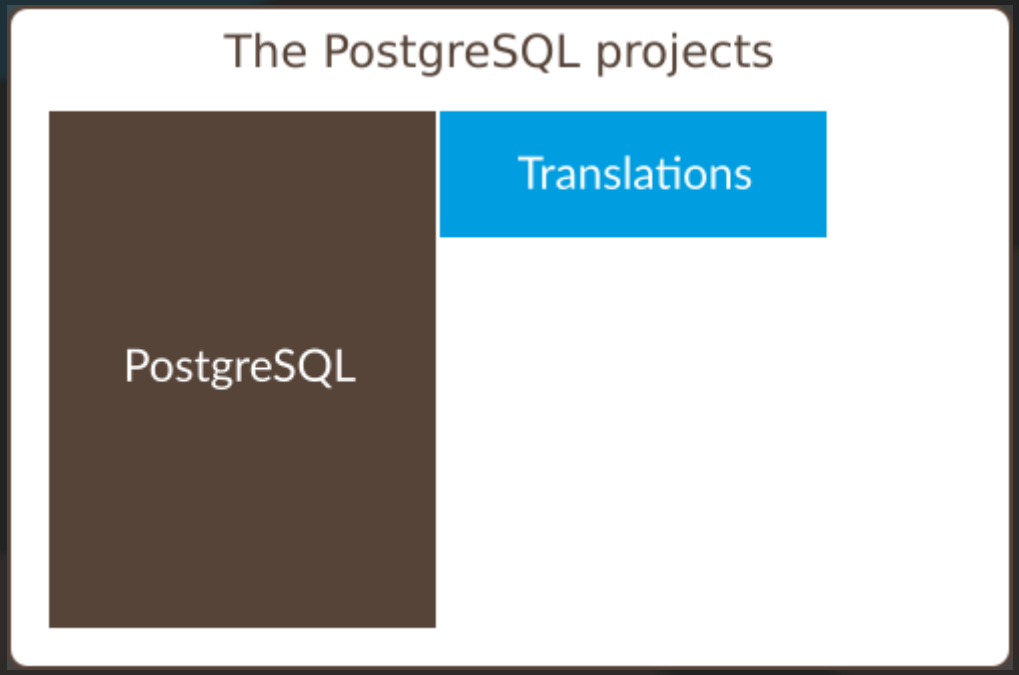

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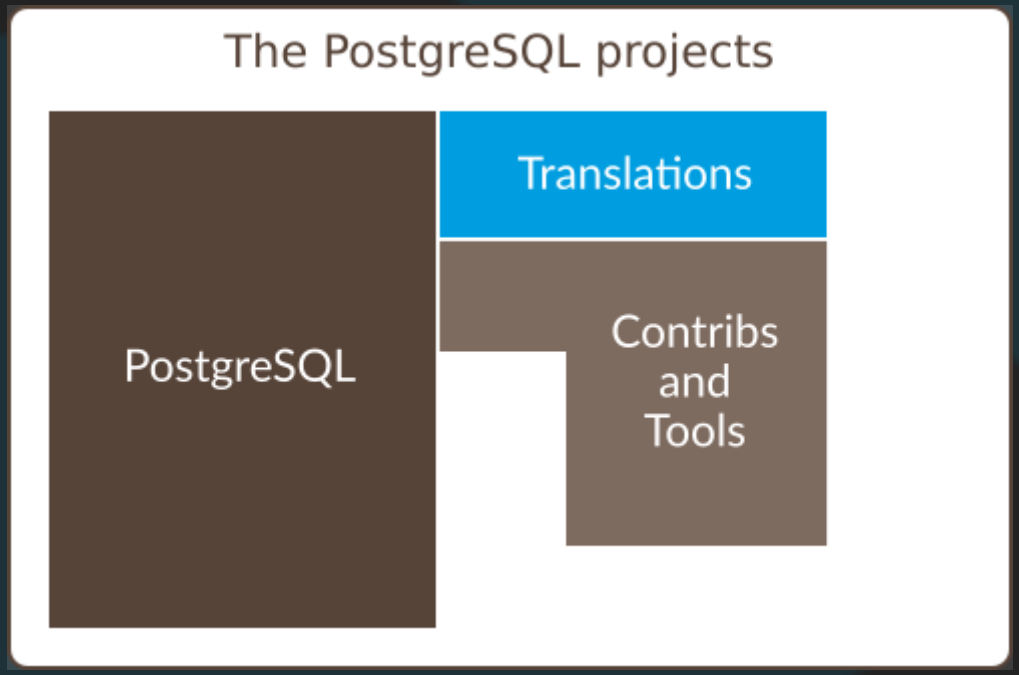
The PostgreSQL projects
PostgreSQL
Translations
Contribs
and
Tools

