

Finding the Small Queries that cause Big Problems

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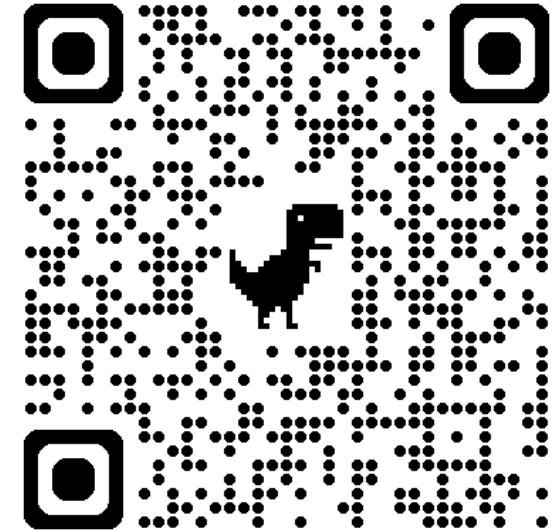
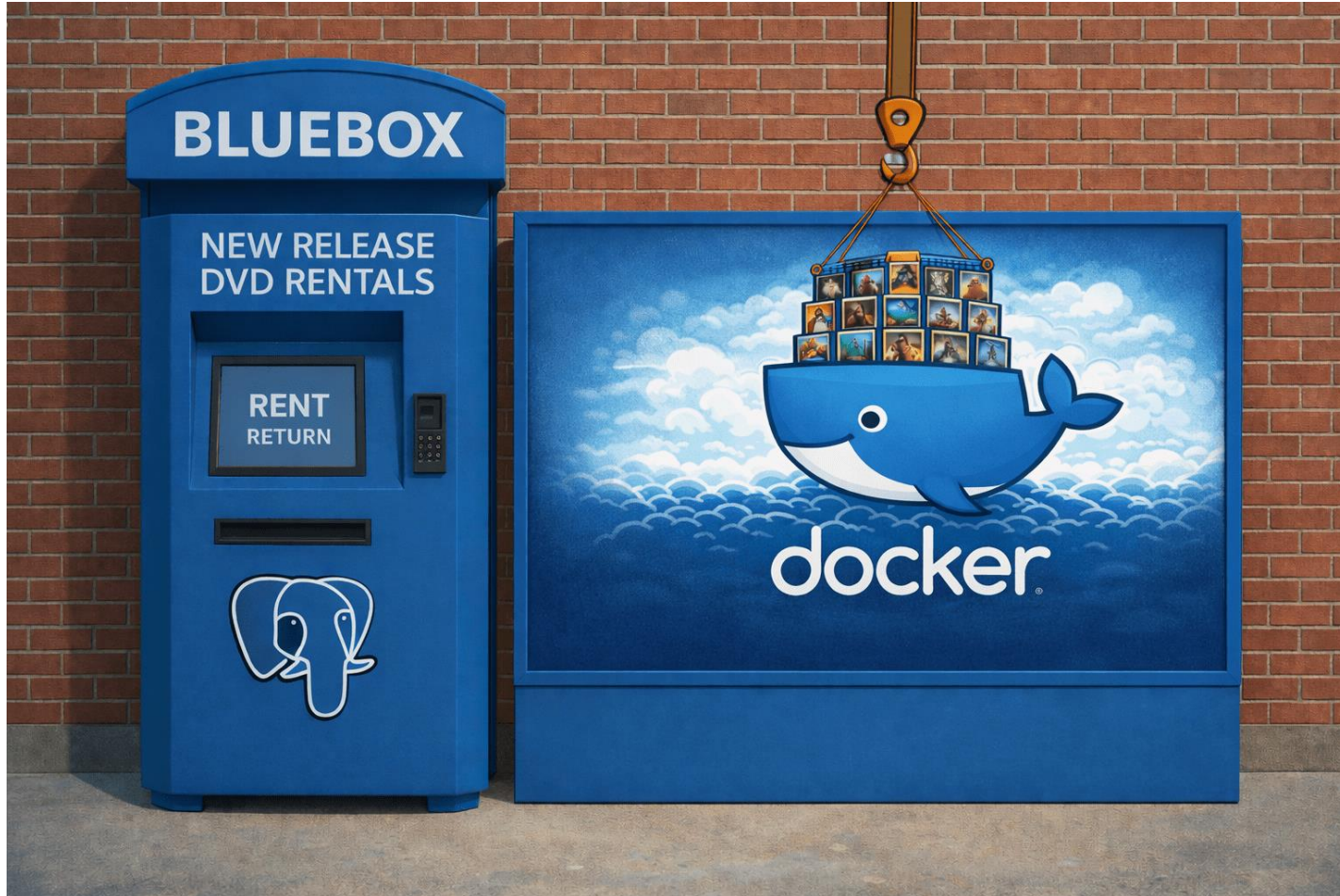
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The application/Company



