



Product ▾ Solutions ▾ Resources ▾ Open Source ▾ Enterprise ▾ Pricing



Dashboard



Features Copilot Security Actions Codespaces Issues Code Review Discussions Code Search

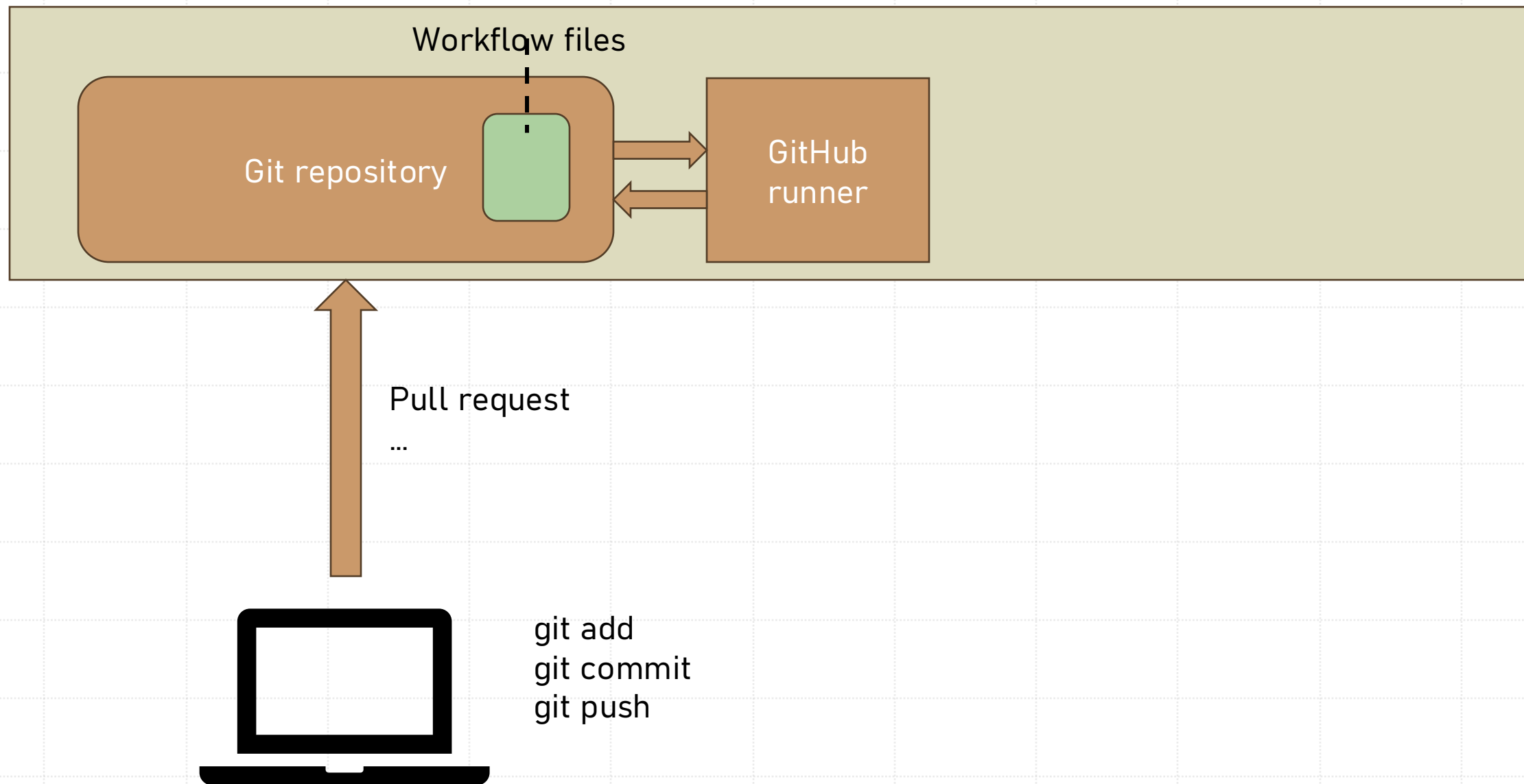
GitHub Actions

Automate your workflow from idea to production

GitHub Actions makes it easy to automate all your software workflows, now with world-class CI/CD. Build, test, and deploy your code right from GitHub. Make code reviews, branch management, and issue triaging work the way you want.