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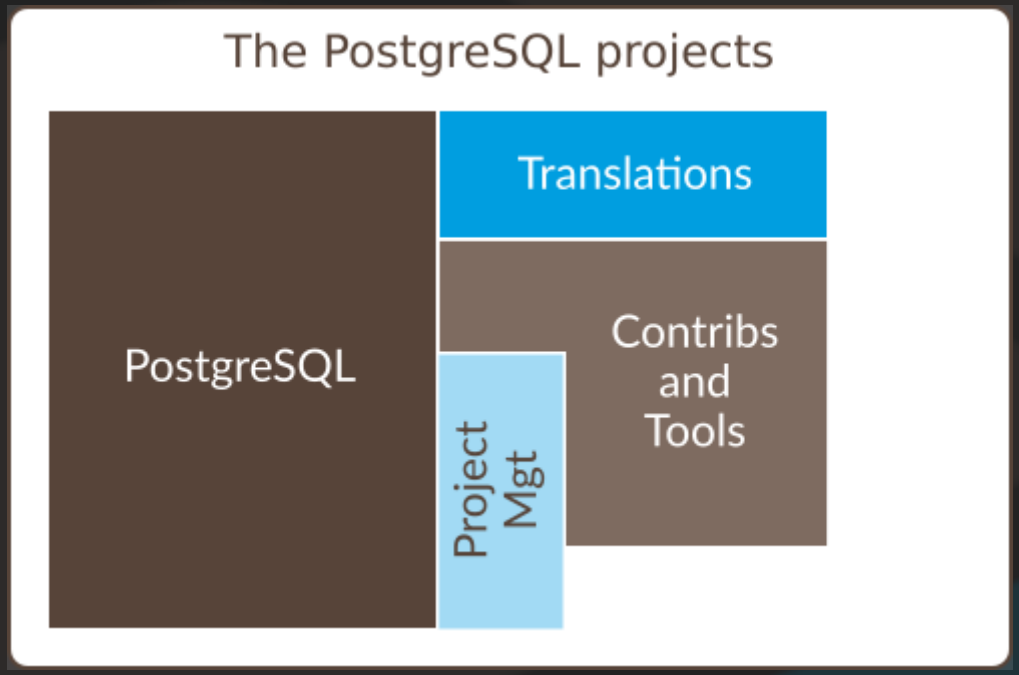
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PostgreSQL
Translations
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Project Mgt

