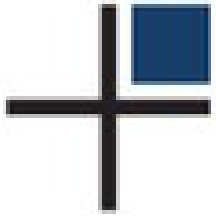


PostgreSQL Administration Recipes

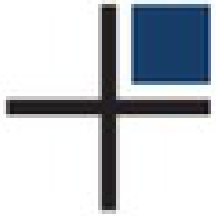
Gianni Ciolli

PostgreSQL Meetup NL
Amsterdam, 17 March 2016



Recipe #1

- Change Password Securely
- Ingredients
 - PostgreSQL
 - A New Password



Recipe #1

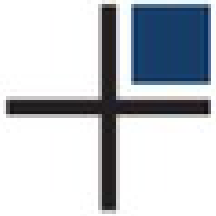
- Login with `psql`

```
psql (9.4.4)
```

```
Type "help" for help.
```

```
postgres=>
```

- May require the old password



Recipe #1

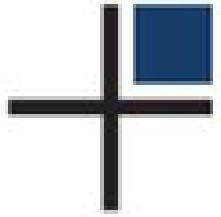
- Change the password

```
postgres=> \password
```

```
Enter new password:
```

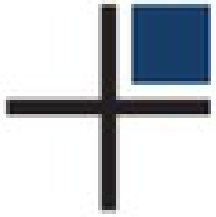
```
Enter it again:
```

```
postgres=>
```



Recipe #1

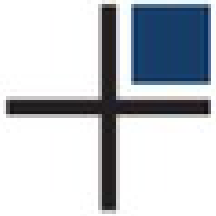
- Enjoy!



Recipe #1: Don'ts

- Do not do the following!

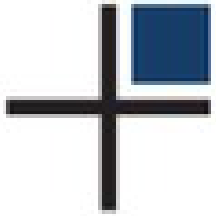
```
postgres=> ALTER USER myuser  
    PASSWORD 'NobodyCanPossiblyGuessIt';  
ALTER ROLE
```



Recipe #1: Don'ts

- Because...

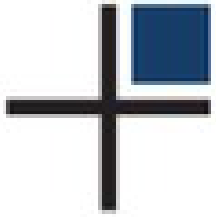
```
myuser@myhost:~$ tail -n 1 .psql_history  
ALTER USER myuser  
    PASSWORD 'NobodyCanPossiblyGuessIt';
```



Recipe #1: Don'ts

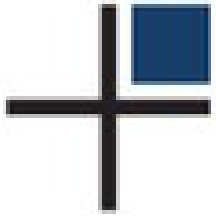
- Also...

```
postgres@myhost:~$ tail -n 1  
/var/log/postgresql/postgresql-9.4-main.log  
2015-07-06 12:14:39 BST [4519-1]  
myuser@postgres LOG:  statement:  
ALTER USER myuser  
PASSWORD 'NobodyCanPossiblyGuessIt';
```

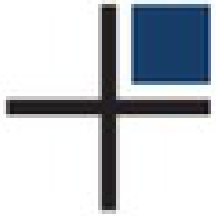
Recipe #2

- Quickly Estimate Rows
- Ingredients
 - PostgreSQL
 - A Table
 - (preferably Large)



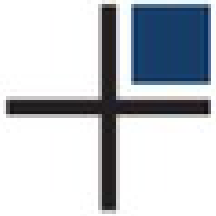
Recipe #2

- Optional: ensure that statistics are up to date
`postgres=> ANALYSE mytargetable;`
`ANALYZE`
- Not needed if you know that statistics are already good



Recipe #2

- Optional: switch timer on
`postgres=> \timing on`
Timing is on.



Recipe #2

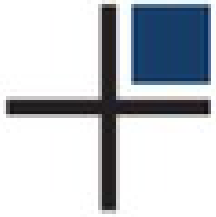
- Use PostgreSQL's own estimator!

```
postgres=> EXPLAIN SELECT *  
           FROM mylargetable;
```

QUERY PLAN

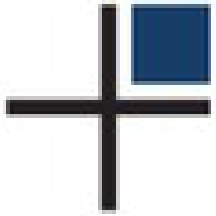
```
-----  
Seq Scan on mylargetable  
  (cost=0.00..17187.67 rows=1234567 width=36)  
(1 row)
```

```
Time: 0.650 ms
```



Recipe #3

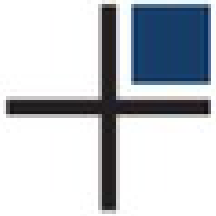
- List Non-default Settings
- Ingredients
 - PostgreSQL
 - (nothing more!)



