

# GitHub Actions

Sirwan Afifi

<https://sirwan.info>

# What Is GitHub Actions?

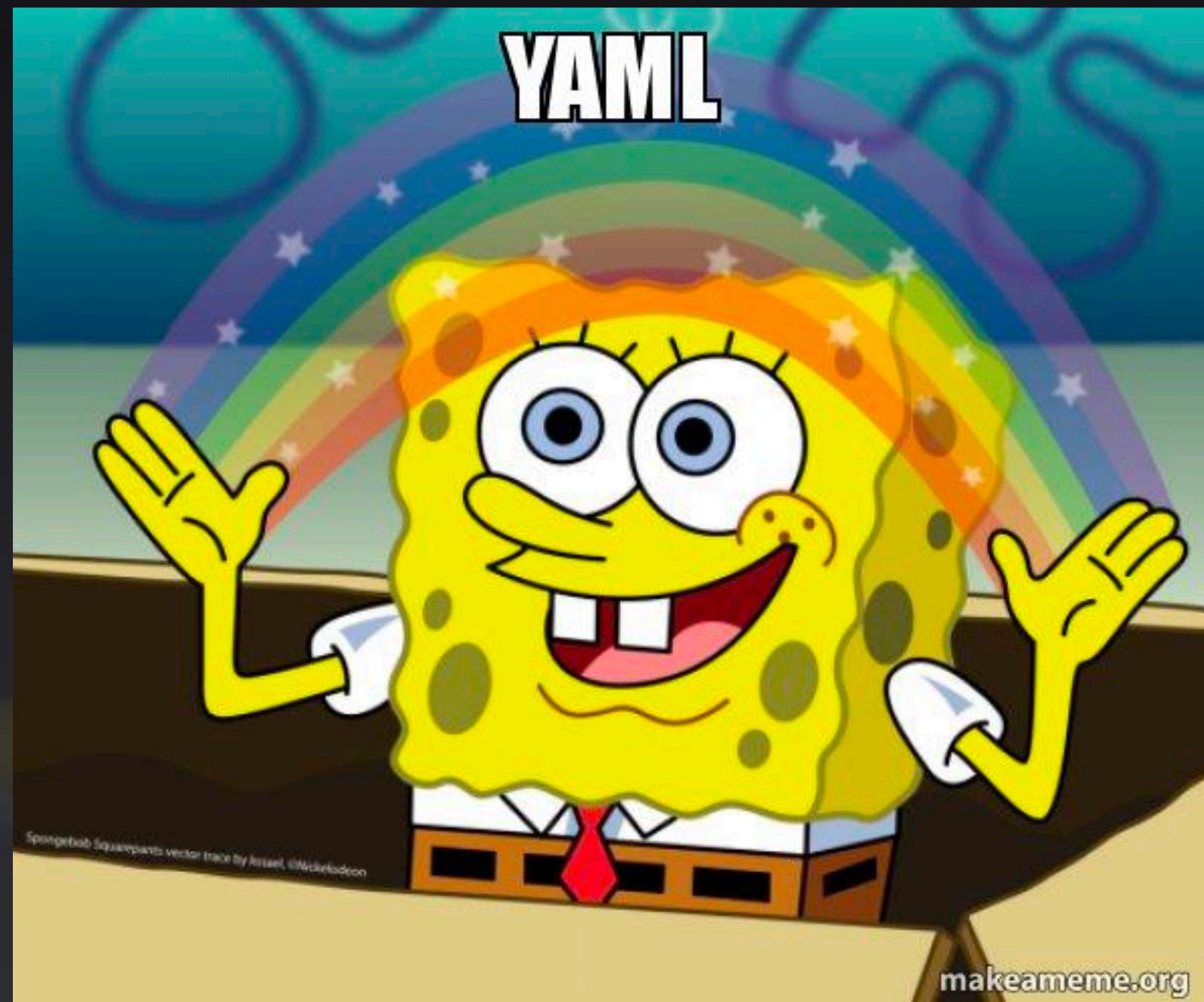
- A CI/CD Solution
- A Managed Service
- Supported by Community

