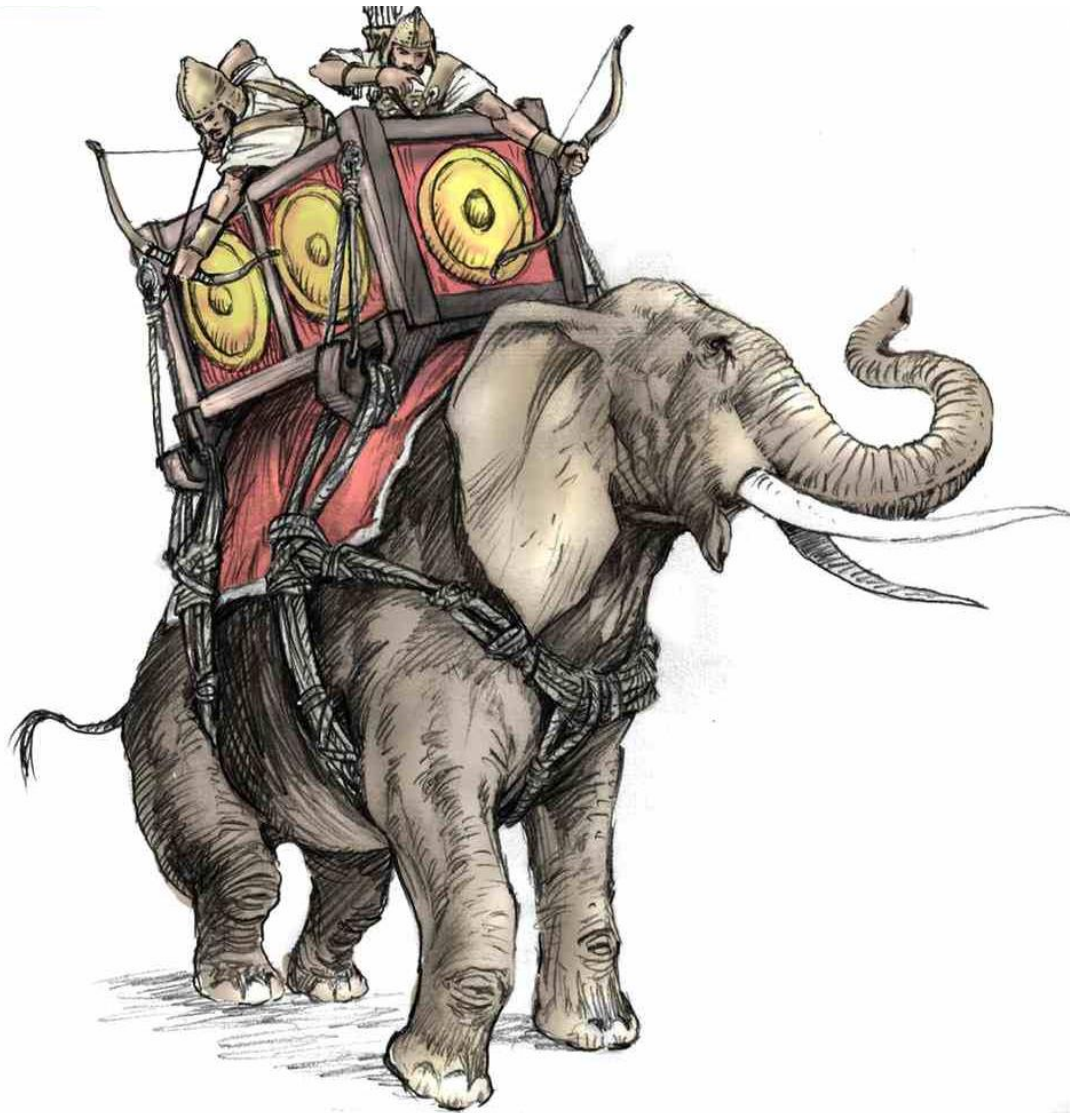


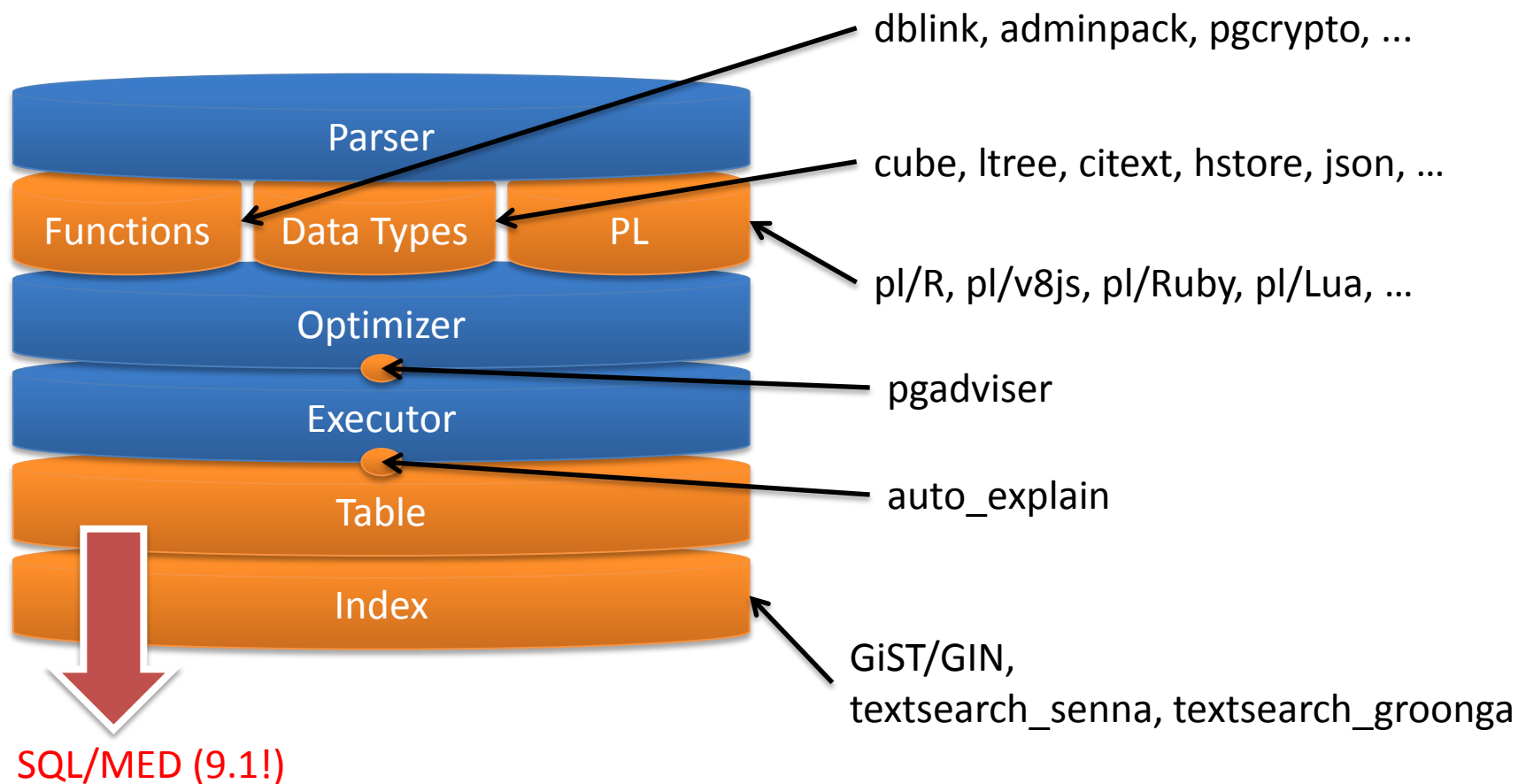
Extensions on PostgreSQL

Ever and Will

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- Extensibility of PostgreSQL
- Core extensions
- Common extensions
- CREATE EXTENSION
- PGXN, a.k.a. “PostgreSQL Extension Network”



c.f. external tools: pgpool, slony, pg_bulkload...

