About billing for GitHub Codespaces

In this article

Learn about the costs for using GitHub Codespaces, and the monthly usage quotas included with GitHub personal accounts.

About GitHub Codespaces pricing

Note: GitHub may apply a temporary authorization hold for the value of the usage-based costs in advance, which will appear as a pending charge in your account's payment method.

GitHub Codespaces is paid for either by an organization, an enterprise, or a personal account. The Free and Pro plans for personal accounts include free use of GitHub Codespaces up to a fixed amount of usage every month.

Organizations can choose whether codespaces created from their repositories will be user-owned or organization-owned. For more information, see "Choosing who owns and pays for codespaces in your organization." An organization pays for a codespace if all the following things are true.

- The organization has chosen for codespaces to be organization-owned.
- The organization has set a non-zero spending limit for GitHub Codespaces.
- The codespace is created from one of the organization's repositories, or from a fork of one of the organization's repositories. This includes both public and private repositories.
- The user creating the codespace is a member or collaborator of the organization, and the organization has enabled GitHub Codespaces for this user. This can include all members and collaborators if the organization has chosen to enable Codespaces for all users. If Codespaces isn't enabled for a user, they can still create codespaces from public repositories in the organization, but the user will pay for these codespaces.

For more information about enabling GitHub Codespaces for users, see "Enabling or disabling GitHub Codespaces for your organization."

Otherwise use of GitHub Codespaces applies to the personal account of the person who created the codespace, and either consumes some of the monthly included usage for their personal account, or their account is billed according to their usage in excess of their included quotas.

The Free, Team, and Enterprise plans for organization and enterprise accounts do not include any free use of GitHub Codespaces.

Monthly included storage and core hours for personal accounts

The following storage and core hours of usage are included, free of charge, for personal accounts:

Account plan	Storage per month	Core hours per month
GitHub Free for personal accounts	15 GB-month	120
GitHub Pro	20 GB-month	180

Notes

- The GB-month unit of storage is a time-based measurement, 1 GB-month being 1 GB of storage usage for one whole month. The disk space used by all of your codespaces and prebuilds is assessed once an hour and your current GB-month usage is recalculated. Therefore, while you have codespaces and prebuilds, your GB-month usage will increase throughout the month. For example, if the storage totals 15 GB, and remains unchanged throughout your monthly billing cycle, then you will have used 7.5 GB halfway through the month, and 15 GB at the end of the month. For more information, see "About billing for storage usage" later in this article.
- A "core hour" is a measure used for included compute usage. To calculate core hours, multiply the number of hours for which a codespace has been active by the multiplier in the pricing table later in this article. For the basic machine types, the multiplier is the number of processor cores in the machine that hosts the codespace. For example, if you use a 2-core machine for your codespace and it's active for an hour, you have used 2 core hours. If you use an 8-core machine for an hour, you have used 8 core hours. If you use an 8-core machine for two hours, you have used 16 core hours.

You will be notified by email when you have used 75%, 90%, and 100% of your included quotas. Notifications are also displayed in a "toast" message within VS Code and the VS Code web client. You can turn off email notifications if required. For more information, see "Managing the spending limit for GitHub Codespaces."

When a personal account has used all of either the included storage or compute usage (whichever is reached first), and has no spending limit configured, use of GitHub Codespaces will be blocked. You must set up a payment method and a spending limit to continue using GitHub Codespaces during the current billing month. At the beginning of the next monthly billing cycle the included usage is reset. Storage will not be billed while use of GitHub Codespaces is blocked.

You can view details of your usage for the current month at any time. For more information, see "Viewing your GitHub Codespaces usage."

If you are blocked from resuming a codespace and you want to continue to work on changes you have made in your codespace, you can do any of the following:

- Add a payment method and a spending limit greater than $0 USD.

- Export the changes from the codespace to a branch. For more information, see "Exporting changes to a branch."
- Wait for your monthly included usage to reset at the start of the next monthly billing cycle.

If you have used all of either your included storage usage or your included compute usage, and you have set up a payment method and a spending limit, any further use of codespaces owned by your personal account will incur charges for whichever type of usage has no remaining included quota. You will not be charged for the other type of usage until you have also used all of its included quota.