Get started >

Contact sales >



GitHub Actions



GitHub Actions is a CI/CD platform.

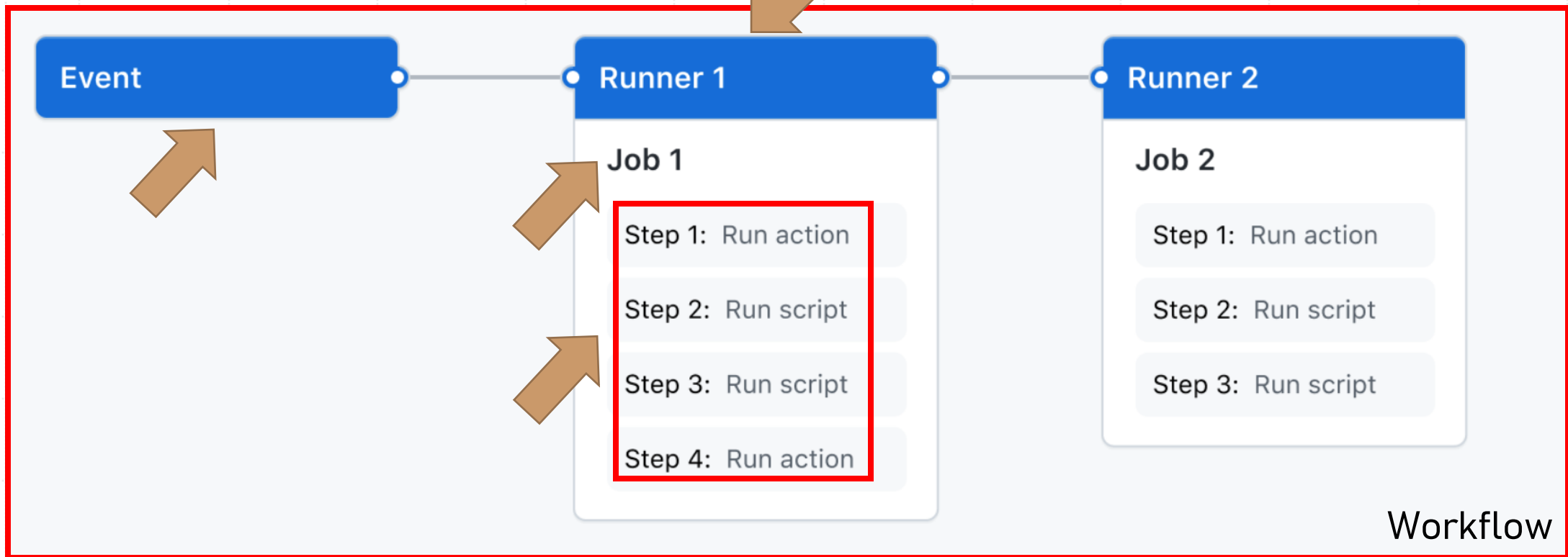


We can create workflows that build and test every pull request and deploy merged pull requests to production.



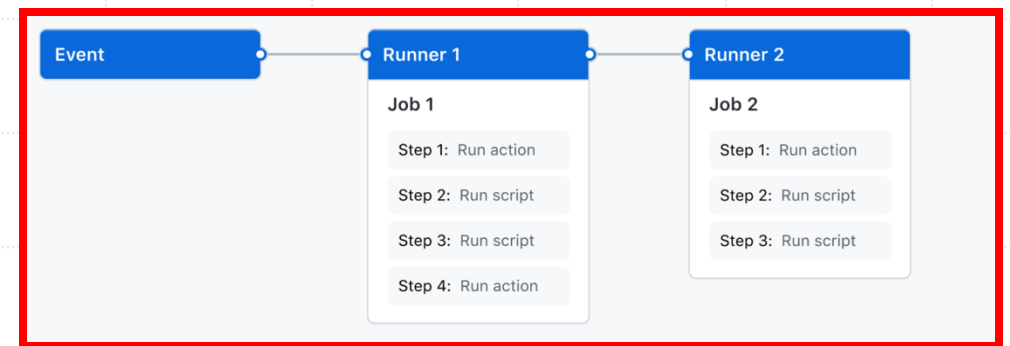
GitHub Actions goes beyond just DevOps as it also allows to run workflows related to other web hook events in git repo such as issues events.

