GitHub Actions with AWS

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About me

- **Piotr Popiołek** (Poland, Wrocław)

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Benefits of this presentation

- Discover **new CICD possibilities**

- Get familiar with **GitHub actions**

- Learning about **easy integration** with AWS

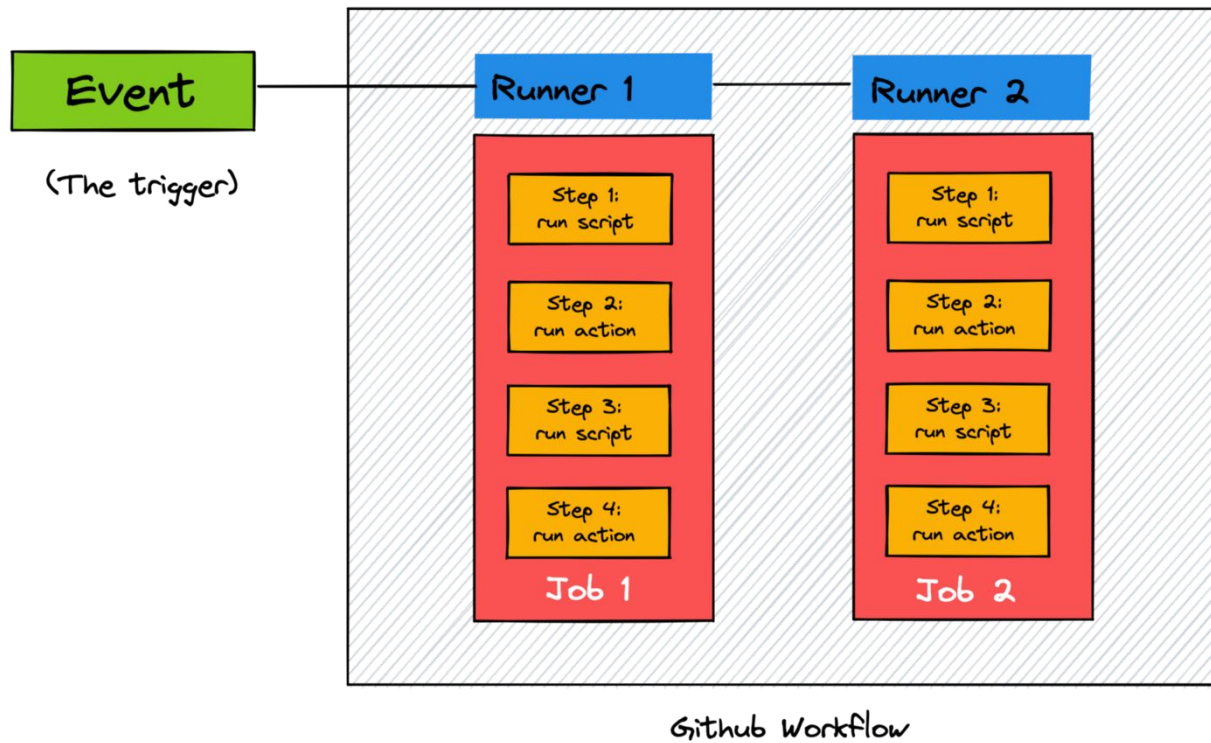- **Take advantage of OIDC** instead of AWS Secret Keys