For tips on making your allowed usage go further, see "Getting the most out of your included usage."

Pricing for paid usage

A GitHub Codespaces instance (a "codespace") incurs charges for compute time, while it is active, and for the amount of disk space the codespace occupies, while it exists. The compute cost is proportional to the number of processor cores in the machine type you choose for your codespace, as shown in the following table. For example, the compute cost of using a codespace for an hour on a 16-core machine is eight times greater than a 2-core machine.

Component	Machine type	Unit of measure	Included usage multiplier	Price
Codespaces compute	2 core	1 hour	2	$0.18
Codespaces compute	4 core	1 hour	4	$0.36
Codespaces compute	8 core	1 hour	8	$0.72
Codespaces compute	16 core	1 hour	16	$1.44
Codespaces compute	32 core	1 hour	32	$2.88
Codespaces storage	Storage	1 GB-month	Not applicable	$0.07

For more information about the GB-month unit of measure, see "About billing for storage usage."

If you enable prebuilding of codespaces this will incur additional charges. For more information, see "About billing for Codespaces prebuilds."

About your bill for GitHub Codespaces

GitHub Codespaces is billed in US dollars (USD) according to the amount of compute time and storage space your codespaces use. Costs for GitHub Codespaces are always billed monthly, even if your account is otherwise billed annually.

Billing for GitHub Codespaces shares your account's existing payment method, and receipt. For more information, see "Viewing your subscriptions and billing date."

If you are an organization owner, you can connect an Azure Subscription ID to your organization account to enable and pay for GitHub Codespaces usage. For more information, see "Connecting an Azure subscription."

About billing for compute usage

The compute usage of a codespace is the length of time for which that codespace is active multiplied by the multiplier in the pricing table for the machine type of the codespace. Total compute usage is calculated by summing the time used by all codespaces billable to a particular account. These totals are reported to the billing service every hour, and are billed monthly.

As an example, if a codespace is active for 1 hour and 15 minutes, then the compute cost will be the hourly cost of the codespace, as determined by its machine type, multiplied by 1.25.

You can control compute usage by stopping your codespaces. For information, see "Stopping and starting a codespace." Codespaces are stopped automatically after a configurable period of inactivity. The timeout period can be configured by the user, or at the organization level. For more information, see "Setting your timeout period for GitHub Codespaces" and "Restricting the idle timeout period."

About billing for storage usage

For GitHub Codespaces billing purposes, storage comprises the disk space used by all of the codespaces and prebuilds in your account. This includes any files you use in a codespace, such as cloned repositories, configuration files, data loaded to the codespace (for example as input or output of the software running in the repository), and extensions, among others. Storage is billed for all of your existing codespaces, regardless of whether they are active or inactive with the exception of blocked usage due to exhausted included usage quota or reaching your spending limit. The storage billing for a codespace ends when it is deleted. However, deleting a codespace does not reduce your used storage amount for the current billing month as this is a cumulative figure.

> **Note**
>
> When you use the default dev container configuration, your dev container will be built from the default Linux image for codespaces. For more information, see "Introduction to dev containers." Containers based on the default image are not counted as used storage, irrespective of whether you have added features in your dev container configuration. For more information, see "Adding features to a devcontainer.json file."
>
> If you use the default image, the storage usage for your codespace will be based on the files in your repository, and any files you subsequently add to the codespace. If you use an alternative base image, then the resulting container and all of the files in the codespace will be counted as used storage.
>
> For information on how to check whether a codespace was built from the default image, see "Getting the most out of your included usage."

Codespace storage is reported in GB-months. Your billing month runs from a fixed day in one month until the same day in the next month. In most cases the day of the month is determined by the day you started on your current GitHub plan. Your GB-month storage is calculated as follows. Once every hour, the storage used by all of your currently active and stopped codespaces is assessed. This figure is then divided by the number of hours in the current billing month: `total storage size / hours this month`. The result is added to the running total for codespace storage for the month.

For example, if you have one codespace that uses 100 GB of storage and has existed for

one hour you will have used `100 / (24 * 30) = 0.1388` GB-months of storage in a 30-day month. If your use of GitHub Codespaces during a 30-day month consists of two 100 GB codespaces that both existed for three full days then there will be `24 * 3` hourly reports for the storage of these codespaces, giving a total of `(24 * 3) * 200 / (24 * 30) = 20` GB-months.