Libraries



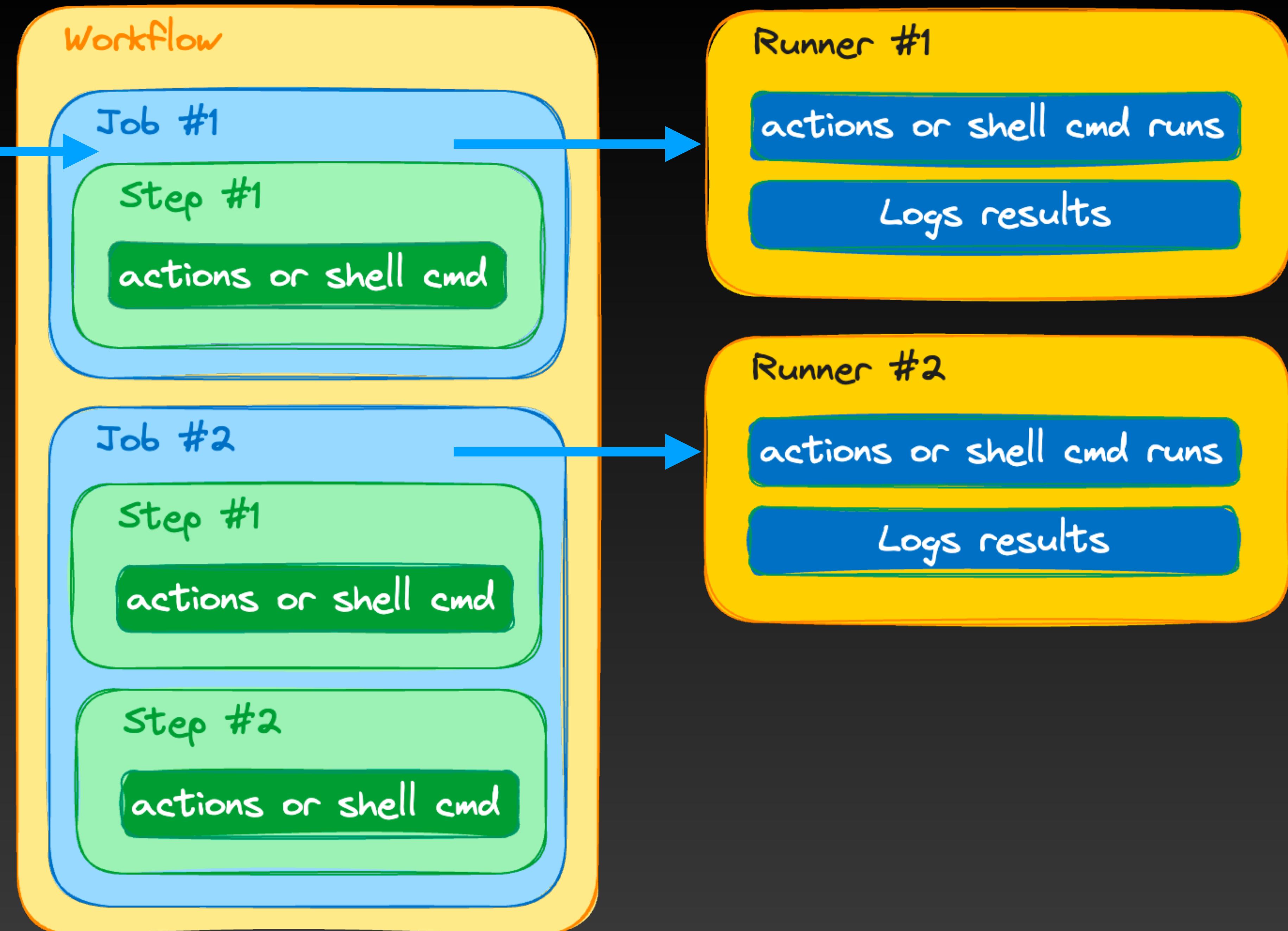
# Anatomy of an Action

- Workflow
- Compute Machine (Runner)
- Job
- Step



Event

```
.  
└── .github  
    └── workflows  
        ├── workflow-1.yml  
        ├── workflow-2.yml  
        ├── workflow-3.yml  
        └── workflow-4.yml
```



