


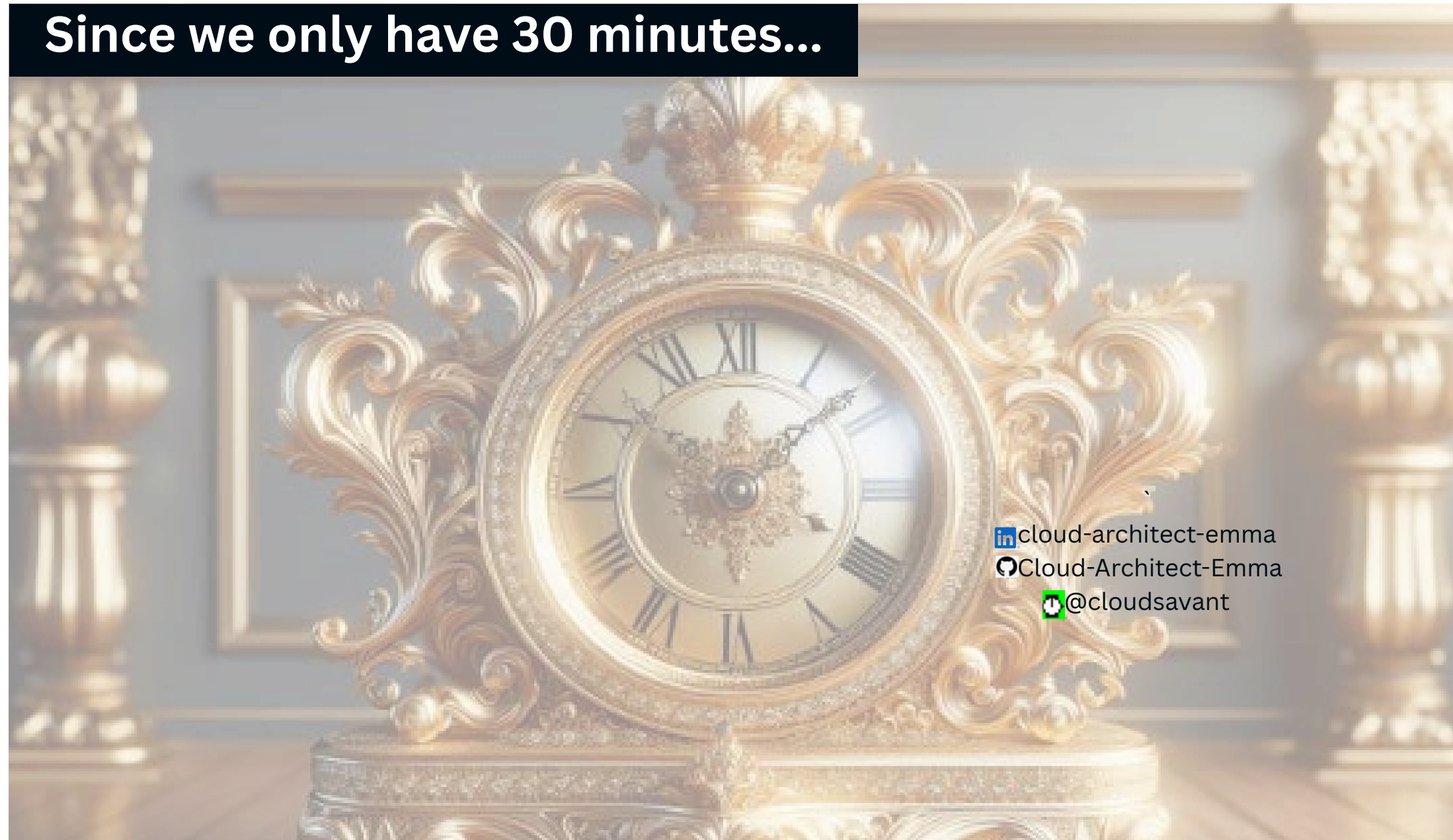


Building Secure CI/CD Pipelines with Go

Emmanuela Opururm
Solutions Architect

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Since we only have 30 minutes...