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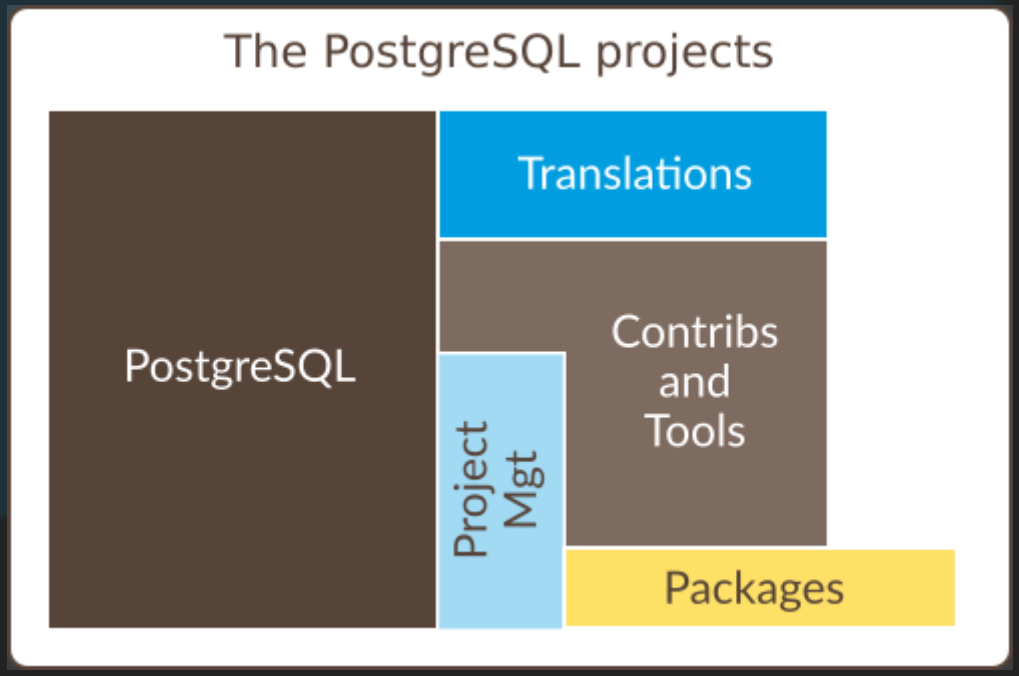
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Project Mgt
Packages

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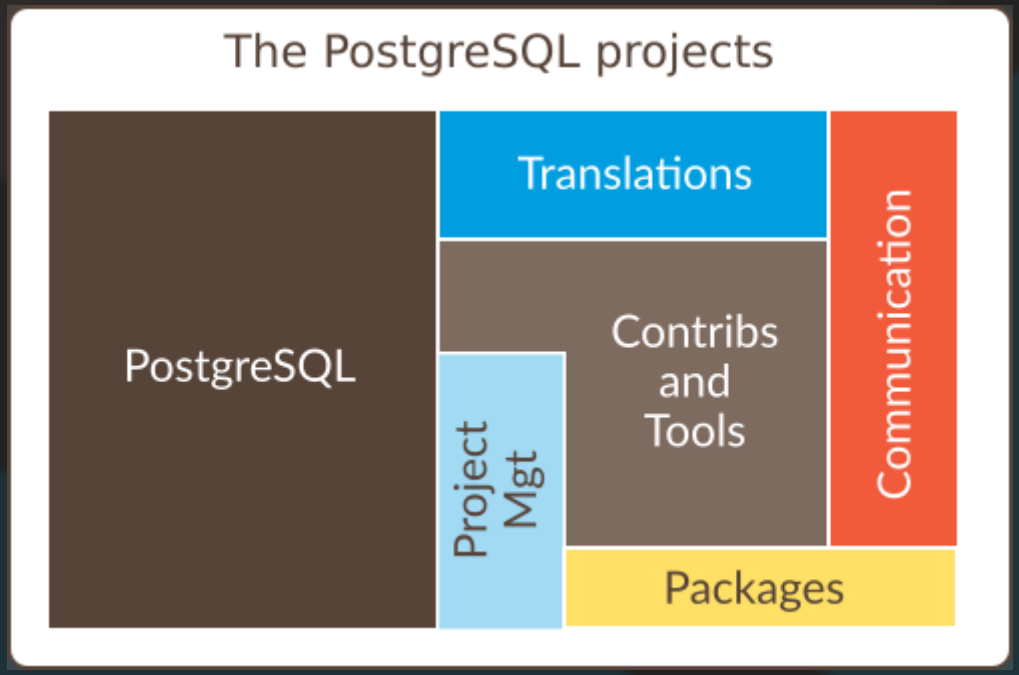
The PostgreSQL projects
PostgreSQL
Translations
Contribs and Tools
Project Mgt
Communication
Packages