# Sample Workflow

```
name: Build Application Code
on: [push]
jobs:
  build:
    runs-on: ubuntu-latest
    steps:
      - name: Check out code
        uses: actions/checkout@v2
      - name: Install libraries
        run: pip install-r requirements.txt -t
  test:
    runs-on: ubuntu-latest
    needs: build
    steps:
      ...
```

# So Many Events....

```
on:  
  push:  
    branches:  
      - 'main'  
      - 'releases/**'
```

```
on: issue_comment
```

```
,  
on:  
  milestone:  
    types: [opened, deleted]
```

```
on:  
  discussion:  
    types: [created, edited, answered]
```

```
on:  
  schedule:  
    - cron: '30 5,17 * * *'
```

```
on:  
  schedule:  
    - cron: '30 5 * * 1,3'  
    - cron: '30 5 * * 2,4'
```

# My GitHub Workflow

```
name: Update Recent Blog Posts
```

```
on:
```

```
  schedule:
```

```
    - cron: "0 0 * * 0"
```

```
workflow_dispatch:
```

```
jobs:
```

```
  update_posts:
```

```
    runs-on: ubuntu-latest
```

```
    steps:
```

```
      - name: Check out repository code
```

```
        uses: actions/checkout@v3
```

```
      - name: latest blog posts
```

```
        shell: pwsh
```

```
        run:
```

```
          . ./github/scripts/Get-Posts.ps1
```

```
      - name: Commit and Push the changes
```

```
        uses: mikeal/publish-to-github-
```

```
action@master
```

```
        env:
```

