GitHub Outage: Repository Creation Failed

SWIPE

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Dissecting GitHub Outage
New repository creation failed
due to scanning secrets

What happened?

In April 2021, people were unable to create
new repository and root cause was
dependency on scanning secrets

> New repository
> creation

What is secret scanning?

Developers tend to check-in secrets → API Keys
in their codebases through → Passwords
→ Tokens
Settings / constants file
Critical webhook URL

What if the repository is accidentally made public?
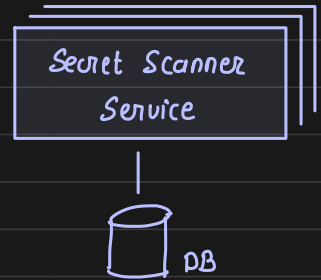or somehow the secrets are leaked!

This often leads to Data Breach or Infra abuse
↓ ↓
ransom mining

GitHub periodically checks for committed secrets
and warns us about it

Secret Scanner Service

GitHub has an internal service

that periodically scans all the repositories

for any checked-in secrets, we call it

Secret Scanner
Service

DB

Repository creation flow
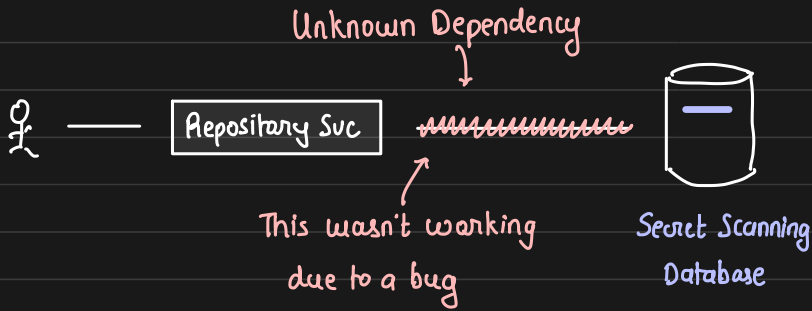
When a new repository is created on Github,

it is registered in the DB of Secret Scanner Service

so that they can be periodically scanned.

Repository Svc ——— Secret Scanning Svc

What changed ?

Secret Scanning table was moved to its own cluster

Cluster → Cluster   Secret Scanning Database

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Unknown Dependency
↓

👤 ——— | Repository Svc | ~~~~~~~~~~~~~ 🛢

This wasn't working
due to a bug

Secret Scanning
Database

"Broke the ability of application to write to the secret scanning DB
↓
Repository Service

*This tells us — repository service was directly writing to secret scan DB
and it was an unknown dependency!

↖ Hence, repo creation
wasn't working

How did they mitigate?

   "Rolled back the data migration"

* purely speculative

As soon as data would have been migrated, the creation failed
  so, they quickly moved back the data (repo info) to where it was

🛢   — it could also be just a
        network or credential change