The components of GitHub Actions



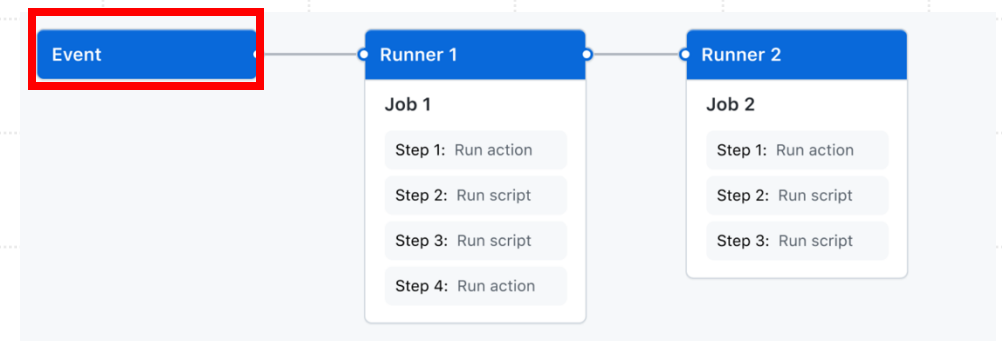
Workflow

- A workflow is a **configurable automated process** that will run on one or more jobs.
- We can define a workflow, in a **YAML file**, under the **.github/workflow** in the repository.
- We can reference a workflow from another workflow, keep in mind to reuse a workflow if possible.



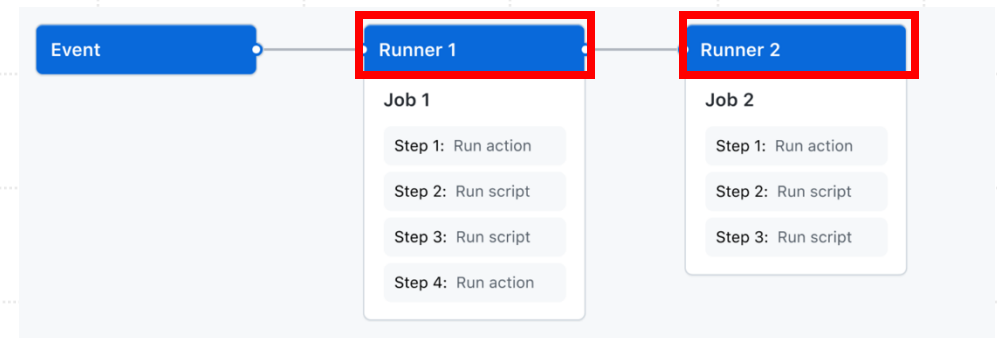
Events

- An event is a **specific activity** is a repository **that triggers a workflow to run**.
- Examples of **events** are **pull request, push a commit, opens an issue, schedule a crontab**, etc.



Runners

- A runner is a server that run the workflows when they are triggered.
- Each runner can run a single job at a time.
- GitHub provides Ubuntu Linux, Microsoft Windows, and macOS runners.
- We can also host our own runner also.