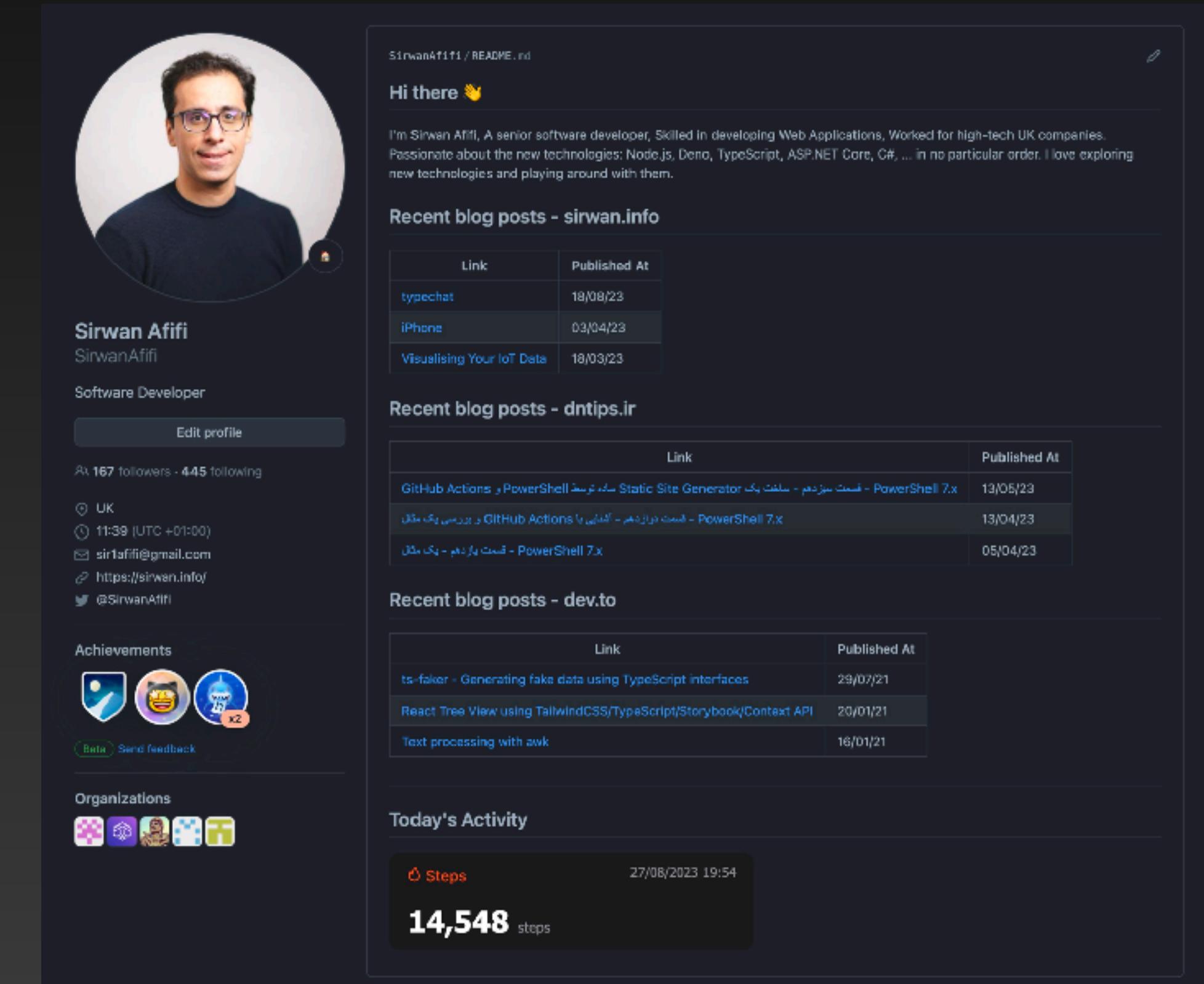
```
          GITHUB_TOKEN: $
```

```
          {{ secrets.GITHUB_TOKEN }}
```

```
          BRANCH_NAME: 'main'
```

```
Function Set-Blogs {
    $recentBlogPostsStr = "## Recent blog posts -"
    Get-Posts("https://dev.to/feed/sirwanafifi") | Set-Posts -marker "$recentBlogPostsStr dev.to"
    Get-Posts("https://sirwan.info/rss.xml") | Set-Posts -marker "$recentBlogPostsStr sirwan.info"
    Get-DntipsPosts | Set-Posts -marker "$recentBlogPostsStr dntips.ir"
}
```

```
Set-Blogs
```