- `intagg` - `int_array_aggregate()`
- `intarray` - `sort()`, `uniq()`
- `hstore` - `'a=>1, b=>2'->'a'`
- `citext` - case insensitive text
- `cube` - `(1.5, 2.0, 0.5)`
- `pgcrypto` - `digest()` -- `md5`, `sha1`
- `dblink` - `dblink_exec(connstr, sql)`
- `earthdistance` - `earth()`
- ...and more

- PostGIS
- Pgmemcache - memcache_[get|add|set]()
- SkyTools
- OracleFCE - nvl(), reverse(), etc.
- pgSphere
- pgTAP - ok(val, expected)
- textsearch_senna
- json
- PL & FDW

- PL/perl
- PL/python
- PL/tcl
- PL/ruby
- PL/php
- PL/java
- PL/R
- PL/lua
- PL/lolcode
- PL/sh
- PL/scheme
- PL/proxy
- PL/js
- PL/v8js
- PL/whitespace – coming soon!
- PL/brainfuck
 - CREATE FUNCTION bf_add(int, int) RETURNS int AS
 \$\$ >>>>[-<<<<+>>>>] \$\$
 - LANGUAGE brainfuck;
 - SELECT * FROM bf_add(3, 5); -- 8!

- file_fdw
- postgresql_fdw
- twitter_fdw

```
SELECT from_user, substr(text, 1, 20), age(current_timestamp, created_at)
FROM twitter_search WHERE q = '#iphone' ;
```

from_user	substr	age
anndreilla	Grab @Scrambleface I	09:02:19.76668
tebow904	@sinner_saved_ u ret	09:02:30.76668
iphomania_de	Cydia-Tweak: Pull to	09:02:31.76668
developerworks	The #Social #Network	09:02:34.76668
appstorewire	AppAdvice: Project:	09:02:42.76668
appstorewire	AppAdvice: Project:	09:02:42.76668
appstorewire	AppAdvice: A Chance	09:02:42.76668
appstorewire	AppAdvice: A Chance	09:02:42.76668
appstorewire	AppAdvice: Infinity	09:02:43.76668
appstorewire	AppAdvice: Infinity	09:02:43.76668
ChrisCompo	RT @thedroidguy: #iP	09:02:46.76668
DhilipSiva_Aple	#ipad #mac #iphone i	09:02:48.76668
brandnewapps	New iPmart app: iNet	09:02:48.76668
brandnewapps	New iPmart app: A Ne	09:02:49.76668
muenchner_kindl	Hard Rock Mobile	09:02:59.76668

(15 rows)

- ~~Proposed for 9.1~~ Committed for 9.1



```
$ psql -d dbname -f /path/to/contrib/hstore.sql
```



```
db=# CREATE EXTENSION hstore;  
CREATE EXTENSION  
db1=# SELECT 'a=>1, b=>2'::hstore;  
hstore
```

```
"a"=>"1", "b"=>"2"  
(1 row)
```

```
db1=# DROP EXTENSION hstore;  
DROP EXTENSION
```

- EASY pg_dump/pg_restore, and DROP. Yay!

