Learn how to (not) use secrets with OWASP Wrong Secrets

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OWASP

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About me

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Can you keep a secret?

Examples of secrets

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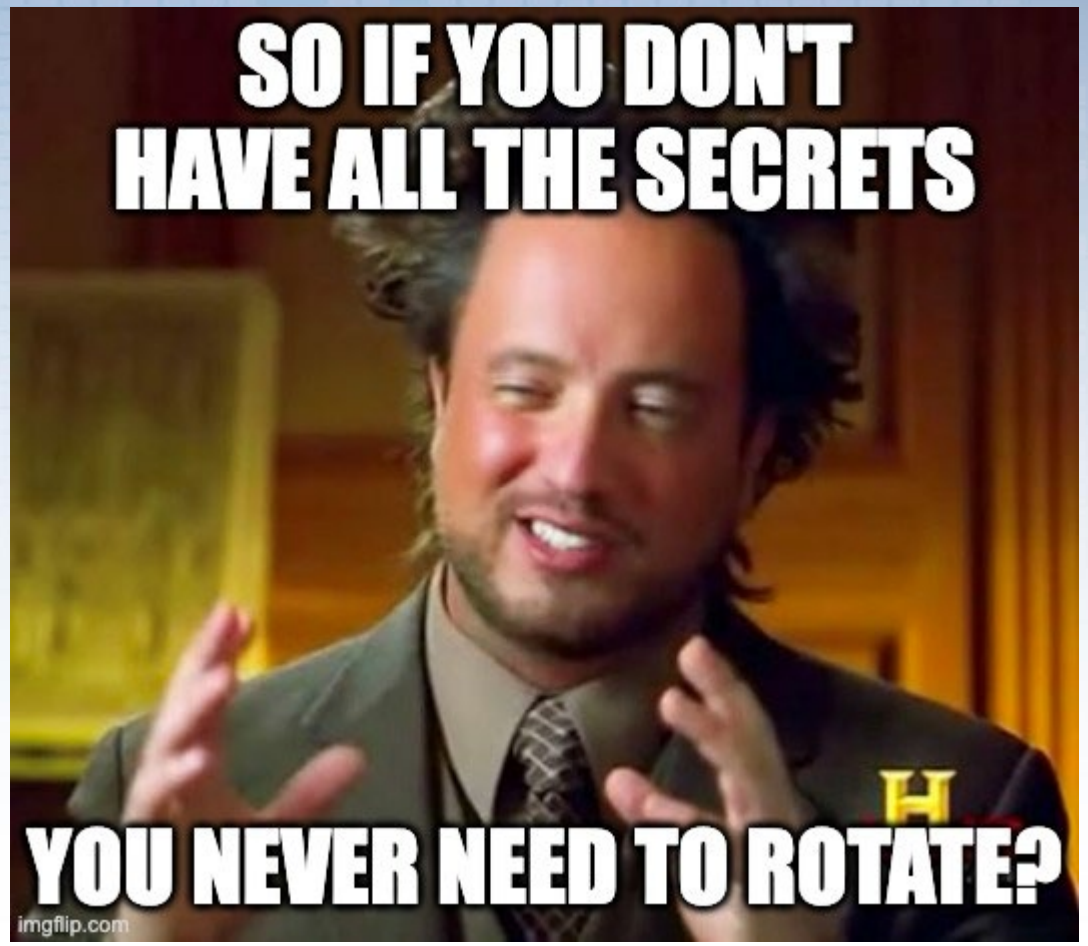
Where would you store a secret when on K8S?

- In code?
- In your container?
- In your K8s…?
- In your secrets manager?
- In your platform providing solution?
- In your… ?

If you had to rotate all your organization's secrets…

- Do you know where they are?
- Do you know their purpose?
- Can you rotate timely?
- Do you….