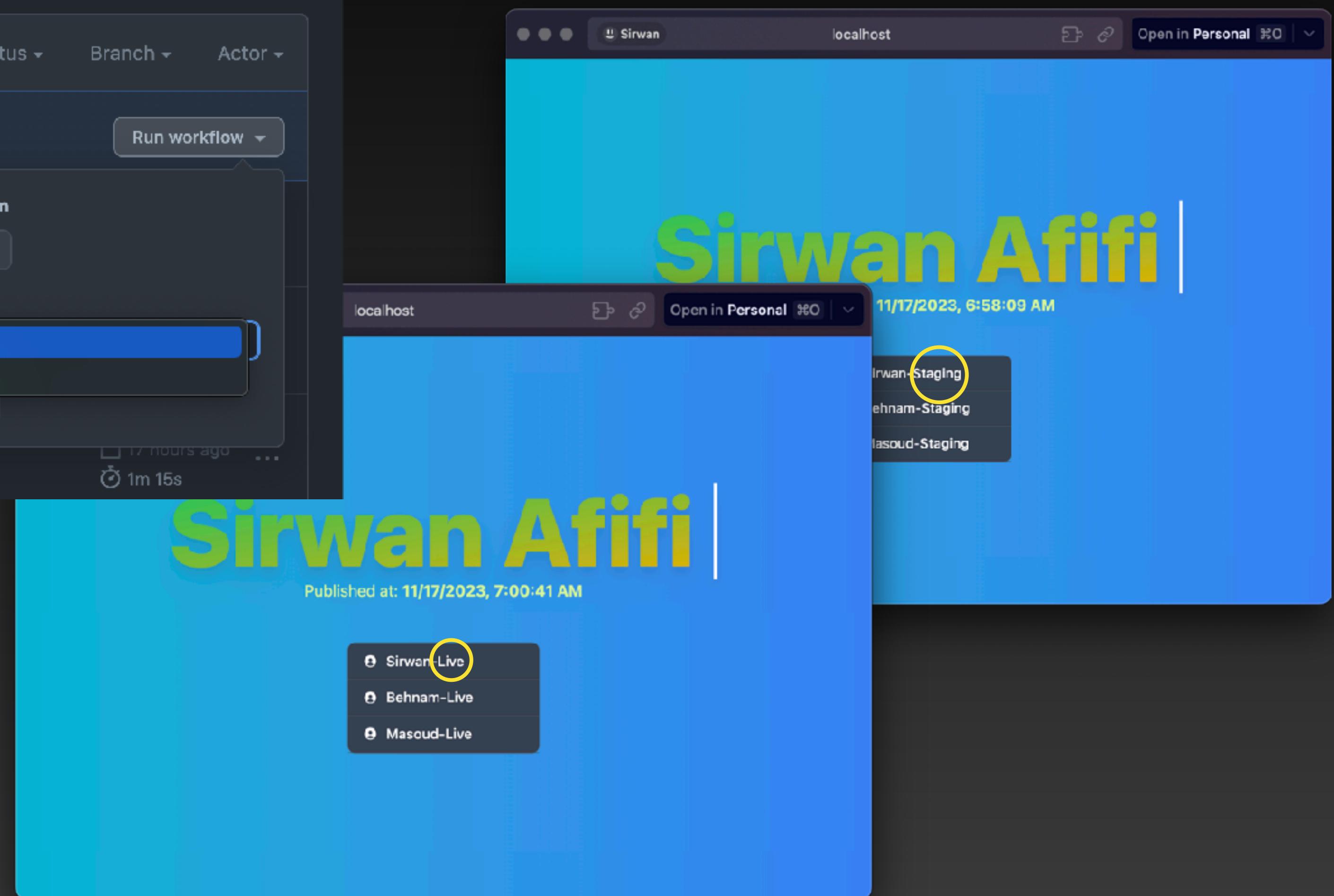
