

# Recent PostgreSQL Buildfarm Changes

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# What is the buildfarm?

- Distributed build and test system for PostgreSQL
- Written in Perl
- Started in late 2004
- Results collected on a central server
- <http://www.pgbuildfarm.org>
- See quickly when a change in code breaks something

# Optional Steps

- Build docs
- Find typedefs (for pgindent)
- Can specify timing in config file, e.g.
  - `build_docs => {min_hours_since => 24},`
- Can also be ...

# A module

- Extra stuff to run
- A Perl Module
- No need to modify buildfarm script
- Up to 8 functions to register
- Will be called at appropriate moment
- Setup via config, e.g.:

```
modules => [ qw(Skeleton) ]
```

# Example run

```
Wed May 18 09:59:08 2011: buildfarm run for test-modules:HEAD starting
[09:59:08] checking out source ...
[09:59:09] checking out PGBuild::Modules::Skeleton
[09:59:09] checking if build run needed ...
[09:59:09] checking if run needed by PGBuild::Modules::Skeleton
[09:59:09] creating vpath build dir pgsq.4508 ...
[09:59:09] setting up PGBuild::Modules::Skeleton
[09:59:09] running configure ...
[10:00:27] running make ...
[10:16:04] running make check ...
[10:17:21] running make contrib ...
[10:19:22] running make install ...
[10:19:42] running make contrib install ...
[10:19:50] configuring PGBuild::Modules::Skeleton
[10:19:50] building PGBuild::Modules::Skeleton
[10:19:50] installing PGBuild::Modules::Skeleton
[10:19:50] setting up db cluster (C)...
[10:20:00] starting db (C)...
```

# Example continued

[10:20:00] starting db (C)...

[10:20:02] running make installcheck (C)...

**[10:22:37] checking PGBuild::Modules::Skeleton**

[10:22:37] restarting db (C)...

[10:22:57] running make isolation check ...

[10:25:04] restarting db (C)...

[10:25:17] running make PL installcheck (C)...

[10:25:36] restarting db (C)...

[10:25:50] running make contrib installcheck (C)...

[10:26:54] stopping db (C)...

[10:26:56] running make ecpg check ...

[10:28:13] OK

**[10:28:13] cleaning up PGBuild::Modules::Skeleton**

Branch: HEAD

All stages succeeded

# Example code

```
package PGBuild::Modules::Skeleton;
use PGBuild::Options;
use PGBuild::SCM;
use strict;
my $hooks = {
    'checkout' => \&checkout,      'setup-target' => \&setup_target,
    'need-run' => \&need_run,      'configure' => \&configure,
    'build' => \&build,            'install' => \&install,
    'installcheck' => \&installcheck, 'cleanup' => \&cleanup,
};

sub setup {
    my $self = {}; bless($self, __PACKAGE__);
    main::register_module_hooks($self,$hooks);
}
```

# Possible uses

- Run non-standard tests
- Build and test extension
- Build and test non-committed patches
- Build and test driver (JDBC, DBD::Pg etc)
- Performance testing



# SCM object

- Now generalized
  - not Postgresql-specific
- Can have multiple instances, with different repos and different SCMs
- Currently supports CVS and Git
- Extending to Subversion, Mercurial, Monotone etc. would be easy

# Other client change

- Run isolation checks

# Server changes

- Failures dashboard
- Git logs
- Report timings
- TBD: benchmark support
- TBD: full test search on results

Enjoy ...