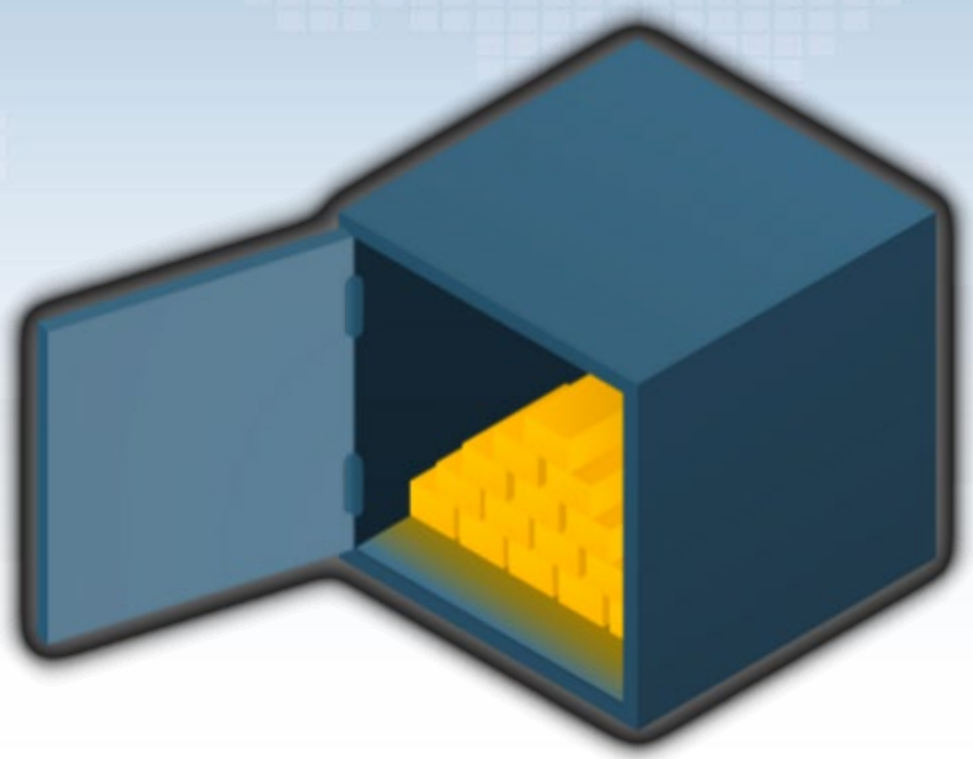


Can you tell us

- When your secret was last “borrowed” by your ex-colleague?
- When your secret was not working anymore?


SO APPARENTLY
SECRETS MANAGEMENT IS "SPECIAL"
imgflip.com

Introducing Project WrongSecrets



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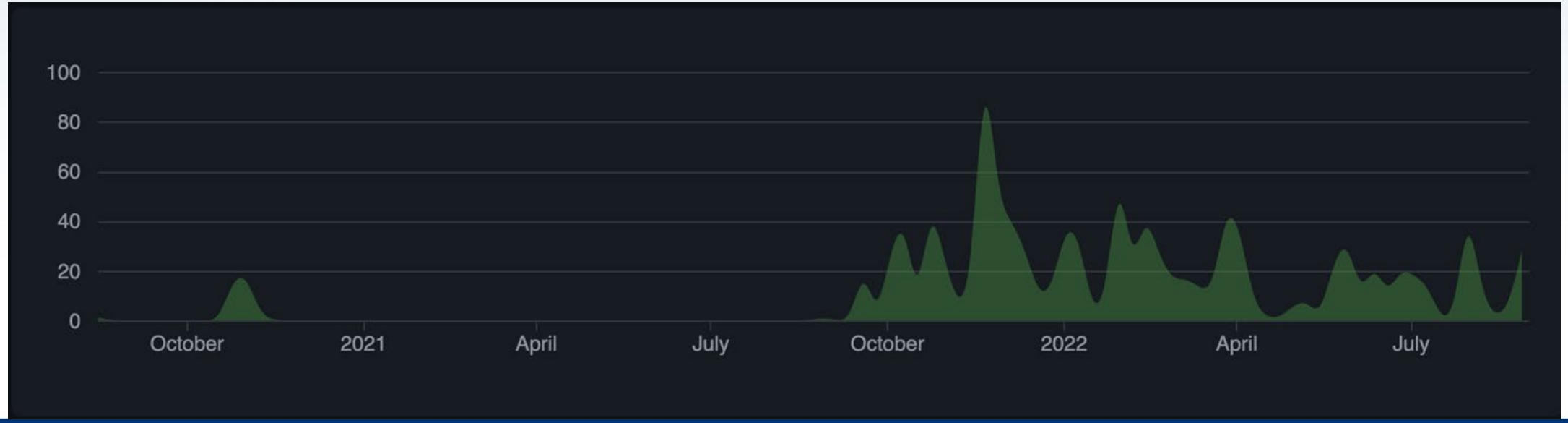
Today

- Project WrongSecrets
- Docker Demo on Heroku
- AWS Demo
- A few take-aways
- Where do we go from Here?

What is it?