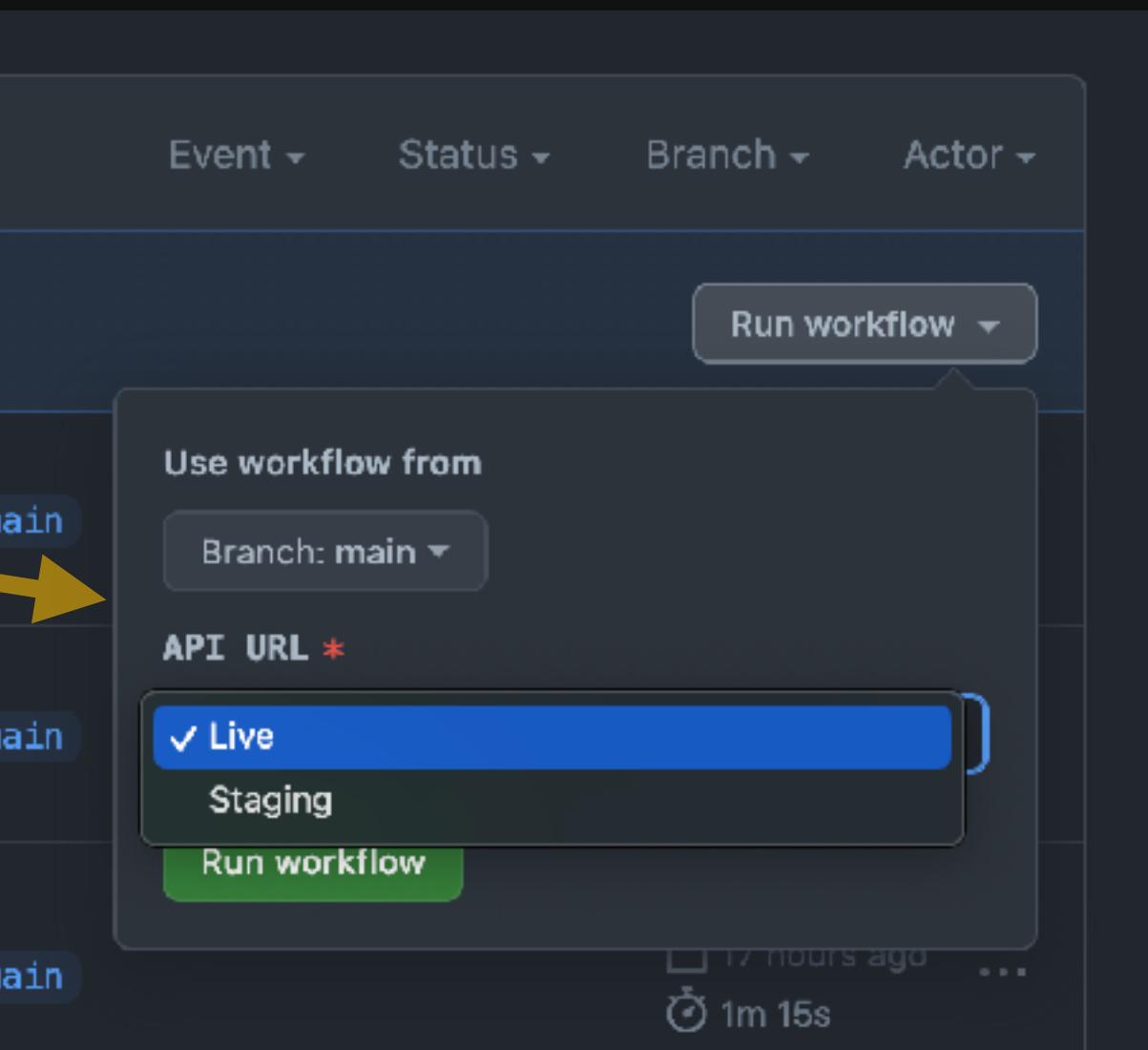


