

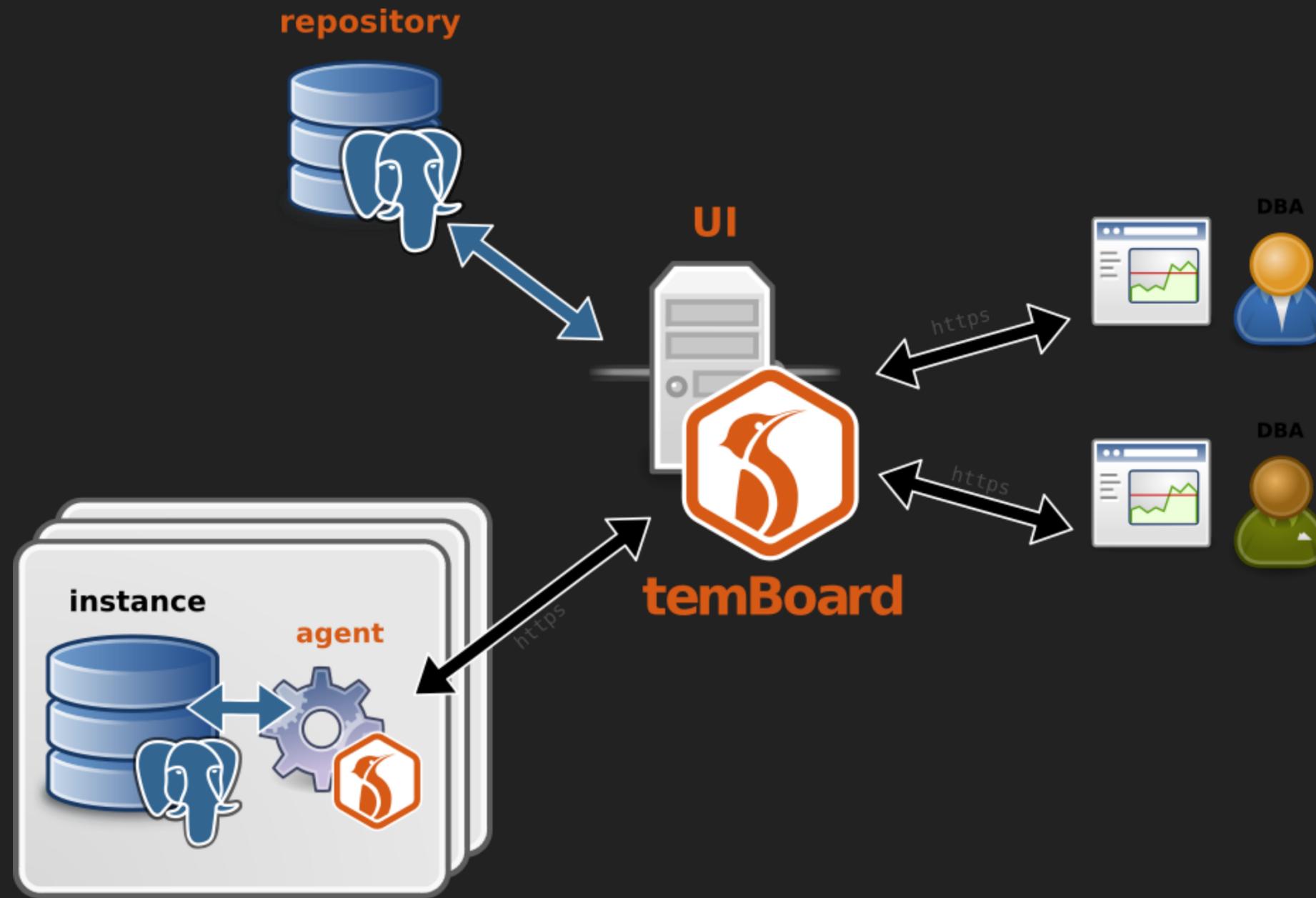
temBoard

Meetup - Genève - 23 Mai 2019

Pierre Giraud



Architecture



temBoard architecture

AGENT

- Mono-instance
- Pas de dépendances
- API REST
- Authentification
- Packagé pour centos/RHEL 6/7 et Debian

