Adding self-hosted runners

Host your own runners
2 of 8 in learning path

Next: **Configuring the self-hosted runner application as a service**

In this article

You can add a self-hosted runner to a repository, an organization, or an enterprise.

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If you are an organization or enterprise administrator, you might want to add your self-hosted runners at the organization or enterprise level. This approach makes the runner available to multiple repositories in your organization or enterprise, and also lets you to manage your runners in one place.

For information on supported operating systems for self-hosted runners, or using self-hosted runners with a proxy server, see "About self-hosted runners."

Warning: We recommend that you only use self-hosted runners with private repositories. This is because forks of your public repository can potentially run dangerous code on your self-hosted runner machine by creating a pull request that executes the code in a workflow.

For more information, see "About self-hosted runners."

You can set up automation to scale the number of self-hosted runners. For more information, see "Autoscaling with self-hosted runners."

You can register ephemeral runners that perform a single job before the registration is cleaned up by using just-in-time runner registration. For more information, see "Security hardening for GitHub Actions."

Prerequisites

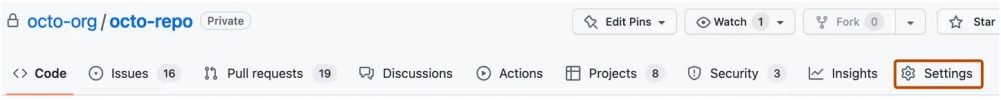
- You must have access to the machine you will use as a self-hosted runner in your environment.
- For more information, see "About self-hosted runners."

Adding a self-hosted runner to a repository

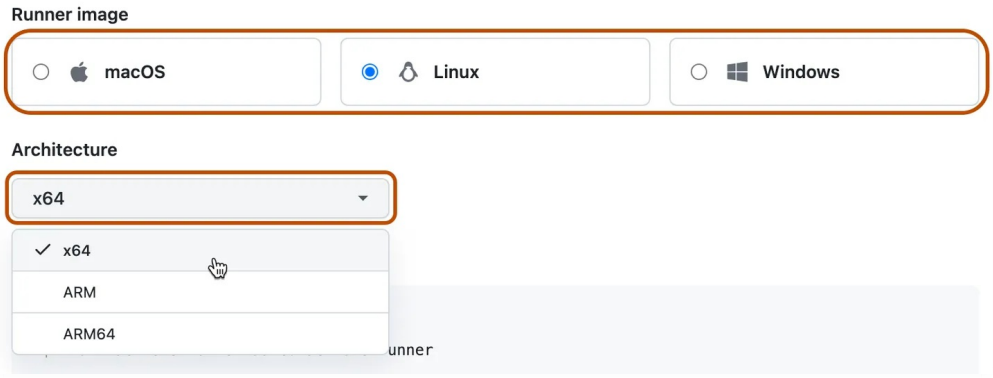
You can add self-hosted runners to a single repository. To add a self-hosted runner to a user repository, you must be the repository owner. For an organization repository, you must be an organization owner or have admin access to the repository. For information about how to add a self-hosted runner with the REST API, see "Actions."

Note: Enterprise owners and organization owners can disable the ability to create self-hosted runners at the repository level. For more information, see "Enforcing policies for GitHub Actions in your enterprise" and "Disabling or limiting GitHub Actions for your organization."

1. On GitHub.com, navigate to the main page of the repository.
2. Under your repository name, click **Settings**. If you cannot see the "Settings" tab, select the ··· dropdown menu, then click **Settings**.



3. In the left sidebar, click **Actions**, then click **Runners**.
4. Click **New self-hosted runner**.
5. Select the operating system image and architecture of your self-hosted runner machine.



6. You will see instructions showing you how to download the runner application and install it on your self-hosted runner machine.

   Open a shell on your self-hosted runner machine and run each shell command in the order shown.

   Note: On Windows, if you want to install the self-hosted runner application as a service, you must open a shell with administrator privileges. We also recommend that you use `C:\actions-runner` as the directory for the self-hosted runner application so that Windows system accounts can access the runner directory.

   The instructions walk you through completing these tasks:

   - Downloading and extracting the self-hosted runner application.
   - Running the `config` script to configure the self-hosted runner application and register it with GitHub Actions. The `config` script requires the destination URL and an automatically-generated time-limited token to authenticate the request.
     - On Windows, the `config` script also asks if you would like to install the self-hosted runner application as a service. For Linux and macOS, you can install a service after you finish adding the runner. For more information, see

"Configuring the self-hosted runner application as a service."

- Running the self-hosted runner application to connect the machine to GitHub Actions.

Checking that your self-hosted runner was successfully added

After completing the steps to add a self-hosted runner, the runner and its status are now listed under "Runners".

The self-hosted runner application must be active for the runner to accept jobs. When the runner application is connected to GitHub Enterprise Cloud and ready to receive jobs, you will see the following message on the machine's terminal.

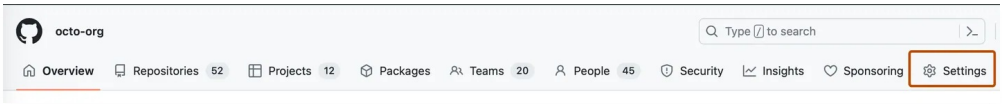
```
√ Connected to GitHub

2019-10-24 05:45:56Z: Listening for Jobs
```

For more information, see "Monitoring and troubleshooting self-hosted runners."