<https://github.com/sqlasylum/presentation>

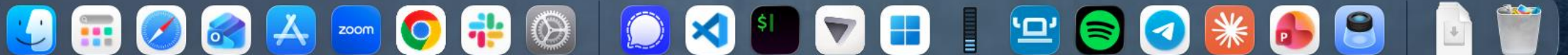
John Senior Engineer
Is something going on in the DB?

Janet in Customer Support
The website seems slow?...Do we have
a DB problem?

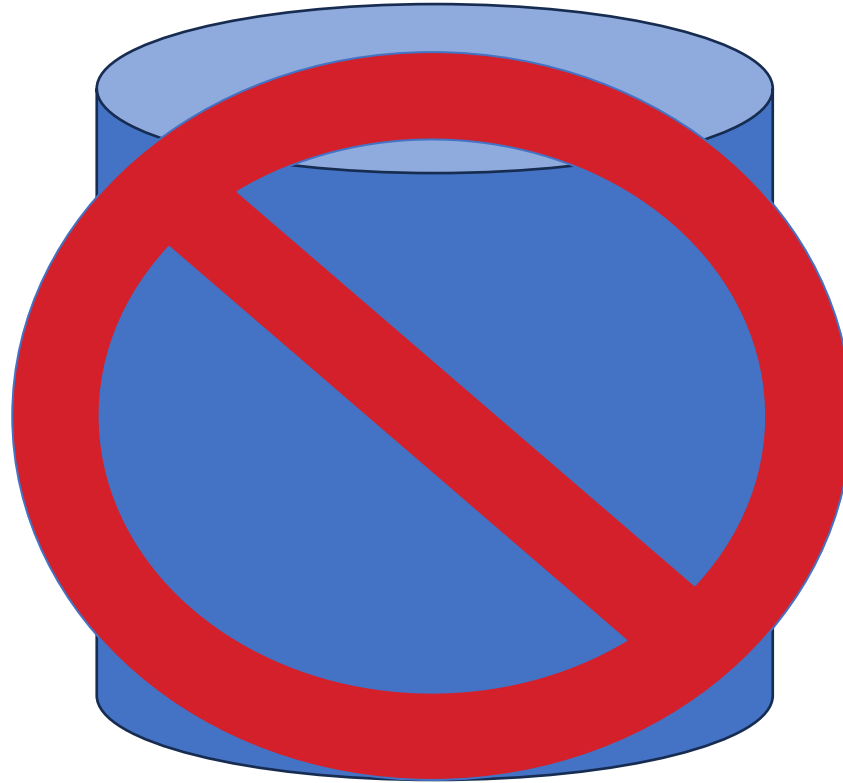
Command Center
CPU seems to be going up, Can you
check the DB?

THE BOSS
WTF is wrong with the DB?

Josh Jr DBA
Hey, are we doing lunch today? I'd love
to get some sushi.....



- The problem
- Is.....



Transactions! Applications! Oh My!



- Understanding your system is still key
- Monitoring tools can make life soooo much easier
- Historical Data can greatly help to see trends.
- Deployment process is critical.....~~Kellyn~~ Grant help!

~~Kellyn~~....Grant, To the
rescue!