GitHub repo
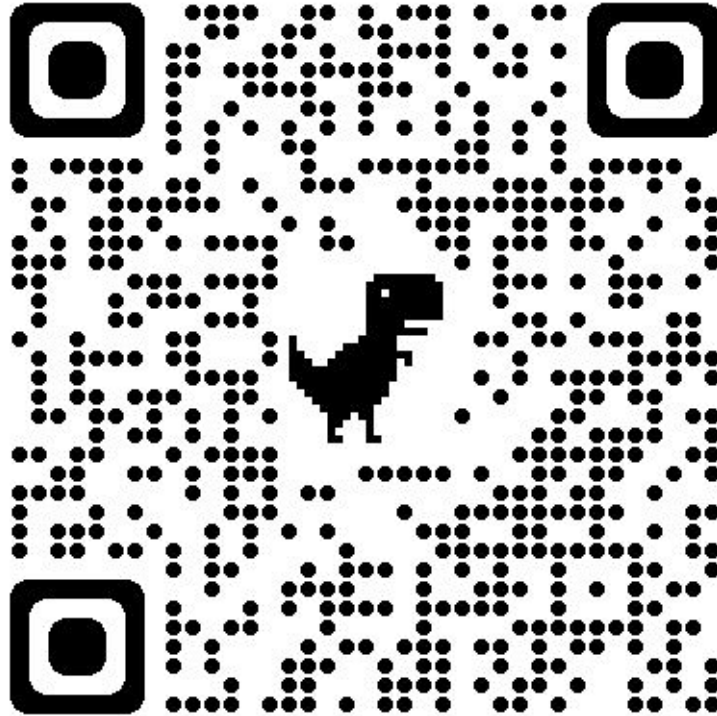
Agenda

- Introduction to **GitHub Actions**

- **Workflows** and **runners**

- **GitHub marketplace** for reusable actions

- Establishing **connection between AWS and GHA**

- Build and **deploy to AWS** (CDK/CloudFormation)

- **Live demo**

Introduction to GitHub Actions

Github Workflow

Runners

- Can be **provided by GitHub**

- Supported **software pre-installed** ([list](#))

- Can be **self-hosted**, OnPrem/Cloud/K8s

Simple workflow example


```yaml
name: Demo-Workflow
on:
  workflow_dispatch:
  push:
    branches: [main]

jobs:
  prepare:
    name: DemoWorkflow
    runs-on: ubuntu-latest
    permissions:
      id-token: write # needed to interact with GitHub's OIDC Token endpoint
      contents: read
    steps:
      - uses: actions/checkout@master
      - name: Configure AWS credentials
        uses: aws-actions/configure-aws-credentials@master
        with:
          role-to-assume: arn:aws:iam::072297576584:role/github-actions-demo-rol
          aws-region: eu-west-1
      - name: Create SSM Parameter
        run: |
          aws ssm put-parameter --name "Demo-Parameter" --type "String" --value
      - name: List s3
        run: |
          aws s3 ls
```

Piotr Popiolek, 2 days ago • add files

Actions marketplace
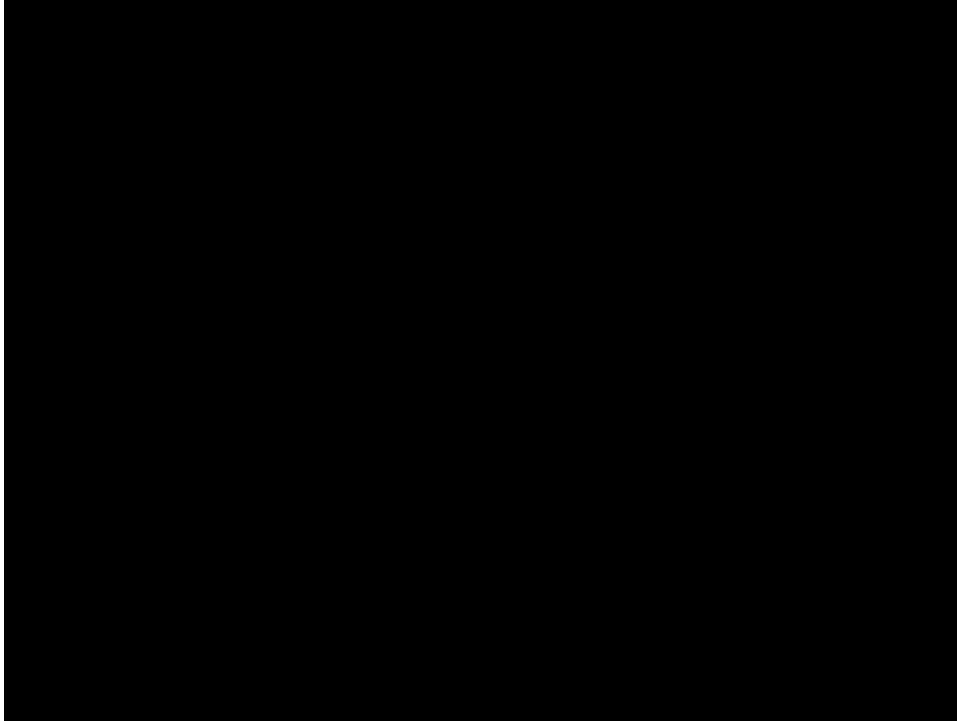
Connection between AWS and GHA

- Use **written action** from the GitHub marketplace

- Take advantage of **OIDC** (OpenID Connect)

- Control the creation of the role and the provider by **IaaC**

Build&Deploy to AWS

LIVE DEMO

Thank you!

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