

# Tower of Babel or How to turn an elephant into a polyglot Pavlo Golub

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**CYBERTEC**  
The PostgreSQL Database Company



# About **CYBERTEC**



Inhouse Development



International team of developers



Specialized in Data services



Owner-managed since 2000

# CYBERTEC Worldwide



**Wiener Neustadt**

AUSTRIA



**Tallinn**

ESTONIA



**Zurich**

SWITZERLAND



**Montevideo**

URUGUAY



WILLHABEN.AT®

**hims**



Audi

*Rappi*



TECHNISCHE  
UNIVERSITÄT  
WIEN  
Vienna | Austria



TARGET



Auswärtiges Amt

NOVOMATIC

**NOKIA**  
Connecting People

TOMTOM® 

**SIEMENS**



**Lufthansa**

**Klarna.**



**BOSCH**

**ncs**  
making IT happen

**Bank Austria**  
Member of **UniCredit**

# Client sectors

- University
- Automotive
- Government
- Industry
- Administration
- Finance
- Trade
- etc.

# PostgreSQL Database Services





# Intro

## Some facts

- 72.4% of consumers say they would be more likely to buy/use a product with information in their own language
- Content offered in only one language can address at most 30% of the total online population
- It would take over 7,000 languages to reach the whole world population, but it only 83 languages to reach 80 percent of it



# Top10 Internet languages

Rank	Language	Internet users	Percentage
1	English	1,052,764,386	25.3%
2	Chinese	804,634,814	19.4%
3	Spanish	337,892,295	8.1%
4	Arabic	219,041,264	5.3%
5	Portuguese	169,157,589	4.1%
6	Indonesian / Malaysian	168,755,091	4.1%
7	French	118,626,672	2.9%
8	Japanese	109,552,842	2.8%
9	Russian	108,014,564	2.7%
10	German	84,700,419	2.2%
11-36	Others	950,318,284	22.9%
<b>Total</b>		4.16 Billion	100%

# You have to translate

- you want your product in a government sector
- you want your product in an education sphere
- you want to pass some corporate restrictions
- you want licensing

# You want to translate

- you want local communities
- you want to improve user adoption
- you want to open new markets and countries
- you want to build credibility

- ✓ **localization help us spread the PostgreSQL**
- ✓ **localization help us in building community**
- ✓ **localization may be done by non-developers**
- ✓ **this is excellent area for beginners**

**WHY**  
we want  
localization



# Internationalization

i18n



is the process of designing a software application so that it can be adapted to various languages and regions without engineering changes.

# Localization

## l10n



is the process of adapting internationalized software for a specific region or language by translating text and adding locale-specific components

# Gettext

- library for i18n and l10n
- supports many languages
- supports plurals and genders
- supports context comments
- no source tree needed for translation
- all strings are gathered to the .po file
- .po file compiled to .mo file after translation
- each translated string searched in .mo file by hash

# .c source example

...

```
fprintf(output, _("psql is the PostgreSQL interactive terminal.\n"));
```

```
fprintf(output, _("Usage:\n"));
```

```
fprintf(output, _("  psql [OPTION]... [DBNAME [USERNAME]]\n\n"));
```

```
fprintf(output, _("General options:\n"));
```

...



# .pot generated by xgettext

```
#: help.c:73
```

```
#, c-format
```

```
msgid "psql is the PostgreSQL interactive terminal.\n"
```

```
msgstr ""
```

```
#: help.c:74 help.c:345 help.c:419 help.c:462
```

```
#, c-format
```

```
msgid "Usage:\n"
```

```
msgstr ""
```

```
...
```

- ✓ PostgreSQL uses Gettext system
- ✓ Developers call gettext (..) function
- ✓ Strings parsed and gathered into .po file
- ✓ Translators work with them
- ✓ Result .po files compiled to .mo files then

WHAT  
is under  
the hood



# State of affairs

# Top10 Internet languages

Rank	Language	PG11	PG10	PG9.6
1	English	100%	100%	100%
2	Chinese	86%	89%	97%
3	Spanish	92%	94%	99%
4	Arabic	0%	0%	0%
5	Portuguese	86%	89%	98%
6	Indonesian/Malaysian	67%	72%	81%
7	French	99%	100%	100%
8	Japanese	100%	99%	97%
9	Russian	100%	100%	100%
10	German	99%	99%	99%

# Resources

- [wiki.postgresql.org/wiki/NLS](http://wiki.postgresql.org/wiki/NLS)
- [babel.postgresql.org](http://babel.postgresql.org)
- [pgsql-translators@postgresql.org](mailto:pgsql-translators@postgresql.org)

# Workflow

1. Go to [babel.postgresql.org](http://babel.postgresql.org)
2. Choose language
3. Choose PostgreSQL release
4. Download .pot or .po file
5. Work with it (poEdit, KBabel, Emacs, Sublime etc.)
6. Review and check it
7. Submit to [redmine.postgresql.org](http://redmine.postgresql.org) or to [pgsql-translators \(?\)](mailto:pgsql-translators@postgresql.org)
8. PROFIT!!!<sup>11</sup>

# Demo of the localization process

# Proposed Workflow

1. Go to [transifex.com/postgresql](https://transifex.com/postgresql)
2. Choose language
3. Choose PostgreSQL release and resource
4. Work with it online using your browser
5. Translate or review strings (if you have permissions)
6. Reviewer checks translations and commit it back to pgsq- translators
7. PROFIT!!!<sup>11</sup>



# Demo of the Transifex platform for open-source

It is strongly recommended that you plan your presentation to avoid any requirement for Wi-Fi.

Whilst we do not expect problems, as you can imagine if there is going to be one, it will be right as you need it the most!

# Admin workflow

1. Check translations updates on [babel.postgresql.org](http://babel.postgresql.org)
2. Upload it to transifex

- **No 3rd party soft needed**
- **Unified translation environment**
- **Dashboard and notifications**
- **Communication between users**
- **Tags, history, glossary, suggestions**
- **Instant saving, instant reviewing**
- **Shared translation memory for all resources**
- **Role system: admins, translators, reviewers**
- **Pro-translators to hire**

**PROS**  
of online  
translation  
platform



- **You should be online**
- **Browser is not the fastest environment**
- **Some hotkeys may interfere with browser or extensions**
- **Free translation is possible only for OSI licenced software**

**CONS**  
of online  
translation  
platform





# QUESTIONS

Feedback:  
<https://2018.pgconf.eu/f>