Recipe #3

- Just issue this query:

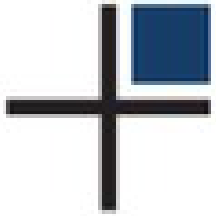
```
postgres=# SELECT name, source, setting
FROM pg_settings
WHERE source != 'default'
AND source != 'override'
ORDER by 2, 1;
```



Recipe #3

- Output like (LHS):

name	source
application_name	client
client_encoding	client
archive_command	configuration f
DateStyle	configuration f
default_text_search_config	configuration f
dynamic_shared_memory_type	configuration f
external_pid_file	configuration f
lc_messages	configuration f
...	

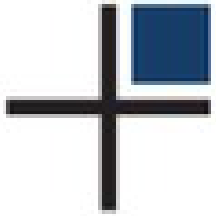


Recipe #3

- Output like (RHS):

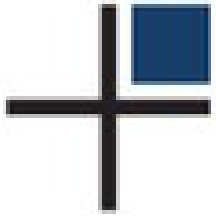
```
          |                               setting
-----+-----
file     | psql
file     | SQL_ASCII
file     | (disabled)
file     | ISO, DMY
file     | pg_catalog.italian
file     | posix
file     | /var/run/postgresql/9.4-main.pid
file     | it_IT.UTF-8
```

...



Recipe #4

- Drop Index Carefully
- Ingredients
 - PostgreSQL
 - A Table
 - An Index



Recipe #4

- Find out the name of the index:

```
postgres=> \d mylargetable
```

```
Table "public.mylargetable"
```

```
Column | Type      | Modifiers
```

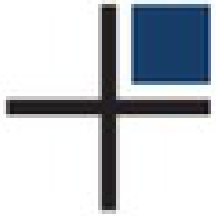
```
-----+-----+-----
```

```
x      | integer  | not null
```

```
y      | text     |
```

```
Indexes:
```

```
    "mylargetable_x_idx" btree (x)
```

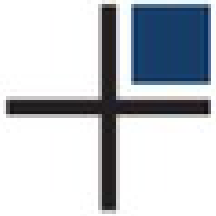


Recipe #4: Don'ts

- This is Not Carefully:

```
postgres=> DROP INDEX mylargetable_x_idx;
```

- Building an index is expensive...

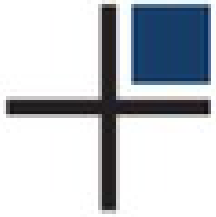


Recipe #4: Dos

- This is Carefully:

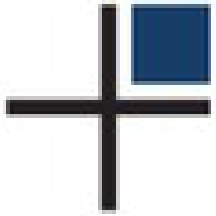
```
postgres=> UPDATE pg_index
  SET indisvalid = false
  WHERE indexrelid =
    regclass 'mylargetable_x_idx';
```

- The index is marked as "invalid"
- Thanks to CREATE INDEX CONCURRENTLY!