# Introducing Community Actions

# Deploying a React App

```
name: Deploy static content to Pages
```

```
on:  
  push:  
    branches: ["main"]  
  
  workflow_dispatch:  
    inputs:  
      API_URL:  
        description: "API URL"  
        required: true  
        default: "staging"  
        type: choice  
        options:  
          - Live  
          - Staging  
  
    permissions:  
      contents: read  
      pages: write  
      id-token: write  
  
  concurrency:  
    group: "pages"  
    cancel-in-progress: true
```



# Running PowerShell Scripts

```
name: Fetch Random Cat

on:
  workflow_dispatch:

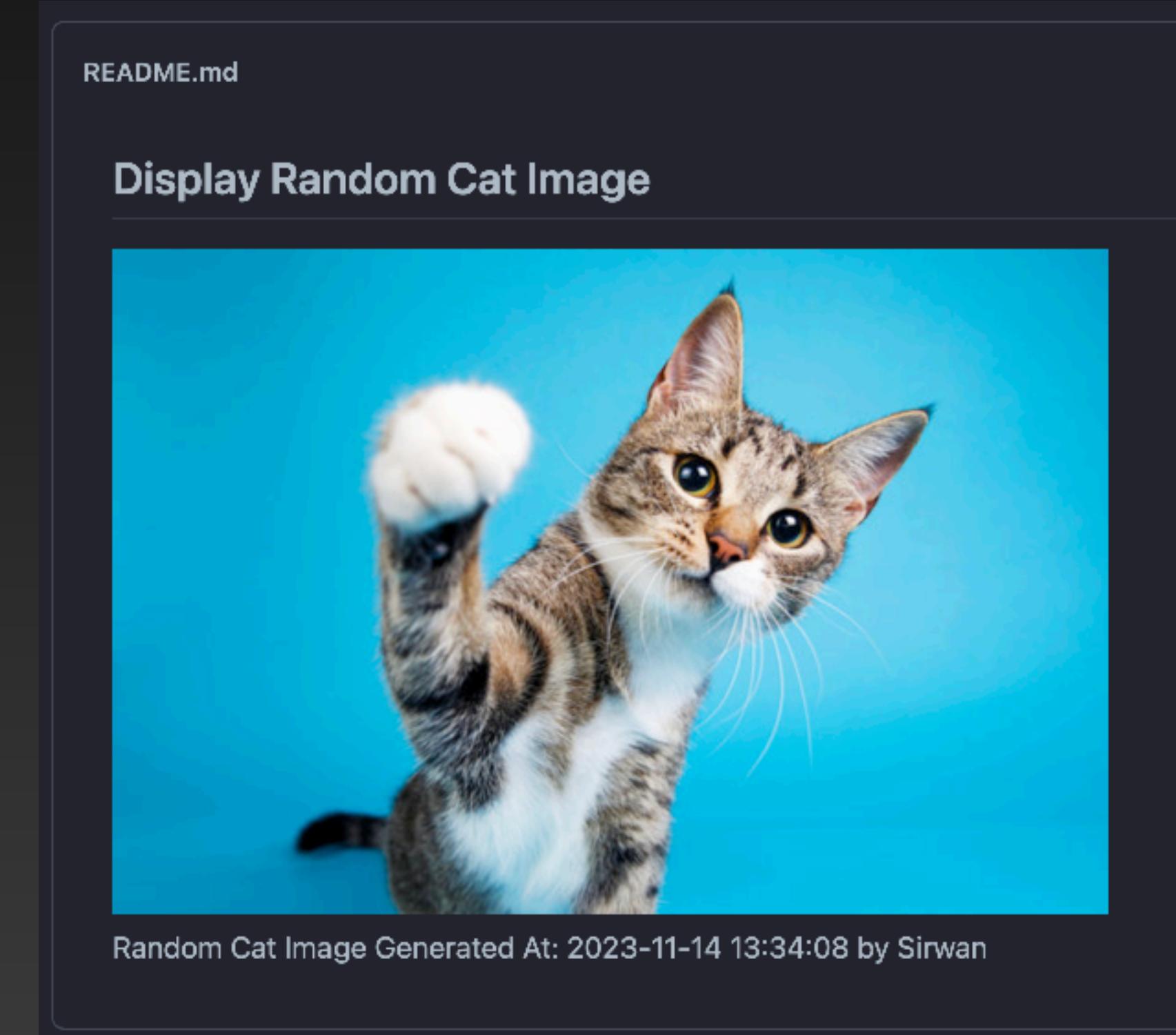
jobs:
  update_readme:
    runs-on: ubuntu-latest

    steps:
      - name: Check out repository code
        uses: actions/checkout@v3

      - name: Fetch random cat
        shell: pwsh
        run:
          . ./github/scripts/Fetch-Data.ps1

      - name: Commit and Push the changes
        uses: mikeal/publish-to-github-action@master
        env:
          GITHUB_TOKEN: ${{ secrets.GITHUB_TOKEN }}
          BRANCH_NAME: "main"
```

```
Function Update-ReadMe {
    Try {
        $ReadMe = Get-Content -Path "./README.md"
        $CatImageUrl = Get-Data
        $ReadMe = $ReadMe -replace '<img.+?src=(.+?).+?/?>', "<img
src=`"$CatImageUrl`">"
        $Author = git config user.name
        $ReadMe = $ReadMe -replace 'At: .+', "At: $($Get-Date -Format 'yyyy-MM-dd
HH:mm:ss') by $Author"
        $ReadMe | Set-Content -Path "./README.md"
    }
    Catch {
        Write-Error $_
    }
}
```