SERVEUR

(aussi appelé UI)

- Interface Web
 - Python 2.7 / Tornado / SQLAlchemy
- Base de données historique et metadonnées
 - PostgreSQL 9.4+
- Authentification
- Packagé pour CentOS/RHEL 7 et Debian
- Un serveur pour un parc d'agents / instances

Fonctionnalités

PLUGINS

- Fonctionnement par plugins
- Activation / désactivation

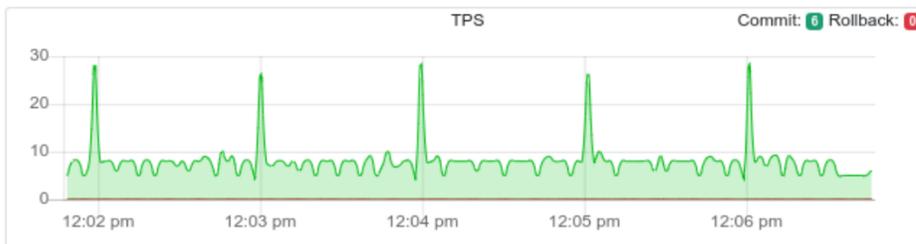
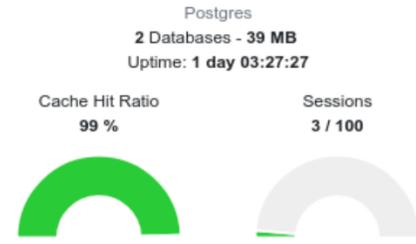
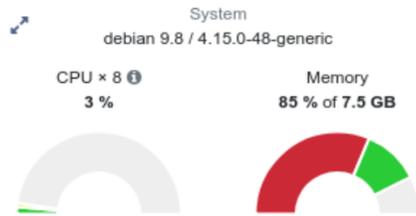
- Tableau de bord
- Configuration Postgres
- Supervision
- Activité
- Maintenance

TABLEAU DE BORD

(Plugin Dashboard)

- Affichage en temps réel
- Métriques système : usage CPU, mémoire, *loadaverage*.
- Métriques Postgres : Cache Hit Ratio, Sessions, TPS.
- Statut de chaque métrique calculé selon des seuils (*alerting*).

- Dashboard
- Activity
- Monitoring
- Status
- Configuration
- Maintenance
- Notifications



- Notifications
- 2019-05-21T07:40:47 alice Session expired
 - 2019-05-21T06:40:45 alice Backend 72 terminated
 - 2019-05-21T06:40:39 alice Login

Current status

BTree index blo... WARNING	CPU usage OK	File systems us... OK	Heap bloat ratio... OK
Cache Hit Ratio OK	Loadaverage OK	Memory usage WARNING	Rollbacked tran... OK
Client sessions OK	Swap usage WARNING	Temporary files... OK	Waiting sessions OK
WAL files ready... OK	WAL files OK		

- Last alerts
- BTree index bloat ratio estimation - postgres (8 minutes ago)
 - Loadaverage (9 minutes ago)
 - BTree index bloat ratio estimation - postgres (11 minutes ago)
 - Waiting sessions - postgres (12 minutes ago)
 - Loadaverage (16 minutes ago)
 - CPU usage - global (an hour ago)
 - Loadaverage (an hour ago)
 - CPU usage - global (an hour ago)
 - CPU usage - global (an hour ago)

shop.fqdn

local_instances

Host: agent10

Data: /var/lib/postgresql/data

Port: 5432

Version: PostgreSQL 10.7 (Debian 10.7-1.pgdg90+1) on x86_64-pc-linux-gnu, compiled by gcc (Debian 6.3.0-18+deb9u1) 6.3.0 20170516, 64-bit

CONFIGURATION

(Plugin pg_conf)

- Configuration des paramètres de l'instance
(postgresql.conf)

instance.fqdn

default

Host: 0.0.0.0
 Data: /var/lib/postgresql/data
 Port: 5432
 Version: PostgreSQL 10.5 on x86_64-pc-linux-musl, compiled by gcc (Alpine 6.4.0) 6.4.0, 64-bit

Logged in as alice

Dashboard

Activity

Monitoring

Status

Configuration

Notifications

Find in settings

Category: Autovacuum

Autovacuum

autovacuum

Starts the autovacuum subprocess.