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The road map

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

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Commitfests

- 1 month long
- When most patches are commited
- Needs a commitFest Manager
- commitfest.postgresql.org

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TOOLS

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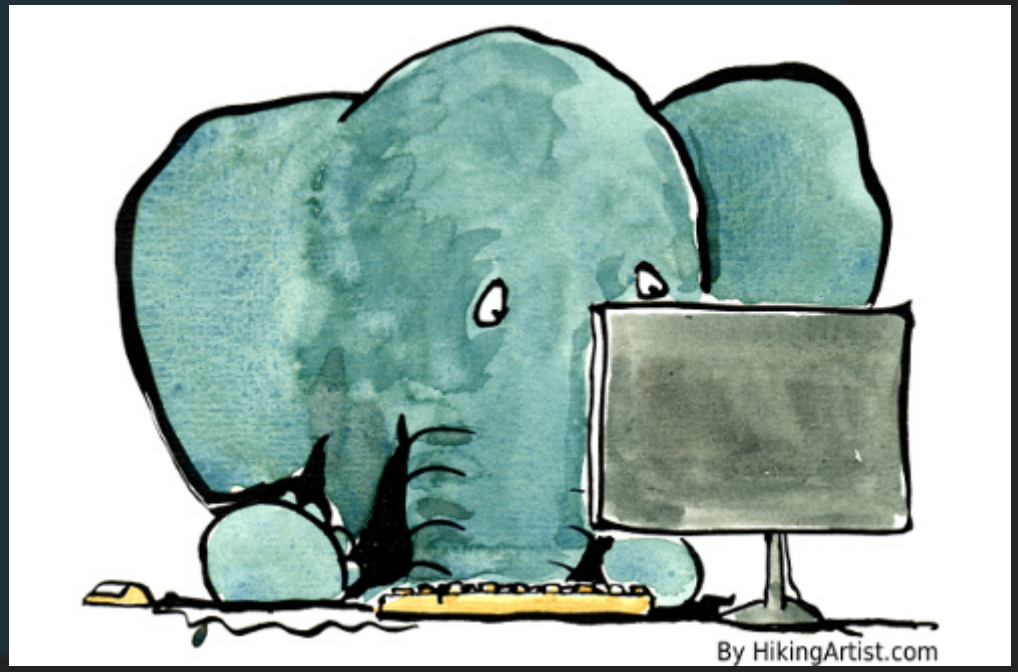

Websites

- www.postgresql.org
- wiki.postgresql.org
- www.postgresql.org/docs
- planet.postgresql.org

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Mailing-lists

- Bug submission (use the form)
- Security issues : security@postgresql.org
- pgsql-novice for newcommers
- Special lists for associations and local groups
- pgsql-hackers (be carefull, these guys are SO chatty)

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IRC

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

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Twitter

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

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Other ways to stay in touch

- Postgres Slack
- Postgres hangout
- Forums (as stackexchange)