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CI/CD accelerates delivery →but also risky

- Secrets leak
- No enforcement
- Security is reactive




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Why Existing Tools Fail

- Static analysis
- AI alone
- No deterministic enforcement

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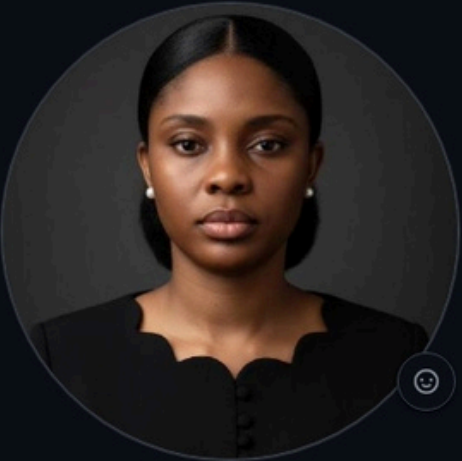
Solution Overview

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+ -
🔍
🔖

Overview
Repositories 55
Projects
Packages
Stars



EMMANUELA OPURUM
Cloud-Architect-Emma · she/her

Cloud Solutions Architect | DevOps Engineer|AWS, CI/CD, AI Adoption | Open Source Contributor Building scalable, automated, and cost-optimized cloud solutions.

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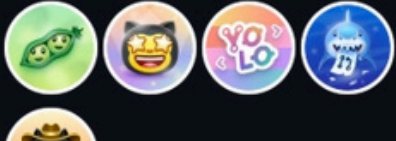
📍 United Kingdom , London

🔗 https://cloud-architect-emma.github.io/my_resume/

📄 [in/cloud-architect-emma](https://emmanuelaprince.wixsite.com/my-site)

🔗 <https://emmanuelaprince.wixsite.com/my-site>

Achievements



Pinned [Customize your pins](#)

my-eks-app-deployments Public

Scalable microservices architecture with Docker, Kubernetes, and Jenkins CI/CD, monitored by Prometheus and Grafana.

JavaScript

bank-cicd-site Public

A static banking website used to demonstrate a real-world CI/CD pipeline. Built with HTML, CSS, and Bootstrap, it showcases automated build, test, and deployment using Docker and GitHub Actions, si...

HTML

3-Tier-Web-App-on-AWS Public

A 3-Tier Web Application using AWS EC2, RDS, and CloudFormation. Deploys a Flask-based application with a secure web tier.


terraform-aws-3tie Public

HCL

cryptopulse-app Public

HTML

782 contributions in the last year Contribution settings ▾



Contribution activity

May 2026

- 📄 Created 53 commits in 9 repositories

2025

- 📄 Created 7 repositories

2024

- 📄 Created a pull request in [open-telemetry/opentelemetry-android](#) that received 12 comments May 1

2023

Cloud-Architect-Emma / go-ci-cd-security-guardrail

Code Issues Pull requests Agents Actions Projects Wiki Security and quality Insights Settings

go-ci-cd-security-guardrail Public

main 1 Branch 0 Tags

Go to file Add file Code

Cloud-Architect-Emma Delete test.env ✓ 24eef27 · 3 days ago 42 Commits

.github/workflows	Refactor Go Security Guardrail workflow steps	3 days ago
architecture	Add files via upload	5 days ago
cmd/gate	Refactor output messages and comments for clarity	3 days ago
configs	test guaradrail	last week
internal	Add concurrent scanning functionality	3 days ago
LICENSE	Initial commit	last week
README.md	Remove sensitive API key from README	4 days ago
gate	fix: correct slack package structure	last week
go.mod	inital commit	last week

README MIT license

About

No description, website, or topics provided.

- Readme
- MIT license
- Activity
- 0 stars
- 0 watching
- 0 forks

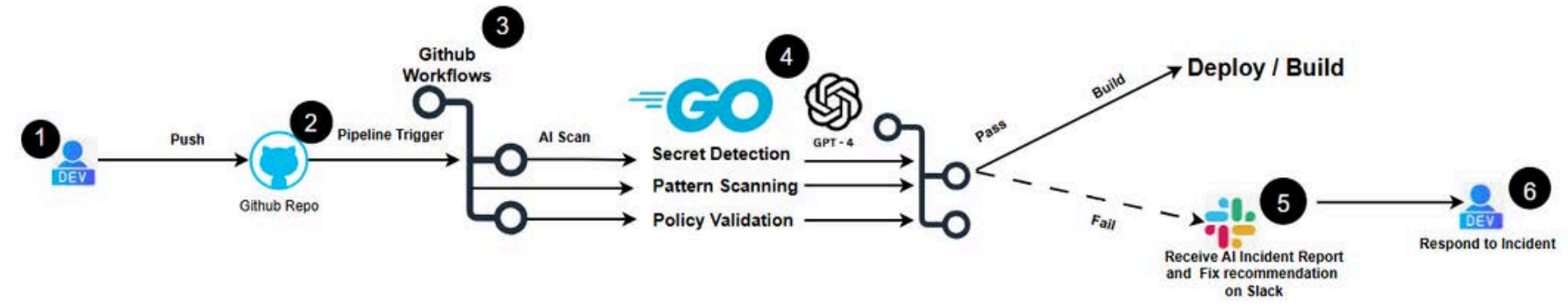
Releases

No releases published
[Create a new release](#)