On

autovacuum_analyze_scale_factor

Number of tuple inserts, updates, or deletes prior to analyze as a fraction of reituples.

0.1

autovacuum_analyze_threshold

Minimum number of tuple inserts, updates, or deletes prior to analyze.

50

autovacuum_freeze_max_age

Age at which to autovacuum a table to prevent transaction ID wraparound.

200000000

autovacuum_max_workers

Sets the maximum number of simultaneously running autovacuum worker processes.

3

autovacuum_multixact_freeze_max_age

Multixact age at which to autovacuum a table to prevent multixact wraparound.

400000000

autovacuum_naptime

Time to sleep between autovacuum runs.

1min

autovacuum_vacuum_cost_delay

Vacuum cost delay in milliseconds, for autovacuum.

20ms

autovacuum_vacuum_cost_limit

Vacuum cost amount available before napping, for autovacuum.

-1

autovacuum_vacuum_scale_factor

Number of tuple updates or deletes prior to vacuum as a fraction of reituples.

0.2

autovacuum_vacuum_threshold

Minimum number of tuple updates or deletes prior to vacuum.

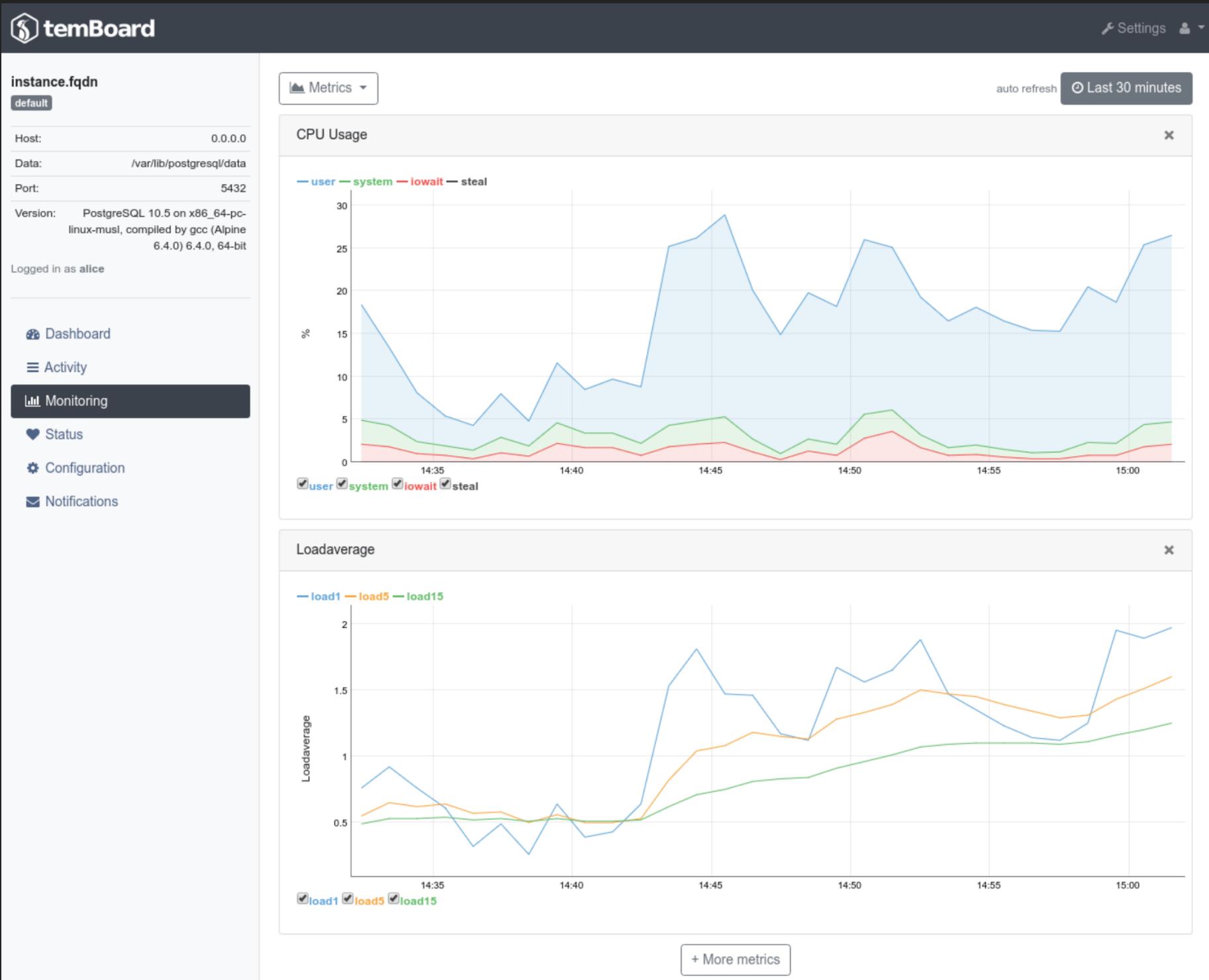
50

Save and reload configuration

SUPERVISION

(Plugin Monitoring)

- Collecte périodique de métriques par l'agent (système et PostgreSQL)
- Envoi à l'agent (push)
- Agrégation et historisation côté serveur
- Graphiques