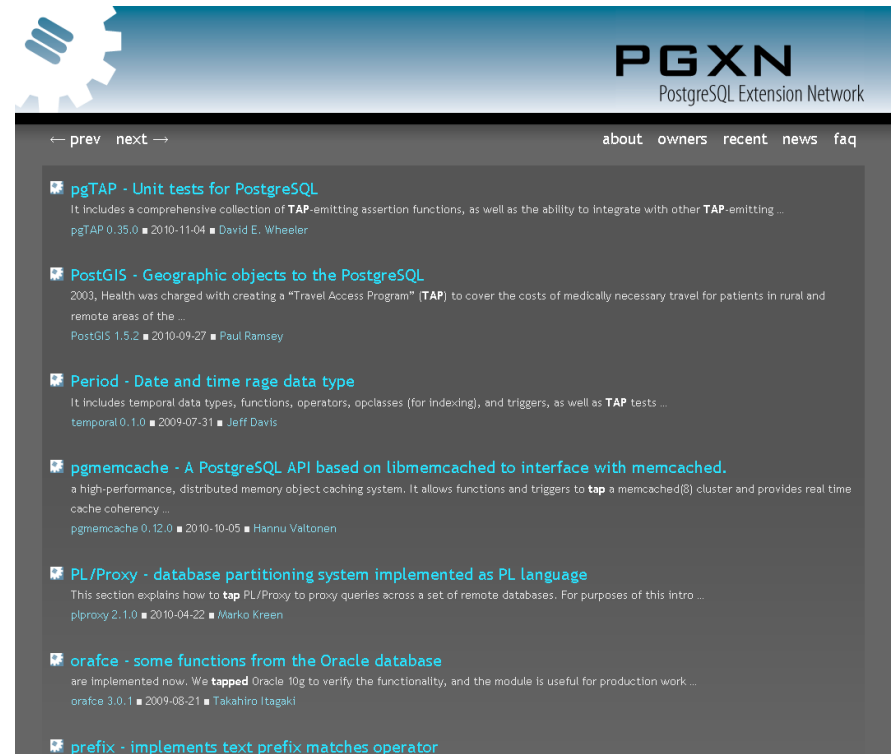
- By David E. Wheeler



- Inspired by CPAN

– [user@host] \$ pgxn install hstore

- Under development...



The screenshot shows the PGXN (PostgreSQL Extension Network) website. The header includes the PGXN logo and the text "PostgreSQL Extension Network". Below the header, there are navigation links: "← prev next →", "about", "owners", "recent", "news", and "faq". The main content area displays a list of extensions, each with a small icon, a title, a brief description, and version information:

- pgTAP - Unit tests for PostgreSQL**
It includes a comprehensive collection of TAP-emitting assertion functions, as well as the ability to integrate with other TAP-emitting ...
pgTAP 0.35.0 ■ 2010-11-04 ■ David E. Wheeler
- PostGIS - Geographic objects to the PostgreSQL**
2003, Health was charged with creating a "Travel Access Program" (TAP) to cover the costs of medically necessary travel for patients in rural and remote areas of the ...
PostGIS 1.5.2 ■ 2010-09-27 ■ Paul Ramsey
- Period - Date and time range data type**
It includes temporal data types, functions, operators, opclasses (for indexing), and triggers, as well as TAP tests ...
temporal 0.1.0 ■ 2009-07-31 ■ Jeff Davis
- pgmemcache - A PostgreSQL API based on libmemcached to interface with memcached.**
a high-performance, distributed memory object caching system. It allows functions and triggers to tap a memcached(®) cluster and provides real time cache coherency ...
pgmemcache 0.12.0 ■ 2010-10-05 ■ Hannu Valttonen
- PL/Proxy - database partitioning system implemented as PL language**
This section explains how to tap PL/Proxy to proxy queries across a set of remote databases. For purposes of this intro ...
plproxy 2.1.0 ■ 2010-04-22 ■ Marko Kreen
- orafce - some functions from the Oracle database**
are implemented now. We tapped Oracle 10g to verify the functionality, and the module is useful for production work ...
orafce 3.0.1 ■ 2009-08-21 ■ Takahiro Itagaki
- prefix - implements text prefix matches operator**

```
CREATE OR REPLACE FUNCTION is_timezone(  
    tz CITEXT  
) RETURNS BOOLEAN LANGUAGE plpgsql STABLE AS $$  
BEGIN  
    PERFORM NOW() AT TIME ZONE tz;  
    RETURN TRUE;  
EXCEPTION WHEN invalid_parameter_value THEN  
    RETURN FALSE;  
END;  
$$;  
CREATE DOMAIN timezone AS CITEXT  
CHECK ( is_timezone( VALUE ) );
```

- You can use rich extensions already.
- You can make and upload your extension.
- PostgreSQL is an application platform.