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Git

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

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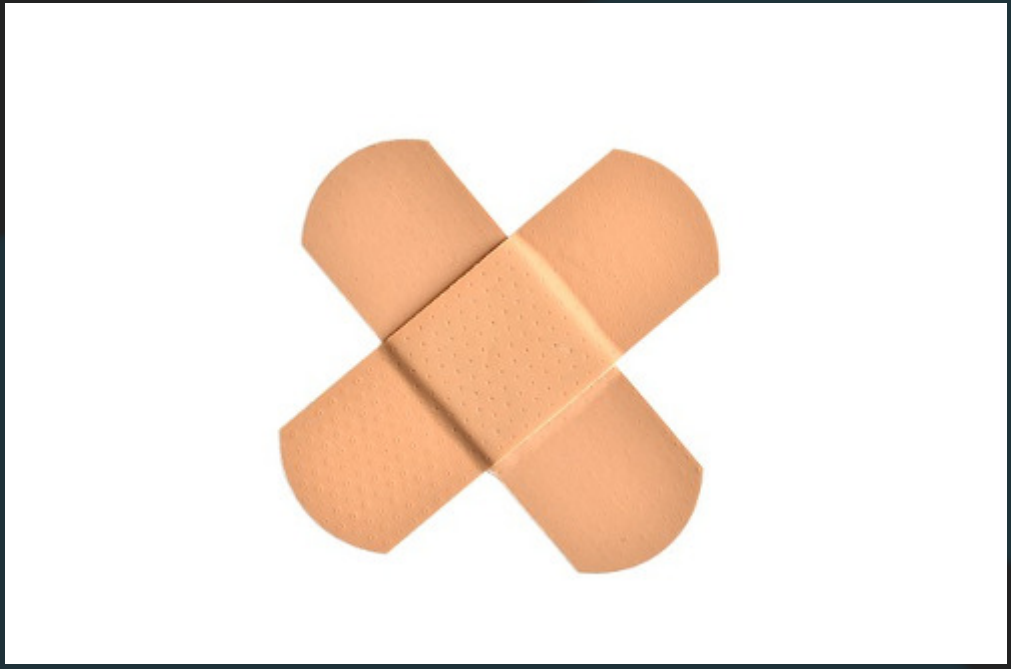
MY FIRST PATCH



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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

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My story

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

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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

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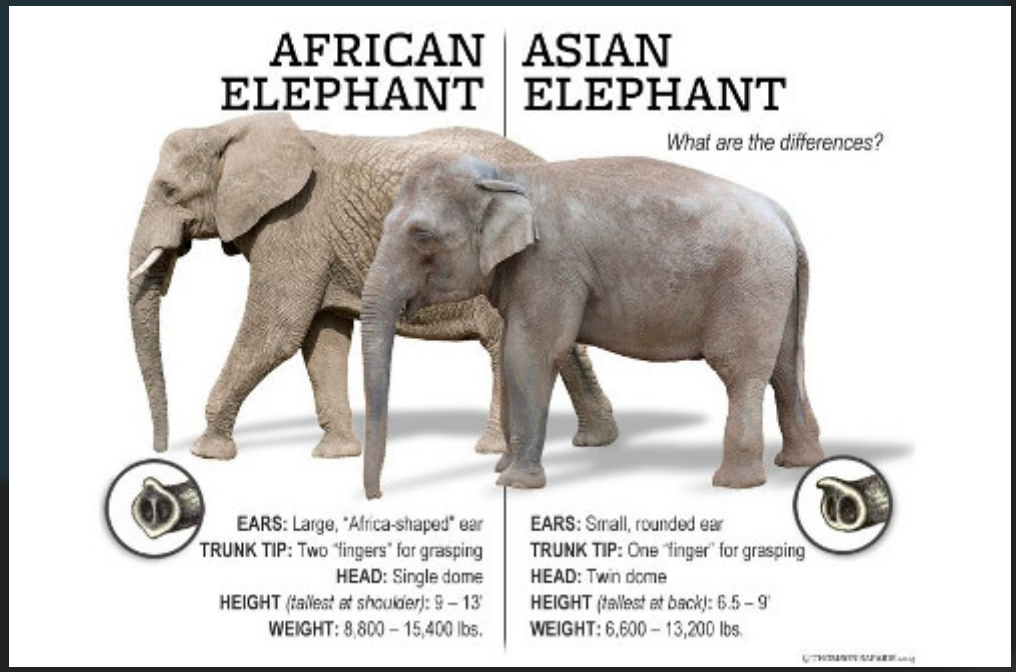

`git diff`

- With context
- Use the wiki Creating clean patches page
- Format your git diff output