- Seuils d'alerte



temBoard Settings

instance.fqdn
 default

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Logged in as **alice**

- Dashboard
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OK CPU usage

OK global

Warning: 50% Critical: 80%

OK File systems usage

- OK** /
- OK** /dev
- OK** /dev/shm
- OK** /run/docker.sock
- OK** /sys/firmware
- OK** /sys/fs/cgroup

Warning: 80% Critical: 90%

OK Cache Hit Ratio

- OK** postgres
- OK** template1
- OK** world

Warning: 90% Critical: 80%

OK Loadaverage

OK

Warning: 4 Critical: 8

WARNING Memory usage

WARNING

Warning: 50% Critical: 80%

OK Rollbacked transactions

- OK** postgres
- OK** template1
- OK** world

Warning: 10 Critical: 20

CRITICAL Client sessions

CRITICAL

Warning: 80% Critical: 90%

OK Swap usage

OK

Warning: 30% Critical: 50%

CRITICAL Waiting sessions

- CRITICAL** postgres
- OK** template1
- OK** world

Warning: 5 Critical: 10

OK WAL files ready to be archived

OK

Warning: 10 Critical: 20

OK WAL files

OK

Warning: 50 Critical: 100

Auto refresh every 1 min

ACTIVITÉ

(Plugin Monitoring)

- (quasi) Temps réel
- Affichage des requêtes en cours d'exécution
 - base, utilisateur
 - CPU, mémoire, I/O
 - durée
- Requêtes bloquées
- Requêtes bloquantes
- Possibilité de terminer les backends

