

Runners

Runners

GitHub-hosted

- Receive automatic updates for the operating system, pre-installed packages and tools, and the self-hosted runner application.
- Are managed and maintained by GitHub.
- Provide a clean instance for every job execution.
- Use free minutes on your GitHub plan, with per-minute rates applied after surpassing the free minutes.

Self-hosted

- Receive automatic updates for the self-hosted runner application only. You are responsible updating the operating system and all other software.
- Can use cloud services or local machines that you already pay for.
- Are customizable to your hardware, operating system, software, and security requirements.
- Don't need to have a clean instance for every job execution.
- Are free to use with GitHub Actions, but you are responsible for the cost of maintaining your runner machines.

Larger Runners (GitHub Hosted)

- Ubuntu & Linux
- CPU Cores / RAM
- Auto-Scaling
- Runner Groups
- Static IP Addresses
- Public Preview

Name

Runner image

☒  Ubuntu

☐  Windows Server

Ubuntu version

GitHub images are kept up to date and secure, containing all the tools you need to get started building and testing your applications. [Learn more about images.](#)

"Latest" tag matches with standard GitHub-hosted runners latest tag for the images. [Learn more about latest tags.](#)

Latest (20.04) ▾

Runner size


4-cores · 16 GB RAM · 150 GB HDD ▾

Auto-scaling

Maximum runners

50

Runners will not auto-scale above the maximum.
Use this setting to limit your cost.

Runner groups 

The runner group will determine which organizations and repositories can use the runner. [Learn more about runner groups.](#)

Default

All repositories, excluding public repositories

Labels

Labels are values used with the `runs-on:` key in your workflow's YAML to send jobs to specific runners. [Learn more about labels.](#)



Networking


- ☐ Assign a unique & static public IP address range for this runner
- All instances of this GitHub-hosted runner will be assigned a static IP from a range unique to this runner. [Learn more about networking for runners.](#)

You have used 0 out of 10 static public IP addresses available on your account.

Create runner

Adding self-hosted runners

- Configure on enterprise / organization / repository level
- Download and extract the scripts
- Configure and authenticate the runner with the token
- Start listening for jobs
- For GHES: Blob storage must be provided (Azure Blob storage, Amazon S3, MinIO)

 **Actions & Packages**
Organization account [Switch to another account](#)

Go to your organization profile

Account settings

Profile

Billing & plans

Member privileges

Organization security

Security & analysis

Verified & approved domains

Audit log

Webhooks

Third-party access

Installed GitHub Apps

Scheduled reminders

Repository topics

Repository defaults

Deleted repositories

Projects

Teams

Actions

General

Runners

Actions / Add self-hosted runner

Adding a self-hosted runner requires that you download, configure, and execute the GitHub Actions Runner. By downloading and configuring the GitHub Actions Runner, you agree to the [GitHub Terms of Service](#) or [GitHub Corporate Terms of Service](#), as applicable.

Operating System: Linux

Architecture: X64

Download

```
# Create a folder
$ mkdir actions-runner && cd actions-runner
# Download the latest runner package
$ curl -o actions-runner-linux-x64-2.278.0.tar.gz -L
https://github.com/actions/runner/releases/download/v2.278.0/actions-runner-linux-x64-2.278.0.tar.gz
# Extract the installer
$ tar xzf ./actions-runner-linux-x64-2.278.0.tar.gz
```

Configure

```
# Create the runner and start the configuration experience
$ ./config.sh --url https://github.com/stebje-actions-packages --token
AMVHBKYWH2WBXCII474ZW6DAX2RRI
# Last step, run it!
$ ./run.sh
```

Using your self-hosted runner

```
# Use this YAML in your workflow file for each job
runs-on: self-hosted
```

For additional details about configuring, running, or shutting down the runner, please check out our [product docs](#).

Back to runner settings

Runner groups

- Can be set up on enterprise and/or organization level
- Can be scoped to specific organizations and/or repositories
- Runners can be moved between groups
- A runner can only be in one group at a time

Self-hosted runners

Host your own runners and customize the environment used to run jobs in your GitHub Actions workflows. Runners added to this organization can be used to process jobs in multiple repositories in your organization. [Learn more about self-hosted runners](#)

Add new ▾

New runner

New group

Runner groups

☐ Default ⓘ

All repositories

0 runners

...