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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
```

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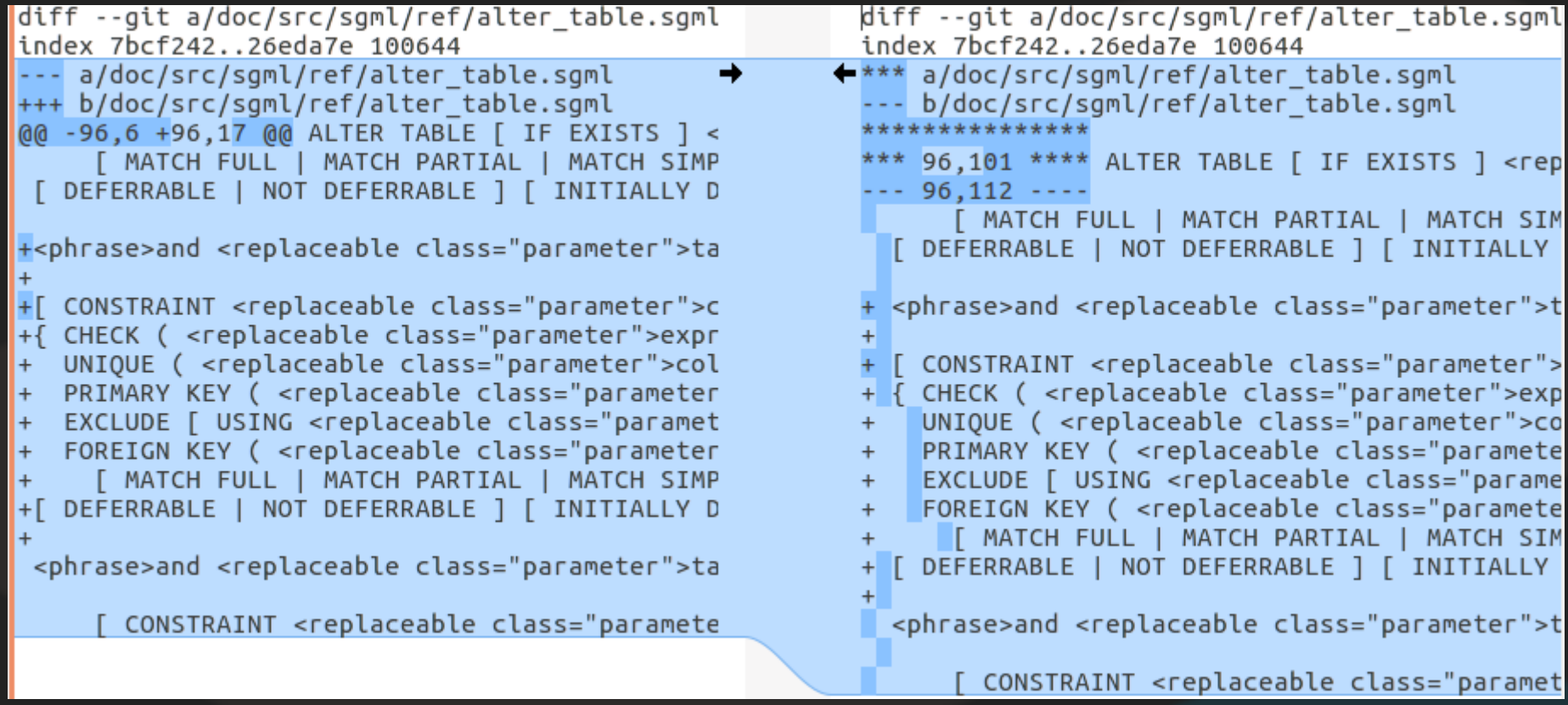
`git diff` without context to the left,
`git diff` with context to the right



```
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

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```

```
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 ----
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   <phrase>and <replaceable class="parameter">t

      [ CONSTRAINT <replaceable class="paramet
```

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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

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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!

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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

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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.