For each hourly report, the storage usage for the previous hour is calculated in seconds. As a result, you won't be charged for a full hour of storage if a codespace did not exist for the full 60 minutes. At the end of the month, GitHub rounds your storage to the nearest MB.

Organization owners can:

- List the currently active and stopped codespaces for your organization. For more information, see "Listing the codespaces in your organization." In addition to the cost of these codespaces, the cost of GitHub Codespaces for the current month may include costs for codespaces that existed earlier in the current month but have since been deleted.
- See the total GitHub Codespaces compute and storage usage for your organization for the current month to date. For more information, see "Viewing your GitHub Codespaces usage."
- Configure your organization settings to manage the cost of GitHub Codespaces. For more information, see "Managing the cost of GitHub Codespaces in your organization."

To estimate the costs for usage-based billing, you can use the GitHub pricing calculator.

About billing for Codespaces prebuilds

A prebuild assembles the main components of a codespace for a particular combination of repository, branch, and `devcontainer.json` configuration file. It provides a quick way to create a new codespace. For complex and/or large repositories in particular, you can create a new codespace more quickly by using a prebuild. For more information, see "About GitHub Codespaces prebuilds."

GitHub Actions costs for prebuilds

Prebuilds are created and updated by running a GitHub Actions workflow on a GitHub-hosted runner. You can configure how you want prebuild updates to be automatically triggered. For information, see "Configuring prebuilds."

As with other workflows, while prebuild workflows are running they consume GitHub Actions minutes included with your account, if you have any, or they incur charges for GitHub Actions minutes. For more information about pricing for GitHub Actions minutes, see "About billing for GitHub Actions." There is no associated Codespaces compute cost for creating or updating prebuilds.

You can track usage of prebuild workflows and storage by downloading a usage report for your account. For more information, see "Viewing your GitHub Codespaces usage."

Storage costs for prebuilds

In addition to GitHub Actions minutes, you will also be billed for the storage of prebuilds associated with each prebuild configuration, for a given repository and region. Storage of prebuilds is billed at the same rate as storage of codespaces.

The storage cost for a prebuild in a single region will be similar to the storage cost that will be incurred for storing a single codespace created from that prebuild. The storage cost for the generated codespace may be more than the cost for the prebuild if, for example, the `updateContentCommand` and `postCreateCommand` commands are used during

codespace creation to download more files to the dev container.

The total storage costs associated with a prebuild configuration will depend on the following factors.

- The price of storage per GB. See the table earlier in this article.
- The size of the generated prebuild in GB.
- The number of regions in which the prebuild is available (because a copy of the prebuild is stored in each region).
- The number of older versions of the prebuild that are retained.

The storage cost for the prebuilds generated by a prebuild configuration is therefore calculated as: `price per GB * size (GB) * regions * versions`.

You can check how many GB-months of storage has been used by prebuilds by reviewing the current billing data for your personal or organization account. For more information, see "Viewing your GitHub Codespaces usage."

If you create prebuilds for a forked repository, the storage cost of those prebuilds is subtracted from your monthly included storage, while available. If you have used all of your included storage, and you have set up billing, your personal account will be billed. This is true even when the codespaces you create for a fork are paid for by the organization that owns the parent repository. For more information, see "How billing is handled for forked repositories."

Controlling the cost of prebuilds

To reduce consumption of Actions minutes, you can set a prebuild to be updated only when you make a change to your dev container configuration files, or only on a custom schedule. You can also manage your storage usage by adjusting the number of previous versions of each prebuild that are retained. For more information, see "Configuring prebuilds."

To limit the storage costs associated with prebuilds, you can choose to create prebuilds only in selected regions, and you can specify the number of older versions of prebuilds that will be retained. For more information, see "Configuring prebuilds."

If you delete a prebuild configuration, all the associated prebuilds are deleted, reducing your storage consumption from that point onward. For more information, see "Managing prebuilds."

> **Notes**:
>
> - Prebuilds may be updated several times during a billing month. Newer versions of a prebuild may be larger or smaller than the previous versions. This will affect the storage charges. For details of how storage is calculated during a billing month, see "About billing for storage usage" earlier in this article.
> - As with deleting codespaces, deleting prebuilds does not reduce your used storage amount for the current billing month as this is a cumulative figure.