Create group

×

Group name

macosx


Repository access: Selected repositories ▾

✓ Selected repositories

Runners can be used by specifically selected repositories

All repositories

Runners can be used by private and internal repositories

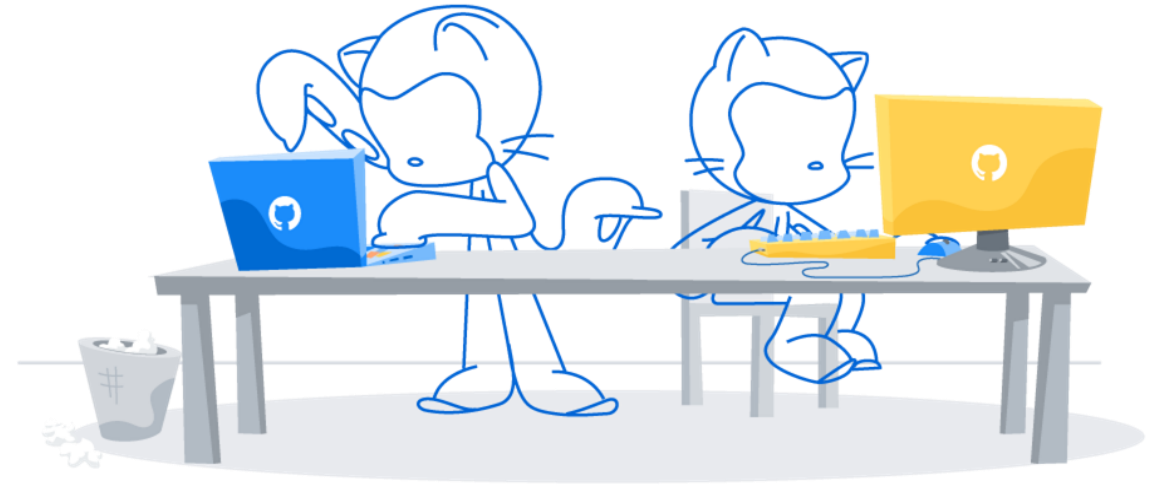
☒  admin-tasks

Security with self-hosted runners



Public repositories with self-hosted runners pose potential risks:

- Malicious programs running on the machine
- Escaping the machine's runner sandbox
- Exposing access to the machine's network
- Persisting unwanted or dangerous data on the machine



Self-hosted runners and **Security**

Forked repositories will contain the same Actions configuration as the parent repository, including the self-hosted runners. Creates the potential for a fork to run malicious code on a runner inside your network. For this reason, it is highly recommended to use self-hosted runners only with **private** repositories.

Scaling runners

- Auto-scaling is not yet supported with GitHub-hosted runners
- Open-source solutions do exist for scaling self-hosted runners, e.g.
 - <https://github.com/actions-runner-controller/actions-runner-controller>
 - <https://github.com/philips-labs/terraform-aws-github-runner>
- See <https://github.com/jonico/awesome-runners> for an open source list of options

The screenshot shows the GitHub repository page for `jonico / awesome-runners`. The repository has 11 watchers, 110 stars, and 11 forks. The navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, and Security. The repository is on the `main` branch. A table of recent changes is visible, showing updates to `assets/css`, `LICENSE`, `README.md`, and `_config.yml`. The `README.md` file is selected, displaying a banner for `awesome-runners` with the GitHub logo and a play button icon. Below the banner, the repository name `awesome-runners` is shown, followed by a row of badges: `awesome`, `license Apache-2.0`, `Made with Markdown`, and `Maintained? yes`. At the bottom, there is a badge for `Open Source ? Yes!`. On the right side, the `About` section provides a description of the repository as a curated list of awesome self-hosted GitHub Action runners, along with a link to `jonico.github.io/aweso...`. Below this, there are tags for various technologies and services, including `github`, `docker`, `kubernetes`, `aws`, `security`, `arm`, `collection`, `azure`, `actions`, `gcp`, `self-hosted`, `comparison`, `operator`, `awesome-list`, `elastic`, `auto-scaling`, `scaling`, `actions-runner`, `comparisons-page`, and `self-hosted-actions`. The `Contributors` section lists four contributors: `jonico` (Johannes Nicolai), `tetchel` (Tim Etchells), and `MonolithProjects` (Mic...

jonico / awesome-runners

Watch 11 Star 110 Fork 11

Code Issues Pull requests Actions Projects Wiki Security

main Go to file Add file Code

jonico Merge pull request #2 from callum-tait-pbx/pa... 16 days ago 61

assets/css	Update style.scss	3 months ago
LICENSE	Apache 2 license	4 months ago
README.md	Merge pull request #2 from callum-tait-pb...	16 days ago
_config.yml	Set theme jekyll-theme-hacker	4 months ago

README.md

awesome-runners

badges awesome license Apache-2.0 Made with Markdown Maintained? yes

Open Source ? Yes!

About

A curated list of awesome self-hosted GitHub Action runners in a large comparison matrix

jonico.github.io/aweso...

github docker kubernetes aws security arm collection azure actions gcp self-hosted comparison operator awesome-list elastic auto-scaling scaling actions-runner comparisons-page self-hosted-actions

Readme

Apache-2.0 License

Contributors 4

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MonolithProjects Mic...