Packages

No packages published
[Publish your first package](#)




Contributors 1




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HOW IT WORKS

- Scan the code
- Check against rules
- If safe → continue
- If not → stop build
- Send alert

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Demo

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Actions New workflow

All workflows

Go Security Guardrail

- Management
- Caches
 - Attestations
 - Runners
 - Usage metrics
 - Performance metrics

All workflows Filter

Showing runs from all workflows

40 workflow runs Workflow Event St

✓ Delete test.env	Go Security Guardrail #40: Commit 24eef27 pushed by Cloud-Architect-Emma	main
✗ Refactor Go Security Guardrail workflow steps	Go Security Guardrail #39: Commit 108af37 pushed by Cloud-Architect-Emma	main
! Add API_KEY to test environment file	Go Security Guardrail #38: Commit dce6f72 pushed by Cloud-Architect-Emma	main
✓ Refactor output messages and comments for clarity	Go Security Guardrail #37: Commit 506802d pushed by Cloud-Architect-Emma	main
✗ Add concurrent scanning functionality	Go Security Guardrail #36: Commit 1f06155 pushed by Cloud-Architect-Emma	main
✗ Refactor main function for improved readability	Go Security Guardrail #35: Commit 340dcd6 pushed by Cloud-Architect-Emma	main

Summary

All jobs

go-security

Run details

Usage

Workflow file

go-security

failed 3 days ago in 20s

Search logs

> ✓ Checkout repository

> ✓ Set up Go

> ✓ Build Security Gate

✗ Run Security Gate

```
1 ▶ Run ./gate
6 Running Go Security Guardrail...
7 Config: configs/policies.json
8 Scan path: .
9
10 Security violations detected:
11
12 [HIGH] Issue detected
13 File: ./test.env
14 Line: 1
15 Code: API_KEY=sk-test-123456
16 Fix: Remove hardcoded secrets and use environment variables
17
18 Slack alert sent successfully
19 Slack alert sent
20 Error: Process completed with exit code 1.
```

Post Set up Go

> ✓ Post Checkout repository

> ✓ Complete job

← → ⌚ Search ci-cd-alerts

ci-cd-alerts ⌵ ⚙️ 📝

Upgrade Plan

Huddles

Directories

Starred
Drag and drop important stuff here

External connections

Channels

general

+ Add channels

Direct messages

+ Invite people

Apps

Slackbot


Go Guardrail

☆ # general Invite teammates 🔊 ⌵ 🔔

Messages ↻ Add canvas +

Line: 120
Code: "token",
Fix: Avoid embedding authentication tokens in code

[HIGH]
File: ./cmd/gate/main.go
Line: 131
Code: fix = "Avoid embedding authentication tokens in code"
Fix: Avoid embedding authentication tokens in code

 **Go Guardrail** APP 7:06 PM
Security Violation Detected

Go Security Guardrail blocked the pipeline.

CI/CD Security Gate Failed

[HIGH]
File: ./test.env
Line: 1
Code: API_KEY=sk-test-123456
Fix: Remove hardcoded secrets and use environment variables




Hi everyone! Let's try using Slack for... ✕

B I U ↻ 🔗 ☰ ☷ ☹️ </> 📎

Message #general




+ Aa 😊 @ 📺 🗣️ 📄

Lessons Learned




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Future Improvements

- Multi-language support
- Advanced policy management
- Cloud security integration

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Resources

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<https://go.dev/doc/>

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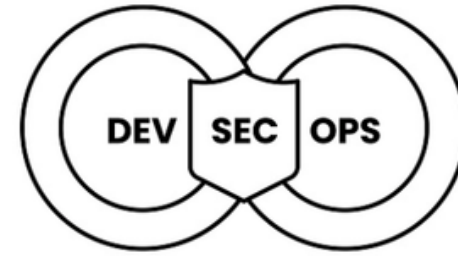
<https://docs.github.com/en/actions>

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<https://owasp.org/www-project-top-10-ci-cd-security-risks/>

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<https://www.devsecops.org/>

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<https://api.slack.com/messaging/webhooks>

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