- Vulnerable app & secret detector testbed
- Goals:
  - Educate on secret management and its pitfalls
  - Help people reflect on their secrets management strategy
  - Promote secrets management as important facet of security

Lab Project



Special Thanks

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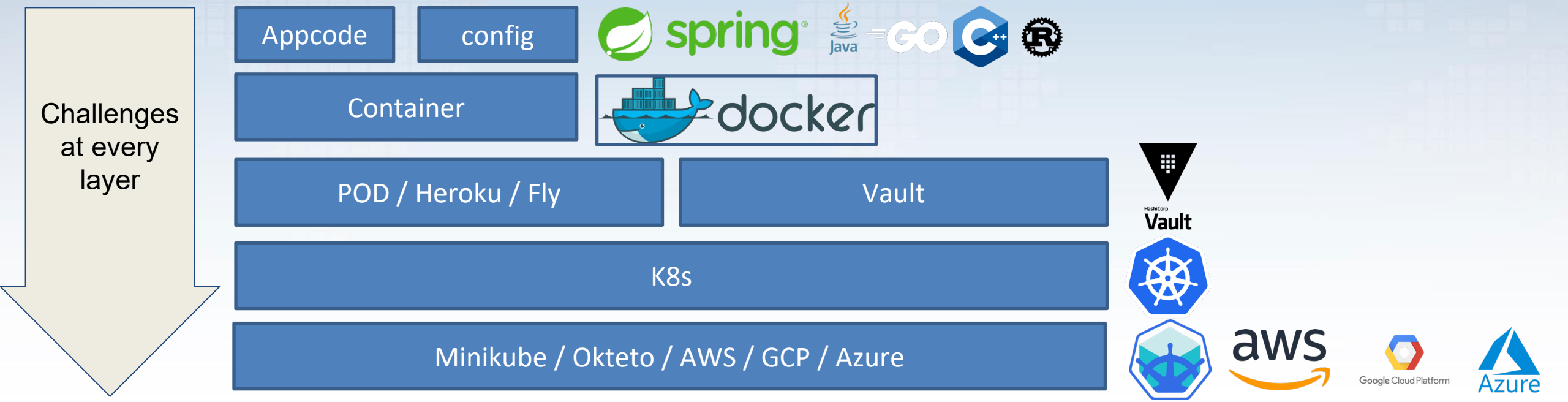
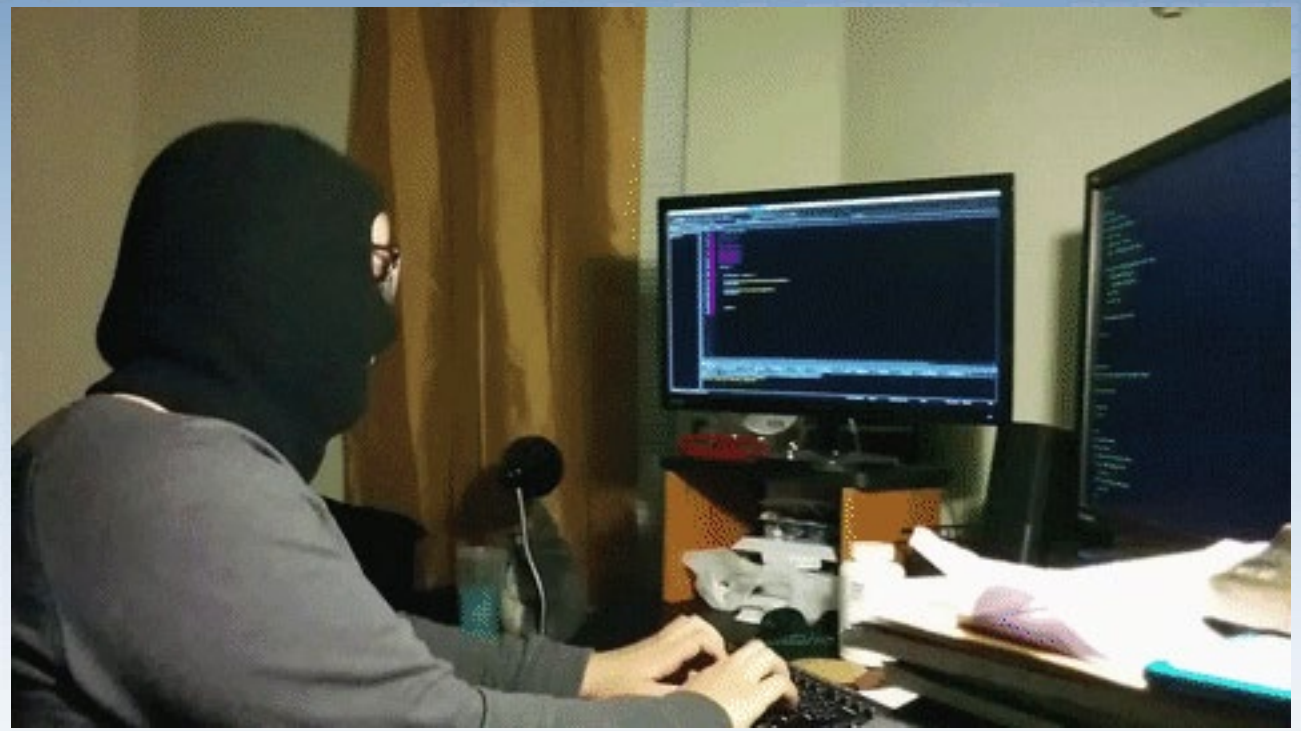
Overall architecture