Cost of codespaces created from prebuilds

Use of codespaces created using prebuilds is charged at the same rate as regular codespaces.

Setting a spending limit

> **Note:** You must set a non-zero spending limit on your personal, organization, or enterprise account before the account can be billed for use of GitHub Codespaces.

By default, all accounts have a GitHub Codespaces spending limit of $0 USD. This prevents new codespaces being created, or existing codespaces being opened, if doing so would incur a billable cost to your personal, organization, or enterprise account. For personal accounts, if you have access to create a codespace, you can do so as long as the account has not reached the limit of its monthly included usage. For organizations and enterprises, the default spending limit means that, to allow people to create codespaces that are billed to the organization, or its parent enterprise, the limit must be changed to a value above $0 USD.

For information on managing and changing your account's spending limit, see "Managing the spending limit for GitHub Codespaces."

If your personal, organization, or enterprise account reaches its spending limit, you will no longer be able to create or resume codespaces that are billable to that account. However, you can still export any work-in-progress changes to a new branch. For more information, see "Exporting changes to a branch."

Limiting the machine types for organization-owned codespaces

By default the machine type with the lowest valid resources is used when a codespace is created. However, users may be able to choose a machine type with more resources. They can do this either when they create a codespace, or they can change the machine type of an existing codespace. For more information, see "Creating a codespace for a repository" and "Changing the machine type for your codespace."

If a machine type that has more resources is chosen, this will affect the per-hour charge for that codespace, as shown in the table earlier in this article.

Organization owners can create a policy to limit the choice of machine types available to users for codespaces that are billed to an organization or enterprise account. For more information, see "Restricting access to machine types."

Limiting the number of organization-owned codespaces

Organization owners can limit the number of codespaces that people can create, where the organization will be billed for the codespace. This can help to reduce storage charges for the organization. For more information, see "Restricting the number of organization-billed codespaces a user can create."

How billing is handled for forked repositories

Usage of codespaces created from a forked repository will be billed to your personal account unless the upstream (or parent) repository is in an organization that has allowed you - as a member, or outside collaborator, of the organization - to use codespaces at the organization's expense.

For example, consider a member, or outside collaborator, of an organization that has allowed billing for codespaces for that user. If the user has permission to fork an organization-owned private repository, they can subsequently create and use a codespace for the new repository at the organization's expense. This is because the organization is the owner of the parent repository. Note that the organization owner can remove the user's access to the private repository, the forked repository, and therefore also the codespace. The organization owner can also delete the parent repository which will also delete the forked repository. For more information, see "Managing the forking

policy for your repository."

If you create prebuilds for a forked repository, the storage cost of those prebuilds is subtracted from your monthly included storage, while available. If you have used all of your included storage, and you have set up billing, your personal account will be billed. This is true even when the codespaces you create for a fork are paid for by the organization that owns the parent repository.

How billing is handled when a repository is transferred to another organization

Usage is calculated every hour. An organization pays for usage of codespaces created from any repository owned by the organization, where the organization settings permit the organization to be billed. For more information, see "Choosing who owns and pays for codespaces in your organization." When a repository is transferred out of your organization, ownership and billing responsibility for any codespaces associated with that repository will change accordingly.

How billing is handled for GitHub Codespaces templates

You can get started on a new project by creating a codespace from a template. Codespaces created from templates aren't initially associated with a repository, but you can publish the codespace to a repository owned by your personal account. For more information, see "Creating a codespace from a template."

Any organization can maintain a template repository for use with GitHub Codespaces. As with any other repository in an organization, a codespace created from a template repository is billed to the organization if the organization has set a spending limit for GitHub Codespaces and allowed the user creating the codespace to do so at the organization's expense. Otherwise, the codespace is billed to the user who creates the codespace.

If a user publishes a codespace created from a template, the codespace is published to a new repository owned by the user's personal account. If the codespace is currently billed to an organization, ownership and billing of the codespace transfer to the user who created the codespace.

What happens when users are removed

If a user is removed from an organization or repository, their codespaces are automatically deleted.