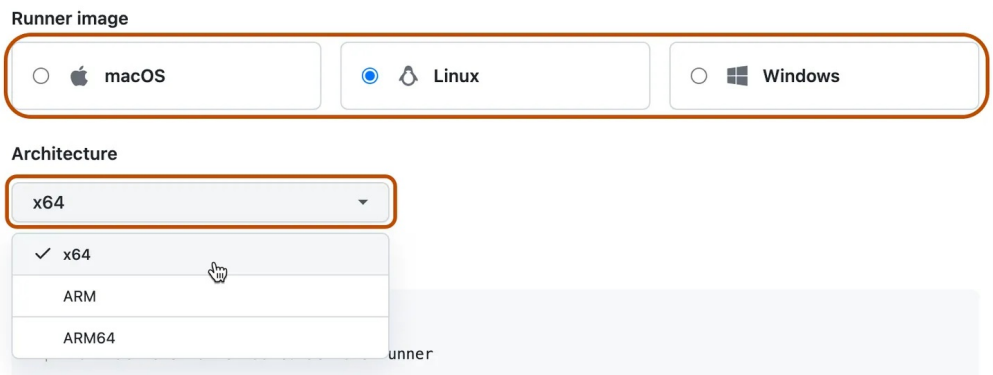
Adding a self-hosted runner to an organization

You can add self-hosted runners at the organization level, where they can be used to process jobs for multiple repositories in an organization. To add a self-hosted runner to an organization, you must be an organization owner. For information about how to add a self-hosted runner with the REST API, see "Actions."

1. On GitHub.com, navigate to the main page of the organization.
2. Under your organization name, click **Settings**. If you cannot see the "Settings" tab, select the ··· dropdown menu, then click **Settings**.



3. In the left sidebar, click **Actions**, then click **Runners**.
4. Click **New runner**, then click **New self-hosted runner**.
5. Select the operating system image and architecture of your self-hosted runner machine.



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   - Running the self-hosted runner application to connect the machine to GitHub Actions.

Checking that your self-hosted runner was successfully added

After completing the steps to add a self-hosted runner, the runner and its status are now listed under "Runners".

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For more information, see "Monitoring and troubleshooting self-hosted runners."

> **Note:** For security reasons, public repositories can't use runners in a runner group by default, but you can override this in the runner group's settings. For more information, see "Managing access to self-hosted runners using groups."

Adding a self-hosted runner to an enterprise

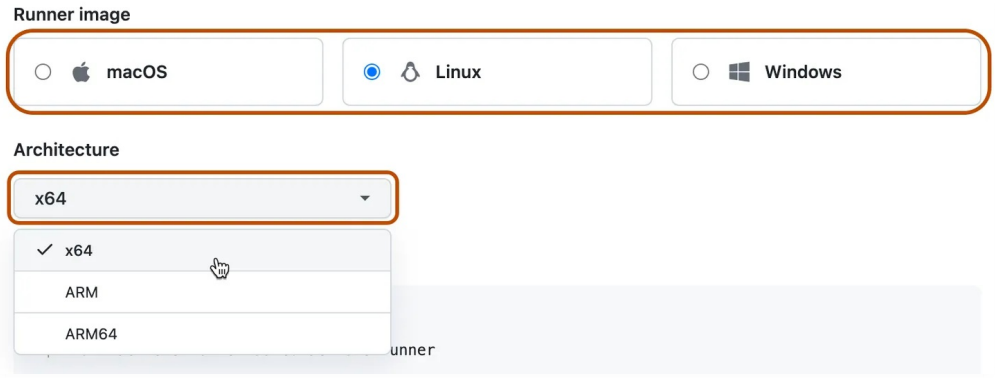
You can add self-hosted runners to an enterprise, where they can be assigned to multiple organizations. The organization owner can control which repositories can use it.

New runners are assigned to the default group. You can modify the runner's group after you've registered the runner. For more information, see "Managing access to self-hosted runners using groups."

To add a self-hosted runner to an enterprise, you must be an enterprise owner. For information about how to add a self-hosted runner with the REST API, see the enterprise

endpoints in the GitHub Actions REST API.

1. In the top-right corner of GitHub.com, click your profile photo, then click **Your enterprises**.
2. In the list of enterprises, click the enterprise you want to view.
3. In the enterprise account sidebar, click ⚖ **Policies**.
4. Under "⚖ Policies", click **Actions**.
5. Click the **Runners** tab.
6. Click **New runner**, then click **New self-hosted runner**.
7. Select the operating system image and architecture of your self-hosted runner machine.



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   Open a shell on your self-hosted runner machine and run each shell command in the order shown.

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Note: For security reasons, public repositories can't use runners in a runner group by default, but you can override this in the runner group's settings. For more information, see "Managing access to self-hosted runners using groups."

Making enterprise runners available to repositories

By default, runners in an enterprise's "Default" self-hosted runner group are available to all organizations in the enterprise, but are not available to all repositories in each organization.

To make an enterprise-level self-hosted runner group available to an organization repository, you might need to change the organization's inherited settings for the runner group to make the runner available to repositories in the organization.

For more information on changing runner group access settings, see "Managing access to self-hosted runners using groups."

Further reading

- "Getting started with self-hosted runners for your enterprise"

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