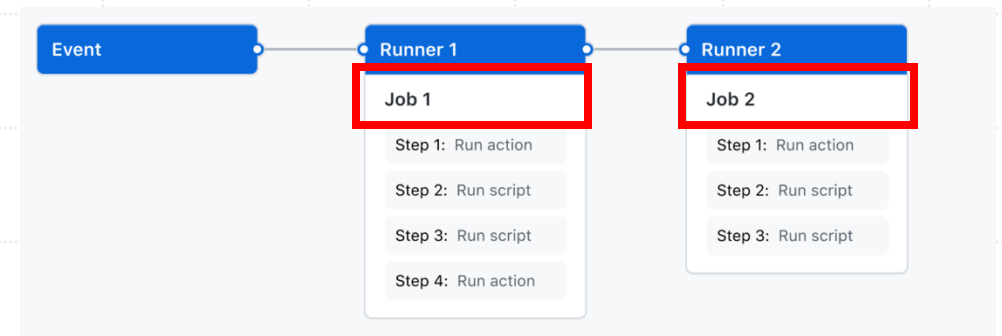


Standard GitHub-hosted runners for public repositories

Virtual Machine	Processor (CPU)	Memory (RAM)	Storage (SSD)	Architecture	Workflow label
Linux	4	16 GB	14 GB	x64	ubuntu-latest , ubuntu-24.04 , ubuntu-22.04 , ubuntu-20.04
Windows	4	16 GB	14 GB	x64	windows-latest , windows-2025 [Public preview], windows-2022 , windows-2019
Linux [Public preview]	4	16 GB	14 GB	arm64	ubuntu-24.04-arm , ubuntu-22.04-arm
macOS	4	14 GB	14 GB	Intel	macos-13
macOS	3 (M1)	7 GB	14 GB	arm64	macos-latest , macos-14 , macos-15 [Public preview]

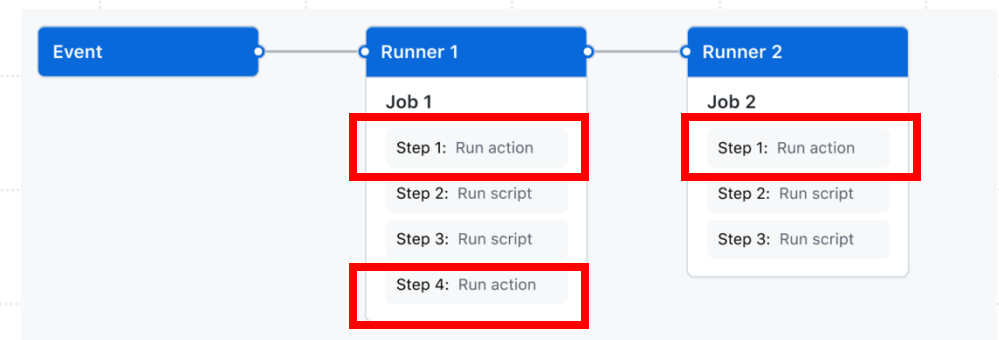
Jobs

- A job is a set of steps in a workflow that execute on the same runner.
- Each step is either (1) a **shell script** or (2) an **action**.



Actions

- An action is a **custom application for the GitHub Actions platform** that performs a complex but frequently repeated task.
- Use an action to **reduce the amount of repetitive code**.
- Examples of **actions** are
 - **checkout your code** from git repository from GitHub,
 - **setup node.js environment**,
 - **build and push docker image**,
 - and many more....




Marketplace

Q Type / to search

Enhance your workflow with extensions

Tools from the community and partners to simplify tasks and automate processes

type:actions



Featured

Copilot

Models

Apps

Actions

All actions

AI Assisted

API management

Backup Utilities

Chat

Actions

Automate your workflow from idea to production

Filter: All

By: All creators

Sort: Popularity



TruffleHog OSS

Scan Github Actions with TruffleHog

Action



Metrics embed

An infographics generator with 40+ plugins and 300+ options to display stats about your GitHub account