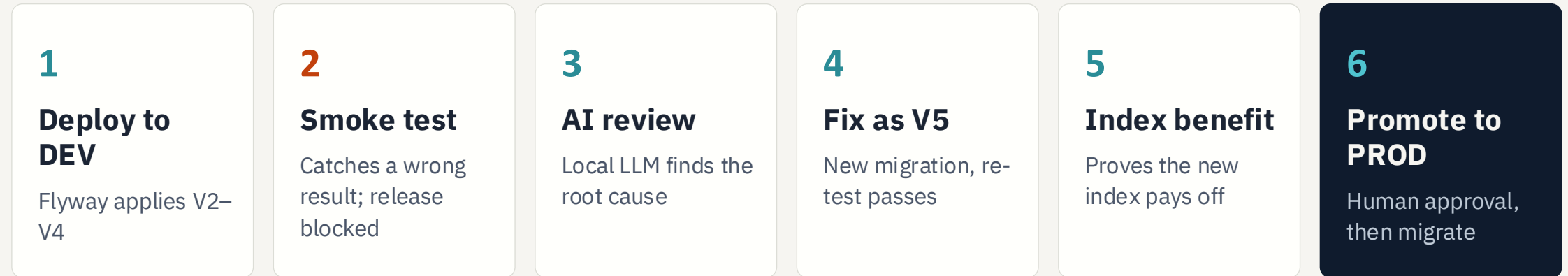
pgconf.eu 2026

Part II: From commit to prod, with an AI reviewer in the loop

Flyway migrations, automated smoke tests, a local Ollama code review and a human approval gate

THE DEMO AT A GLANCE

Six stages from dev to prod



Every stage pauses for a **Y/N** decision, and nothing reaches PROD without an explicit approval.

RUNNING THE DEMO

Script with Controls

Key	What it does
Y	Yes, run this stage
N	No, exit the script
P	Proceed to the next command

`python demo.py`

presenter mode, Y/N/P prompts

`--auto`

runs through, stops at PROD approval

`--offline-ai`

uses the recorded AI review

`--speed 2 · --shell bash`

pacing and prompt style

`logs/demo-*.log`

timestamped session log of every run

WHAT SHIPS

The BB-1432 release

Migration	Change	Notes
V2	Create customer_monthly_spend	Backfill of ~1.05M rows
V3	Index idx_cms_month_customer	For month-level loyalty reporting
V4	Function get_customer_monthly_spend	Contains the bug the demo catches
V5	Fix for the function	Generated during the demo

Flyway OSS 11.14

PostgreSQL 18.1

Ollama · qwen2.5-coder:7b

Python release tooling

STAGE 1

Deploy to DEV

- Check pending migrations with flyway info
- Apply V2, V3 and V4 to the dev database
- Schema moves from v1 to v4

```
# what's pending?
```

```
flyway -environment=dev info
```

```
# apply it
```

```
flyway -environment=dev migrate
```

```
Successfully applied 3 migrations, now at version v4
```

**Note the difference in arguments between 'info' and 'migrate'*

STAGE 2

The smoke test catches a bad result

Expected for customer 143081, Feb 2026

7.96

Actual, and the same for every customer

412,906.37

6 checks passed, **2 failed**. The release is blocked from promotion.

STAGE 3

AI code review

- Local model via Ollama: qwen2.5-coder:7b
- Given the V4 file plus the smoke test report
- Root cause: the parameter name matches a column
- Recorded review used if Ollama is offline

-- as written in V4

WHERE cms.customer_id = customer_id

-- how PostgreSQL reads it

WHERE cms.customer_id = cms.customer_id

True for every row, so each customer gets the whole month's total

STAGE 4

Apply the fix as V5 and re-test

- Parameter renamed to p_customer_id
- Shipped as a new migration, so V4's checksum stays valid
- Drop and recreate, then re-grant to bb_app
- Migrate dev to v5 and rerun the smoke test



8/8

smoke checks passed in dev

STAGE 5

The new index earns its place

Loyalty report: top 10 spenders for February 2026, average of 5 runs each

Without index

~171 ms

Seq scan · 12,746 buffers

With index

~9.8 ms

Index-only scan · 389 buffers

Improvement

~17x

97% fewer buffers read

Worst performance against production workload was +200 ms!

STAGE 6

A human has multiple approval checks for the promotion to PROD



Review

flyway info on prod shows V2–V5 pending



Approve

Approver name plus Y/N, saved to an approval record



Migrate

Flyway applies V2–V5 to prod



Verify

Prod smoke test, 8/8 passed

Answer N and nothing changes: BB-1432 stays in dev and prod remains at v1. Rollback is a DROP, since no existing objects are altered.

TAKEAWAYS

What the demo shows

Catch it in dev

Result-level smoke tests find bugs that structure checks miss

AI explains, people decide

A local model diagnoses the failure; a named approver releases

Every step is auditable

Versioned migrations, an approval record and a full session log

Questions?