Dashboard

Activity

Monitoring

Status

Configuration

Maintenance

Notifications

Running Waiting 2 Blocking 8

Terminate

filters

PID	Database	User	CPU	mem	Read/s	Write/s	IOW	W	State	Time	Query
<input type="checkbox"/> 10798	world	bob	N/A	N/A	N/A	N/A	N/A	N	idle in tra...	62.34 s	UPDATE country SET region='Europe' WHERE code='NLD';
<input type="checkbox"/> 10772	world	alice	N/A	N/A	N/A	N/A	N/A	Y	active	59.35 s	DELETE FROM country WHERE code='NLD';
<input type="checkbox"/> 10917	postgres	postgres	N/A	N/A	N/A	N/A	N/A	Y	active	0.01 s	UPDATE pgbench_branches SET bbalance = bbalance + -4148 WHERE b...
<input type="checkbox"/> 10915	postgres	postgres	N/A	N/A	N/A	N/A	N/A	Y	active	0 s	UPDATE pgbench_branches SET bbalance = bbalance + -1823 WHERE b...
<input type="checkbox"/> 10914	postgres	postgres	N/A	N/A	N/A	N/A	N/A	Y	active	0 s	UPDATE pgbench_tellers SET tbalance = tbalance + 3456 WHERE tid...
<input type="checkbox"/> 10918	postgres	postgres	N/A	N/A	N/A	N/A	N/A	N	active	0 s	END;
<input type="checkbox"/> 10916	postgres	postgres	N/A	N/A	N/A	N/A	N/A	Y	active	0 s	UPDATE pgbench_tellers SET tbalance = tbalance + 2426 WHERE tid...

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MAINTENANCE

(Plugin Maintenance)

- Dashboard
- Activity
- Monitoring
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- Configuration
- Maintenance**
- Notifications

All Databases

Size: **461 MB**

Databases (5) Sort by Database Size ▾

		Tables		Indexes		Toast
db_piuoieoav	241 MB	78	29 MB Bloat: 56.3%	133	33 MB Bloat: 65.8%	179 MB
db_khnhej	95 MB	78	27 MB Bloat: 60.2%	133	31 MB Bloat: 68.5%	36 MB
db_egasqp	86 MB	78	22 MB Bloat: 53.6%	133	26 MB Bloat: 63.4%	36 MB
postgres	31 MB	73	22 MB Bloat: 25.8%	118	7584 kB Bloat: 33.8%	664 kB
world	8309 kB	72	3304 kB Bloat: 1.9%	118	3344 kB Bloat: 11.0%	696 kB

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Dashboard

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All Databases / Database: db_piouieoav / Schema: lbhzzbpawvzpf / Table: table_with_bloat

Table:table_with_bloat



Total	Heap	Indexes	Toast	Fill Factor
7424 kB ~ 10001 rows (~ 0 dead)	3472 kB Bloat: 84% (2928 kB)	3944 kB Bloat: 88% (3480 kB)	8192 bytes	100%

Last ANALYZE: 2 minutes ago

1 analyzes - 0 auto analyzes

ANALYZE

Last VACUUM: 2 minutes ago (auto)

0 vacuums - 1 auto vacuums

VACUUM

⚠ Overall table bloat is high. You should consider running a Full VACUUM.

Table bloat wastes space and slows down queries.

⚠ Overall index bloat is high. You should consider running a Full VACUUM or REINDEX.

Index bloat wastes space and slows down queries.

Indexes (6)

Sort by Size

table_with_bloat_id_key (btree)	1984 kB	Bloat: 88.3%	1 scans	CREATE UNIQUE INDEX table_with_bloat_id_key ON lbhzzbpawvzpf.tab...	Reindex
table_with_bloat_id_key (btree)	1984 kB	Bloat: 88.3%	1 scans	CREATE UNIQUE INDEX table_with_bloat_id_key ON lbhzzbpawvzpf.tab...	Reindex
table_with_bloat_id_key (btree)	1984 kB	Bloat: 88.3%	1 scans	CREATE UNIQUE INDEX table_with_bloat_id_key ON lbhzzbpawvzpf.tab...	Reindex
table_with_bloat_cat_idx (btree)	1968 kB	Bloat: 87.8%		CREATE INDEX table_with_bloat_cat_idx ON lbhzzbpawvzpf.table_wit...	Reindex
table_with_bloat_cat_idx (btree)	1960 kB	Bloat: 88.2%		CREATE INDEX table_with_bloat_cat_idx ON lbhzzbpawvzpf.table_wit...	Reindex
table_with_bloat_cat_idx (btree)	1944 kB	Bloat: 88.9%		CREATE INDEX table_with_bloat_cat_idx ON lbhzzbpawvzpf.table_wit...	Reindex

