

Restricting the base image for codespaces

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You can specify which base images can be used for new codespaces created within your organization.

Who can use this feature

To manage image constraints for an organization's codespaces, you must be an owner of the organization.

Organizations on GitHub Team and GitHub Enterprise plans can pay for members' and collaborators' use of GitHub Codespaces. These organizations can then access settings and policies to manage codespaces paid for by the organization. For more information, see "[Choosing who owns and pays for codespaces in your organization](#)" and "[GitHub's plans](#)."

Overview

When you create a codespace, a Docker container is automatically created on a remote virtual machine. The Docker container is created from a Docker image. The image is effectively a template for Docker containers and it determines many aspects of the resulting environment provided by the codespace.

You can choose which image you want to use for your codespaces by specifying it in the dev container configuration for a repository. You can do this, for example, by using the `image` property in the `devcontainer.json` file.

JSON



```
"image": "mcr.microsoft.com/vscode/devcontainers/javascript-node:18",
```

For more information, see the [dev containers specification](#) on the Development Containers website.

If you don't specify an image in the dev container configuration for a repository, the default image is used. The default image contains a number of runtime versions for popular languages and commonly used tools. For more information, see "[Introduction to dev containers](#)."

As an organization owner, you can add a policy to restrict which images can be used for codespaces created within your organization.

If the image specified in the dev container configuration does not match one of the

allowed images, the following message is displayed when someone tries to create a codespace for the repository:

Codespace could not be created: Base image 'DETAILS FROM DEV CONTAINER CONFIGURATION' is not allowed based on an organization policy set by your organization owner.

Notes:

- The base image policy is only applied when a codespace is created. It is currently not applied when you rebuild a container. This will change in a future release. For more information, see "[Understanding the codespace lifecycle](#)."
- The base image policy does not apply to the default image, or the image that's used to recover a codespace if an error is introduced into a dev container configuration which prevents the container from being rebuilt.


Setting organization-wide and repository-specific policies

When you create a policy you choose whether it applies to all repositories in your organization, or only to specified repositories. If you set an organization-wide policy then any policies you set for individual repositories must fall within the restriction set at the organization level. Adding policies makes the choice of image more, not less, restrictive.



For example, you could create an organization-wide policy that restricts the base image to any of ten specified images. You can then set a policy for Repository A that restricts the image to a subset of just two of the images specified at the organization level. Specifying additional images for Repository A will have no effect because these images are not specified in the organization-level policy. If you add an organization-wide policy, you should set it to the largest choice of images that will be available for any repository in your organization. You can then add repository-specific policies to further restrict the choice.

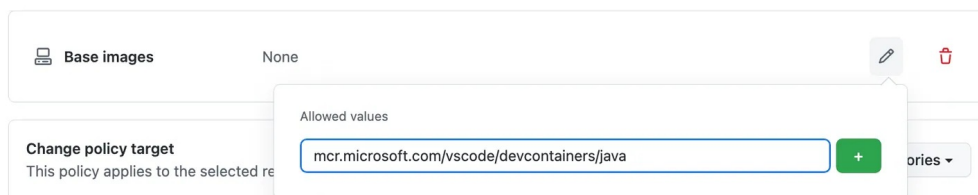
Note: Codespace policies only apply to codespaces that your organizations pays for. If someone creates a codespace for a repository in your organization at their own expense, then the codespace will not be bound by these policies. For more information, see "[Choosing who owns and pays for codespaces in your organization](#)."

Adding a policy to define the allowed images

- 1 In the top right corner of GitHub.com, click your profile photo, then click  **Your organizations**.



- 2 Next to the organization, click **Settings**.
- 3 In the "Code, planning, and automation" section of the sidebar, select  **Codespaces** then click **Policies**.
- 4 On the "Codespace policies" page, click **Create Policy**.
- 5 Enter a name for your new policy.
- 6 Click **Add constraint** and choose **Base images**.
- 7 Click  to edit the constraint.
- 8 In the "Allowed values" field, enter the complete URL of an image you want to allow.



Note: You must specify an image URL that exactly matches the value specified in a dev container configuration.

- 9 Click **+** to add the value.
- 10 If required, repeat the previous two steps to add more image URLs.
- 11 Click outside of the dialog box to close it.
- 12 By default the policy is set to apply to all repositories, if you want it to apply only to some of the repositories in your organization, click **All repositories** and then click **Selected repositories** in the dropdown menu.

Change policy target

This policy applies to all repositories within your organization.

Save

All repositories ▾

✓ All repositories

Policy is active for all repositories in the organization


Selected repositories

Policy is active for specifically selected repositories

Note: If you're adding a constraint to a policy that already contains the "Maximum codespaces per user" constraint, you won't be able to apply the policy to selected repositories. This is because the "Maximum codespaces per user" constraint always applies to all repositories in the organization.

With **Selected repositories** selected:

- a. Click .

0 selected 


Selected repositories ▾


- b. Select the repositories you want this policy to apply to.
- c. At the bottom of the repository list, click **Select repositories**.


Repositories


Select the organization repositories that may use this policy.


Filter repositories


☐  octo-docs


☐  octo-project-1


☐  octo-project-2

☐  octo-project-3

☐  octo-project-4

☒  octo-test-repo-A

☒  octo-test-repo-B

☒  octo-test-repo-C

3 selected repositories

Select repositories


- 13 If you want to add another constraint to the policy, click **Add constraint** and choose another constraint. For information about other constraints, see:
 - ["Restricting access to machine types"](#)
 - ["Restricting the number of organization-billed codespaces a user can create"](#)
 - ["Restricting the visibility of forwarded ports"](#)
 - ["Restricting the idle timeout period"](#)
 - ["Restricting the retention period for codespaces"](#)

- 14 After you've finished adding constraints to your policy, click **Save**.


The policy is applied when anyone attempts to create a new codespace that is billable to your organization. The base image constraint does not affect existing codespaces, either active or stopped.

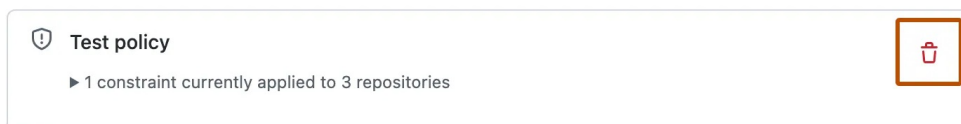
Editing a policy

You can edit an existing policy. For example, you may want to add or remove constraints to or from a policy.

- 1 Display the "Codespace policies" page. For more information, see ["Adding a policy to define the allowed images."](#)
- 2 Click the name of the policy you want to edit.
- 3 Beside the "Base images" constraint, click .
- 4 Add or remove image URLs.
- 5 Click **Save**.

Deleting a policy

- 1 Display the "Codespace policies" page. For more information, see ["Adding a policy to define the allowed images."](#)
- 2 Click  to the right of the policy you want to delete.



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