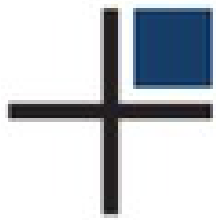
Recipe #5

- Planning Backups
- Ingredients
 - PostgreSQL
 - A Separate Server



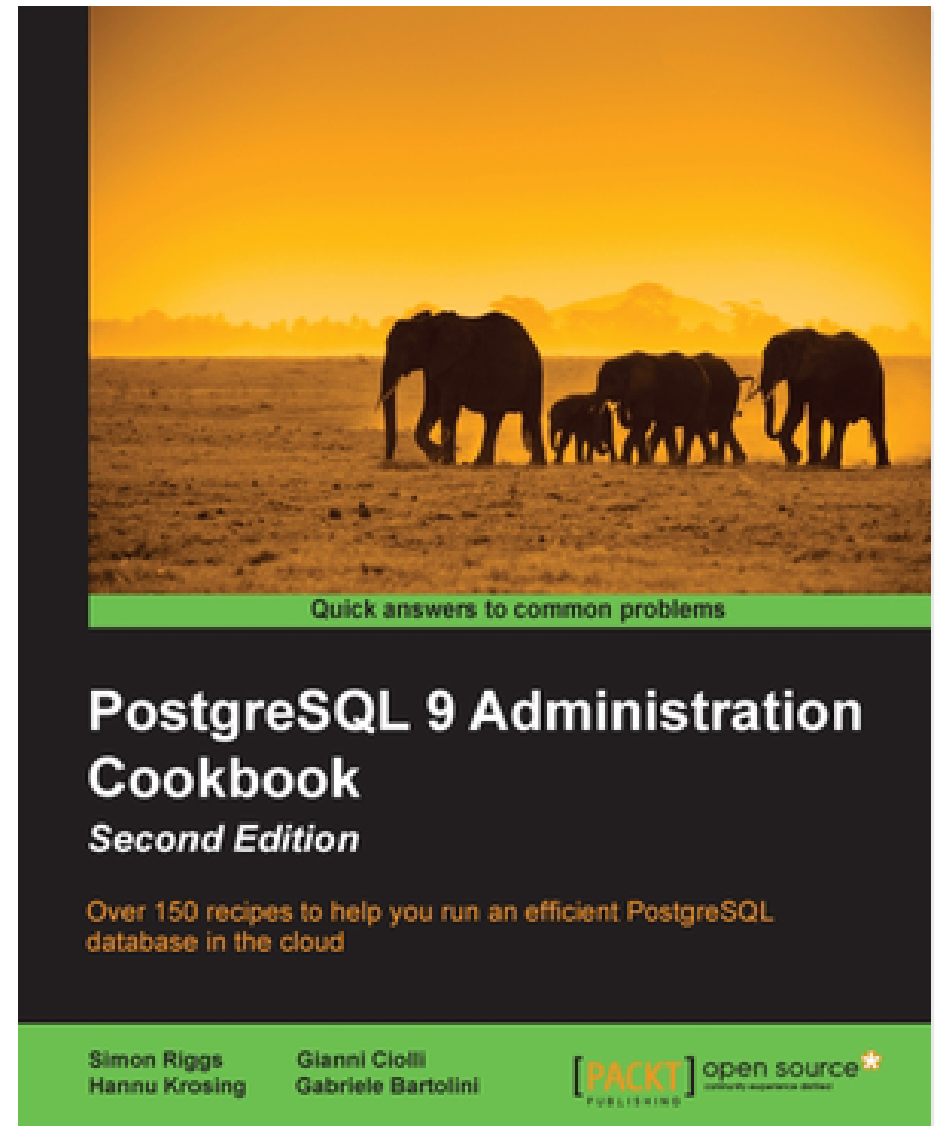
Recipe #5

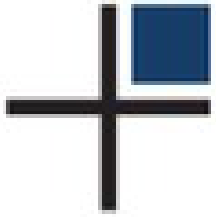
- Plan *recovery*, not only backup!
- Test Recovery!
- Evaluate alternatives on *merit*:
 - Code maturity
 - Is it supported?
 - «Make Things Open, It Makes Things Better»
 - Liam Maxwell, CTO, UK Government
 - Fitness to your use case



More recipes?

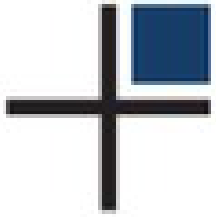
- PostgreSQL 9 Administration Cookbook
- 2nd Edition, April 2015 Packt Publishing
- 150+ Recipes
- PostgreSQL 9.0 to 9.4
- 2ndQuadrant.com/books





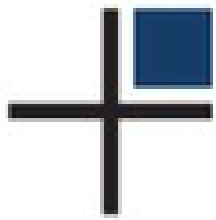
And now...

Questions?



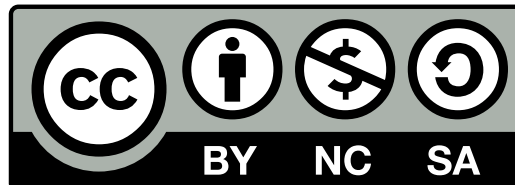
And then...

Thank you!



Licence

This document is distributed under the **Creative Commons Attribution-Non commercial-ShareAlike 3.0 Unported** licence



A copy of the licence is available at the URL
<http://creativecommons.org/licenses/by-nc-sa/3.0/>
or you can write to

*Creative Commons, 171 Second Street, Suite 300,
San Francisco, California, 94105, USA.*