Action



yq - portable yaml processor

create, read, update, delete, merge, validate and do more with yaml

Action



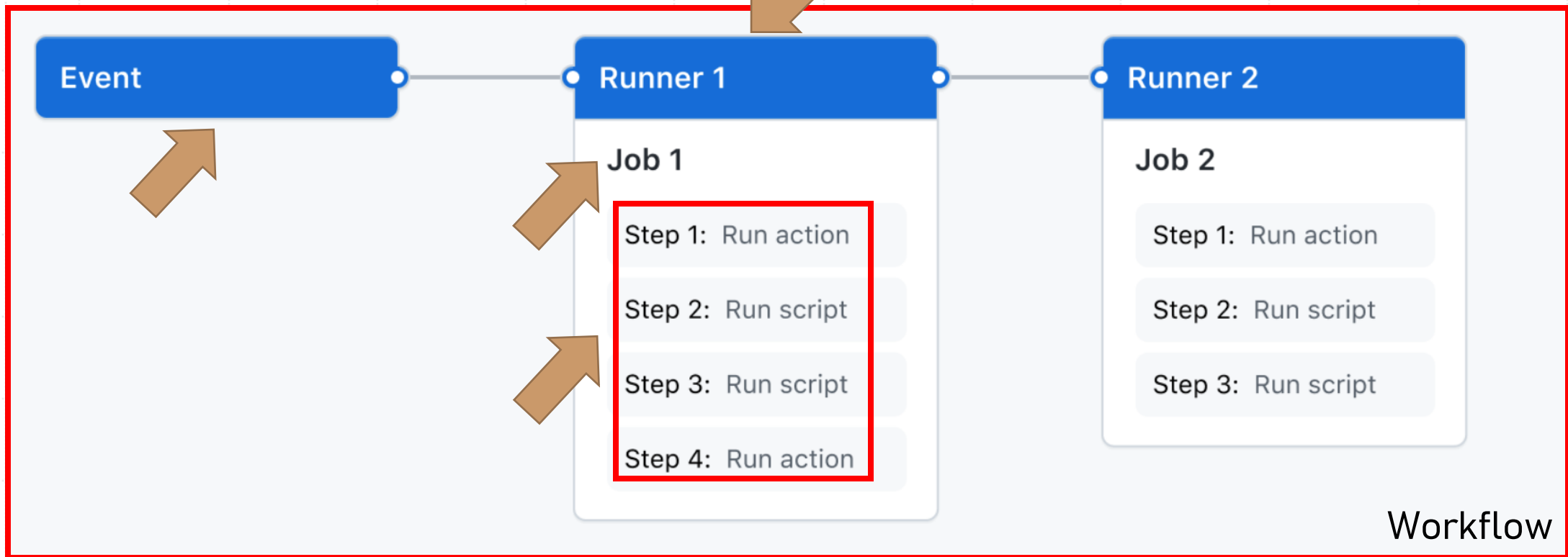
Super-Linter

Super-linter is a ready-to-run collection of linters and code analyzers, to help validate your source code

Action

<https://github.com/marketplace?type=actions>

The components of GitHub Actions





```
name: Run commands on different operating systems
on:
  push: ←
    branches: [ main ]
  pull_request: ←
    branches: [ main ]
```

```
jobs:
```

```
  Run-npm-on-Ubuntu:
```

```
    name: Run npm on Ubuntu
    runs-on: ubuntu-latest
    steps:
```

- uses: actions/checkout@v4
- uses: actions/setup-node@v4
- with:
- node-version: '14'
- run: npm help

```
  Run-PSScriptAnalyzer-on-Windows:
```

