



By Naisila Puka



- ❖ "Not now sweetie, I'm working"
- ❖ But what is this Postgres thingie that I'm working on?



- ❖ Kids play with toys: Postgres can be used to store their toys in a very fun magical way
- ❖ BEWARE! Make sure your kid understands that the magical Postgres toybox is only part of the imagination!
- ❖ ≤ 7 yo: careful with the "Imagine part", otherwise you're good (mostly)



Nano-banana generated image



PostgreSQL as a giant toy box

- ❖ Smart, organized, magical
- ❖ Everything is in its right place
- ❖ When you need something, it knows exactly where to find it
- ❖ Relational database: storing data in an organized way, so we can find it easily.



❖ That's it? What's so cool about it?



1) Advanced SQL compliance

My kid once asked me something like:

- I want to play with the car I played with before eating dinner
(he doesn't specify the night)
- The toy has a tiny scratch on one of the tires
- My brother once put it under the couch and then retrieved it with a stick.



The Postgres toy box will give you your toy right away based on your instructions! Just press **SELECT** button and tell Postgres the description!



1) Advanced SQL compliance

- `INSERT INTO toys (name, type, details)
VALUES ('Red Racer', 'car',
'{"condition": {"scratch": {"location": "front tire",
"size": "tiny"}}}');`
- `INSERT INTO play_sessions (toy_id, played_at, activity)
VALUES (1, '2025-10-22 17:45', 'playtime before dinner');`
- `INSERT INTO toy_events (toy_id, event_type, description,
happened_at)
VALUES (1, 'hidden', 'brother put it under the couch',
'2025-10-22 18:00'),
(1, 'retrieved', 'retrieved it with a stick',
'2025-10-22 18:05');`



1) Advanced SQL compliance

```
WITH candidate_toys AS(SELECT DISTINCT t.id, t.name FROM
toys t JOIN play_sessions ps ON ps.toy_id = t.id
WHERE t.type = 'car' AND ps.played_at < '2025-10-22 18:30'
AND t.details -> 'condition' -> 'scratch' ->> 'location'
      ILIKE '%tire%'
AND t.details -> 'condition' -> 'scratch' ->> 'size'='tiny'),
hidden_and_found AS( SELECT toy_id FROM toy_events
WHERE event_type = 'hidden'
AND description ILIKE '%under the couch%'
INTERSECT SELECT toy_id FROM toy_events
WHERE event_type = 'retrieved' AND description ILIKE '%stick%')
```



```
SELECT t.name AS magical_toy FROM candidate_toys t
JOIN hidden_and_found h ON h.toy_id = t.id;
```



2) Rich & customizable data types

- ❖ Kids are creative
- ❖ Invent new toys



2) Rich & customizable data types

- ❖ Postgres magical toy box will take care of any custom toy as well by defining a *custom toy type*!



2) Rich & customizable data types

```
CREATE TYPE plate_color  
AS ENUM ('red', 'blue', 'yellow', 'green', 'purple');
```

```
CREATE TYPE colored_plate AS(  
  size TEXT, --(small, medium, large)  
  colors plate_color[]);
```



3) ACID: Concurrency - MVCC

- ❖ Kid may ask: can my friends use it when they come over?
- ❖ Of course! The magical toy box can perfectly handle multiple kids at a time :)
- ❖ Postgres has MVCC!



4) Wreck-free: WAL

- ❖ Tiny notebook at the right
- ❖ What if the toy box falls over (server crashes),
you can look at the notebook and redo all
actions you planned but didn't fully complete.
- ❖ Safety / Crash Recovery!



5) EXTENSIONS!!

Attached special magic gadgets to the toy box!!

Citus: 1 toy box => many toy boxes,
kids can store more toys, imagine a game day!

PostGIS: for spatial toys that represent spaces
and locations: sandbox or a toy road.

Which toys are near each other in the sandbox?



pg_stat statements: favorite toys,
how often they play with certain toys,
which games take longer to finish



And that's a way how to share your passion for the PostgreSQL database and inspire the next generation with creativity!



A talk given to you by:

- ❖ Working mom of 2 toddler boys
- ❖ Part of the amazing PG Extensions team at Microsoft
- ❖ Working on the Citus Extension for the past 5 years
- ❖ Part of PAAM (Palestinians & Allies At Microsoft)
- ❖ Public signer of the No Azure For Apartheid petition, noaa.cc/petition



Thank you! Any questions?

- Feedback QR code:





Got 3 minutes?
We'd love your input
on some of our
Postgres work



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