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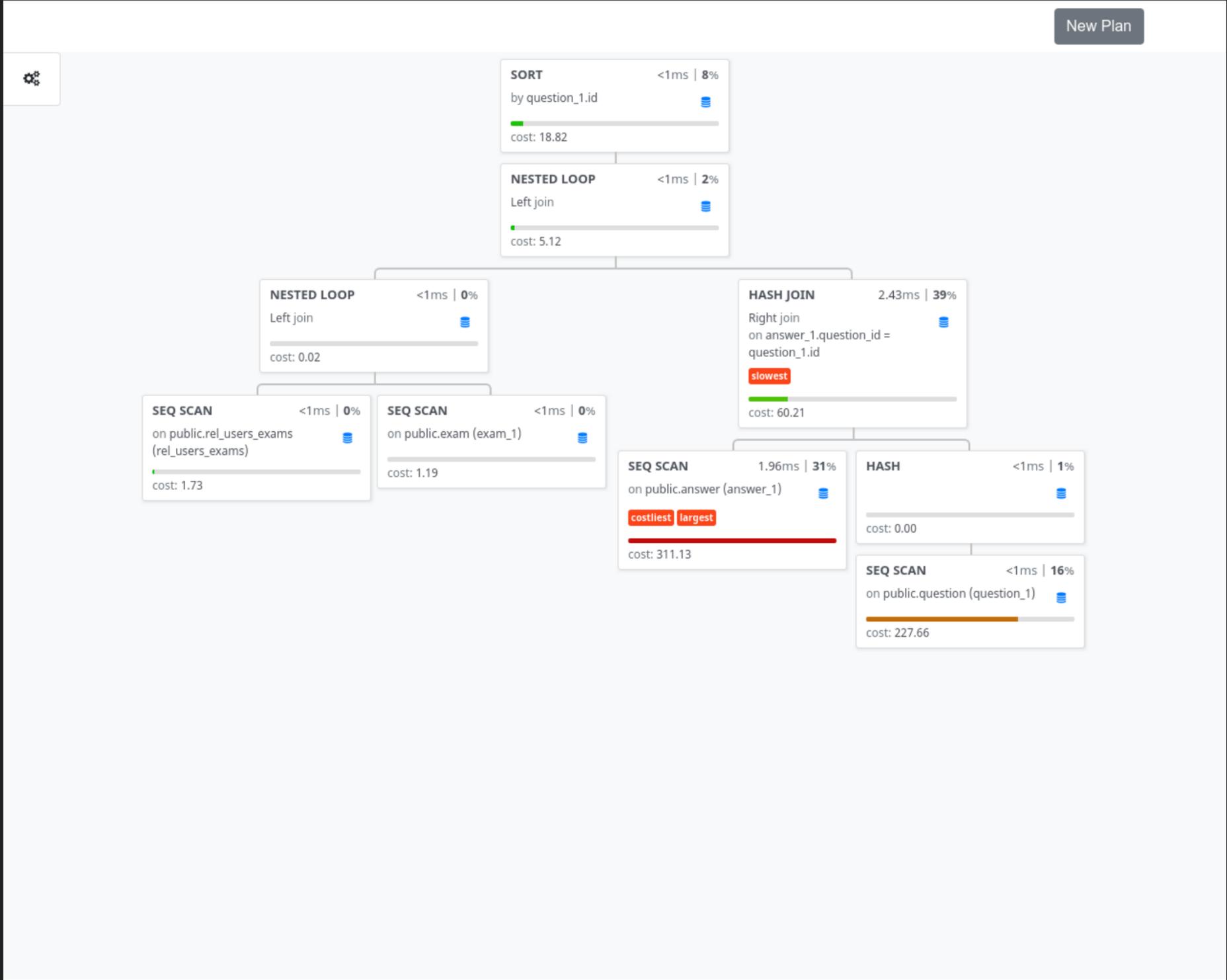
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Fonctionnalités à venir

MODE PULL (VS. PUSH)

REQUÊTES LENTES



Merci

QUESTIONS / REMARQUES ?



LIENS

- [Code](#)
- [Documentation](#)
- [Quickstart docker](#)