Docker Demo at Heroku

Why hardcoding secrets in application code & docker containers are a bad idea

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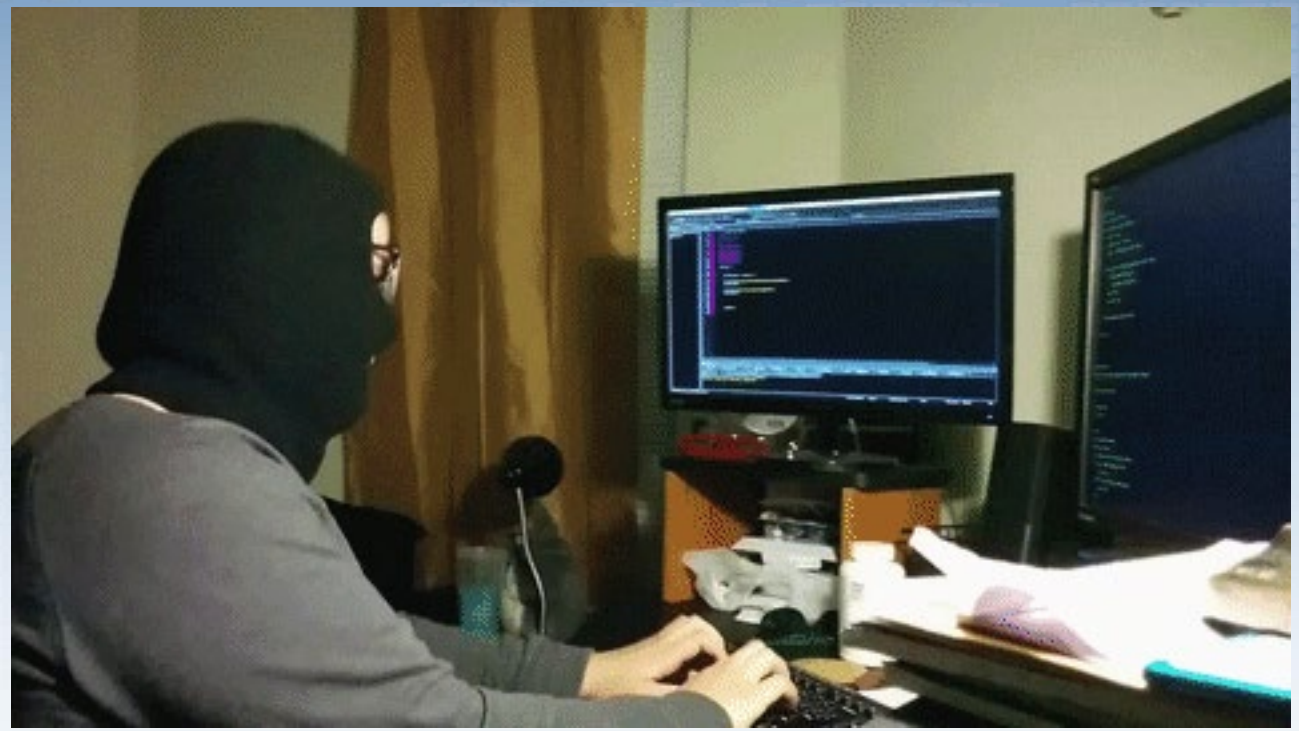

AWS Demo

Terraform State should always be protected & Kubernetes defaults might not be helpful either.

Soo how should we do it?

So how should we do it?