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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

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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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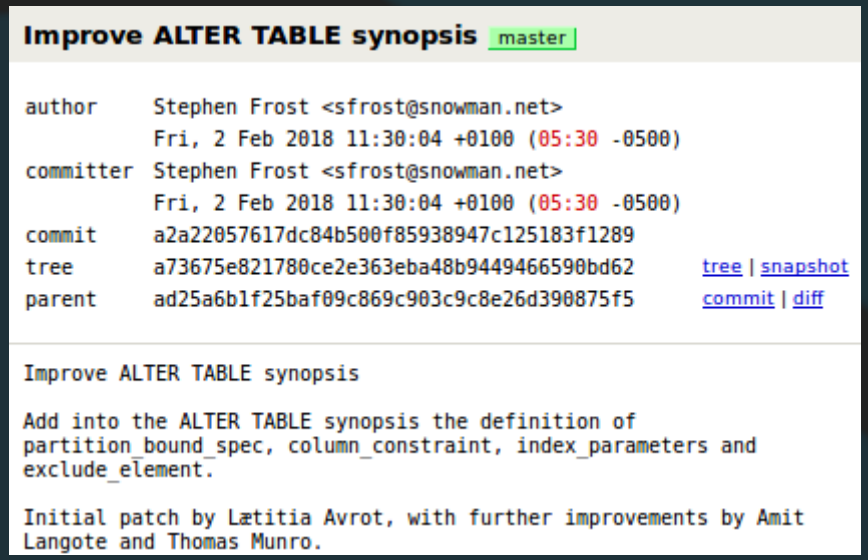
... Now I can die without regret!



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.
```

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What next ?

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

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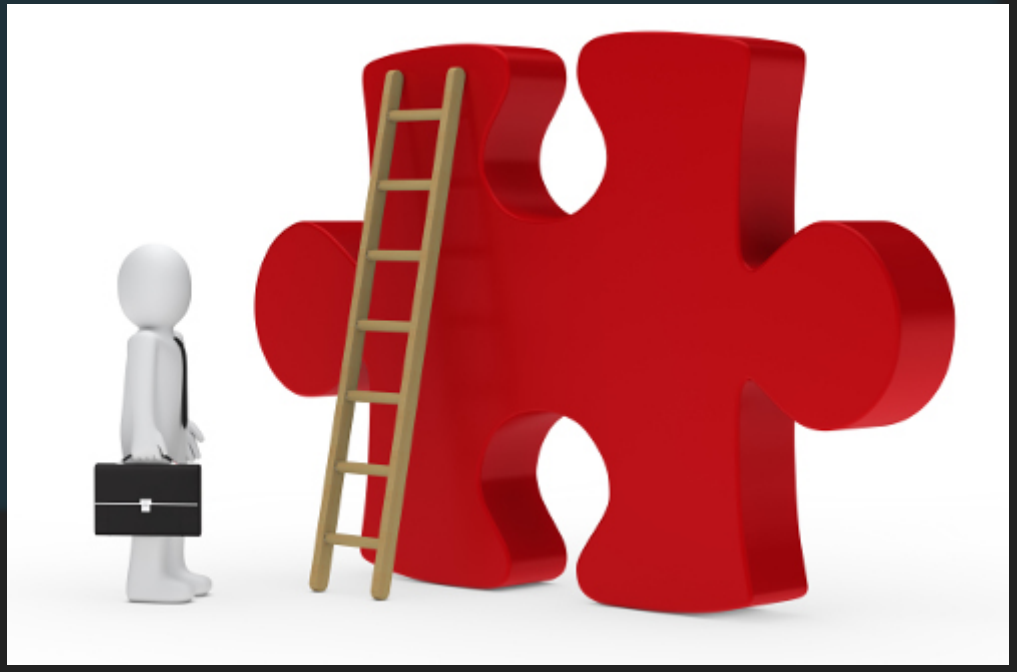
HOW YOU CAN HELP



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Simple contributor

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

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Great Contributor

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

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Super Contributor

- Report bugs
- Create patches
- Review patches

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CONCLUSION

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It's all about you

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

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@l_avrot

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Please join us!

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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