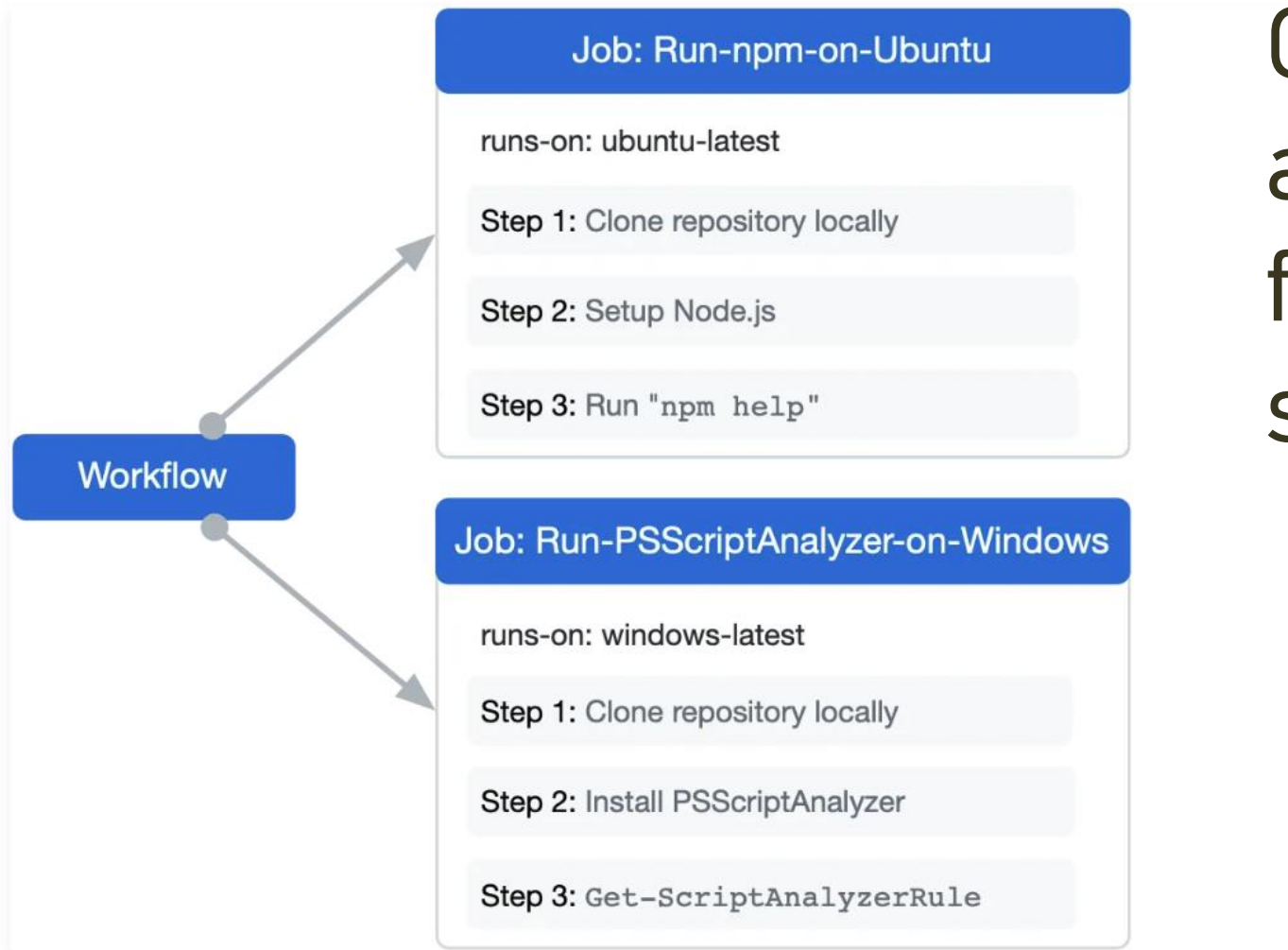
```
    name: Run PSScriptAnalyzer on Windows
    runs-on: windows-latest
```

```
    steps:
```

- uses: actions/checkout@v4
- name: Install PSScriptAnalyzer module
- shell: pwsh
- run: |
- Set-PSRepository PSGallery -InstallationPolicy Trusted
- Install-Module PSScriptAnalyzer -ErrorAction Stop
- name: Get list of rules
- shell: pwsh
- run: |
- Get-ScriptAnalyzerRule

An example of a GitHub Action workflow

<https://docs.github.com/en/actions/using-github-hosted-runners/using-github-hosted-runners/about-github-hosted-runners>



GitHub provisions a VM for each job from the previous slide

<https://docs.github.com/en/actions/using-github-hosted-runners/using-github-hosted-runners/about-github-hosted-runners>