Resources/further reading on secrets management:

- Blog: 10 Pointers on Secrets Management
- OWASP SAMM on Secret Management
- The secret detection topic at Github
- OWASP Secretsmanagement Cheatsheet
- Open CRE on Secrets Management

Use OWASP WrongSecrets as a secret detection benchmark

A few takeaways

- Never hardcode anywhere
- Don’t just trust defaults
- Rotate secrets/use ephemeral secrets
- Reduce blast radius
- Reduce exposure
- Have logging & alerting in place!

Where do we go from here?

- LCM activities (Dependencies, K8s version, Terraform version)
- Improve development experience with better live-reloading
- Secret hiding in binaries (Swift?)
- Other type of challenges and mistakes spotted in the wild

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Where do we go from here?

- UI Improvements
- Secret detection testbed extension.
- Expanded CTF mode!

See: https://github.com/commjoen/wrongsecrets/issues

We can really use your help!

☆ Promote https://github.com/commjoen/wrongsecrets

GitHub Stars & social media

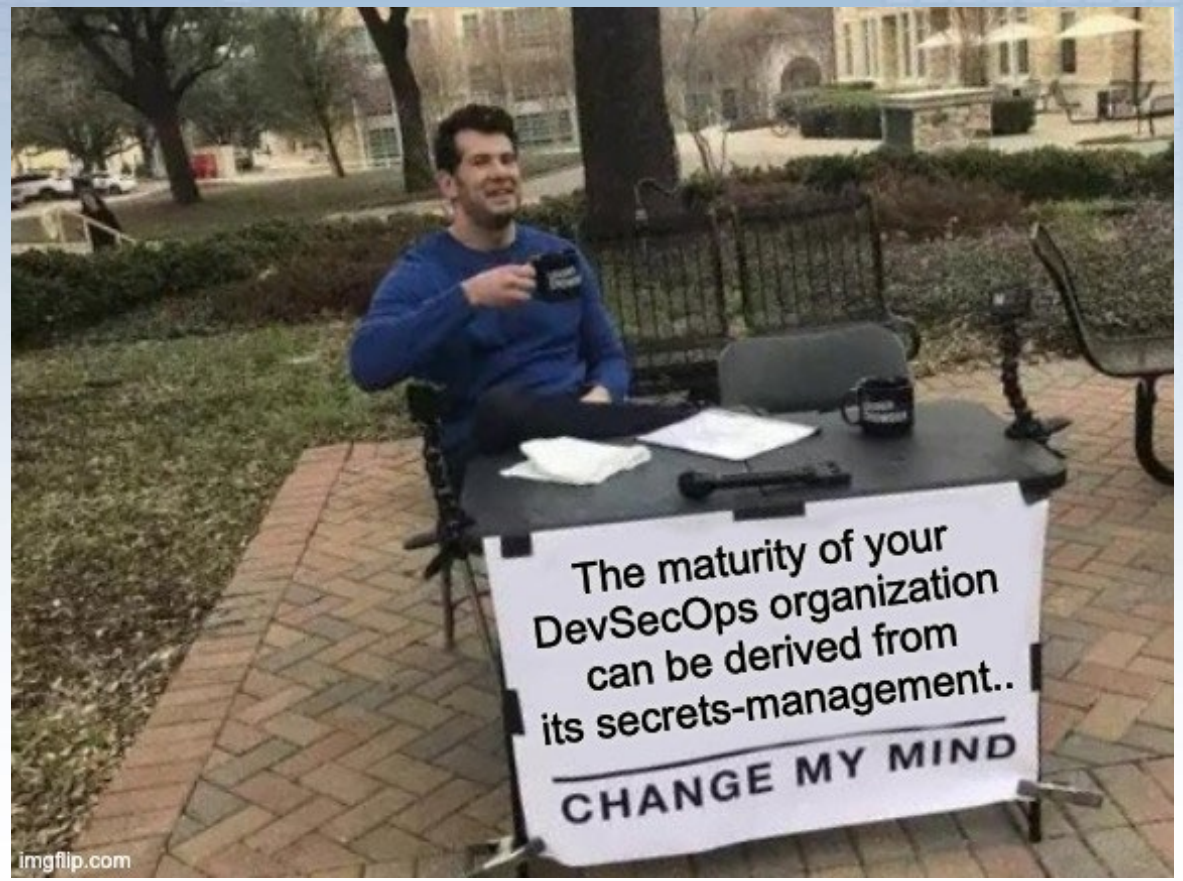
💻 Take the project for a spin

💬 Give feedback

File an issue or contact us on OWASP Slack in channel #project-wrongsecrets

🔧 Improve the project: File PRs!

Questions?



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