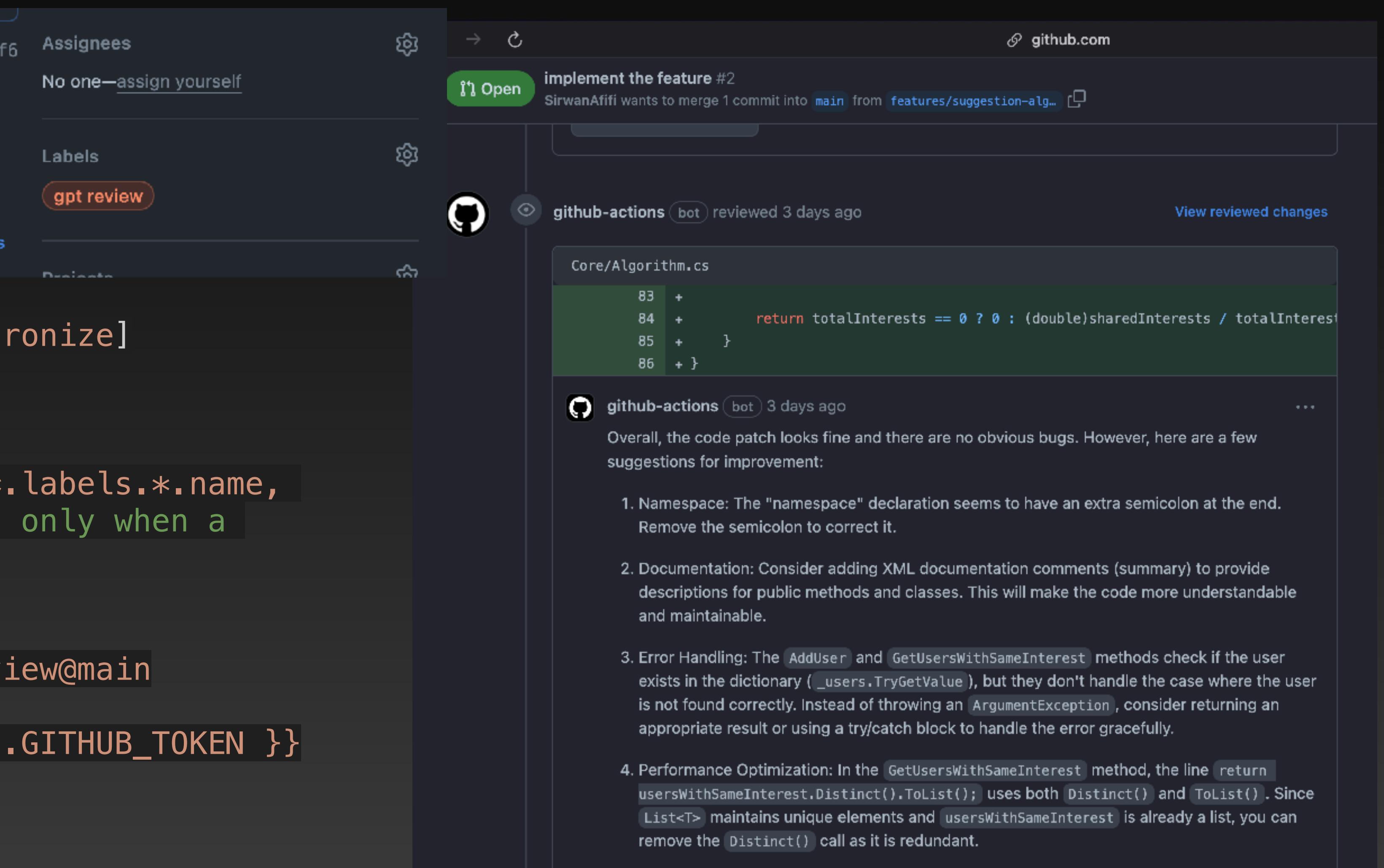
# Reviewing PRs using OpenAI's API

```
name: Code Review

permissions:
  contents: read
  pull-requests: write

on:
  pull_request:
    types: [opened, reopened, synchronize]

jobs:
  test:
    if: ${{ contains(github.event.*.labels.*.name,
      'gpt review') }} # Optional; to run only when a
    label is attached
    runs-on: ubuntu-latest
    steps:
      - uses: anc95/ChatGPT-CodeReview@main
        env:
          GITHUB_TOKEN: ${{ secrets.GITHUB_TOKEN }}
          OPENAI_API_KEY: ${{ secrets.OPENAI_API_KEY }}
```



Thanks