



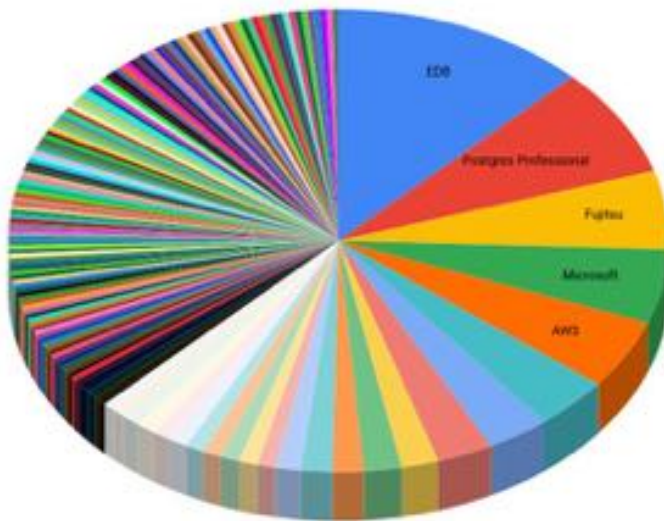
## Postgres 15

# Agenda

- Postgres 15
- Postgres logs
- Logical replication
- Merge
- Copy header
- Non exclusive backups
- JSON Tables
- And more!

# Postgres 15 Code contribution

Code contributors to Postgres by company (PostgreSQL.org + PG 15 Release Notes) without personal or freelancers



EDB Postgres Professional Fujitsu Microsoft AWS Crunchy Data VMware NTT DATA Dalibo Timescale  
HighGo Neon Cybertec Adjust Credativ Google Kontur Materialize NTT Red Hat SRA OSS  
Yugabyte Aiven Instaclustr Loxodata pgsanalyze PostgreSQL Experts AD Parts Analytics Engines Anastigmatix  
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# Postgres roadmap



# Postgres logs

- JSON format
- Some default changes:
  - Log\_checkpoints
  - Log\_autovacuum\_min\_duration
- Progress messages when start is slow

# Logical replication

## Adding whole schemas

```
CREATE PUBLICATION | pub  
  ALTER PUBLICATION |  
FOR TABLES IN SCHEMA s1, s2
```

## Skipping transactions

```
ALTER SUBSCRIPTION sub SKIP
```

## Filtering publications


- On rows (WHERE)
- On columns

## Monitoring

- `pg_stat_subscription_stats`
- `pg_ls_logicalsnapdir()`,  
`pg_ls_logicalmapdir()`,  
`pg_ls_replslotdir()`

# Merge

```
MERGE INTO target_table_name  
USING data_source ON join_condition  
WHEN [NOT] MATCHED [ AND condition ]  
THEN  
    | UPDATE ...  
    | INSERT ...  
    | DO NOTHING
```

 But, you can't  
change the source table  
while using MERGE.

# Copy header

```
COPY copytest TO STDOUT WITH (DELIMITER ';');  
1;My term paper  
2;Crossword puzzle
```

```
COPY copytest TO STDOUT WITH (HEADER, DELIMITER ';');  
id;value  
1;My term paper  
2;Crossword puzzle
```



# Copy header

```
COPY copytest TO '/tmp/p' WITH (HEADER);  
DELETE FROM copytest;
```

```
COPY copytest FROM '/tmp/p';  
ERROR: invalid input syntax for type integer: "id"  
CONTEXT: COPY copytest, line 1, column id: "id"
```

```
COPY copytest FROM '/tmp/p' WITH (HEADER);
```

```
SELECT * FROM copytest;  
id | value  
---+-----  
1  | My term paper  
2  | Crossword puzzle
```

# Copy header

```
ALTER TABLE copytest RENAME value TO textvalue;
```

```
COPY copytest FROM '/tmp/p' WITH (HEADER) ;
```

```
COPY copytest FROM '/tmp/p' WITH (HEADER MATCH) ;
```


**ERROR: column name mismatch in header line field 2: got "value", expected "textvalue"**

CONTEXT: COPY copytest, line 1: "id value"

# The public schema

- Public does not have **creation permission** on `public` schema anymore
- `public` schema **ownership** is now given to the database owner
- Changes have been applied to `pg_dump` too

# Exclusive backups removed

- **Deprecated** since Postgres 9.6
- Risk of **data corruption** 

## Removing of

- `pg_backup_start_time()`
- `pg_is_in_backup()`

To prevent any confusion:

<code>pg_start_backup</code>	→	<code>pg_backup_start</code>
<code>pg_stop_backup</code>	→	<code>pg_backup_stop</code>

Is your backup tool PG15 ready?

- `pg_basebackup` ✓
- `pgBackRest` ✓
- `Barman` ✓

Bye bye **JSON  
Tables**, see you  
in Postgres 16!

# Postgres 15 is a lot more!

183 new features

- Better **performance**
- Better **security**
- Better **monitoring**

Code written with **love** by the community!



# Postgres 15.1

Released the 10th of November  
2022

- A minor version every quarter (at least)
- Upgrade!