Troubleshooting license usage for GitHub Enterprise

In this article

You can troubleshoot license usage for your enterprise by auditing license reports.

> **Who can use this feature**
> Enterprise owners can review license usage for GitHub Enterprise.

About unexpected license usage 🔗

If the number of consumed licenses for your enterprise is unexpected, you can review your consumed license report to audit your license usage across all your enterprise deployments and subscriptions. For more information, see "[Viewing license usage for GitHub Enterprise](#)" and "[Viewing the subscription and usage for your enterprise account](#)."

If you find errors, you can try troubleshooting steps.

For privacy reasons, enterprise owners cannot directly access the details of user accounts unless you use Enterprise Managed Users.

About the calculation of consumed licenses 🔗

A person consumes a license for GitHub Enterprise depending on specific criteria. If a user has not yet accepted an invitation to join your enterprise, or if the user is an unlinked Visual Studio subscriber, the user still consumes a license. For more information about the people in your enterprise who consume a license, see "[About per-user pricing](#)."

For each user to consume a single seat regardless of how many deployments they use, you must synchronize license usage between GitHub Enterprise Server and GitHub Enterprise Cloud. For more information, see "[Syncing license usage between GitHub Enterprise Server and GitHub Enterprise Cloud](#)."

After you synchronize license usage, GitHub matches user accounts on GitHub Enterprise Server with user accounts on GitHub Enterprise Cloud by email address.

First, we check the primary email address of each user on GitHub Enterprise Server. Then, we attempt to match that address with the email address for a user account on GitHub Enterprise Cloud. If your enterprise on GitHub.com or any of the enterprise's organizations use SAML authentication or SCIM provisioning, we first check the linked SAML or SCIM identities to see if the identity contains one of the attributes below. We attempt to match the values of these attributes to the primary email address of each GitHub Enterprise Server user.

- `http://schemas.xmlsoap.org/ws/2005/05/identity/claims/name`
- `http://schemas.xmlsoap.org/ws/2005/05/identity/claims/emailaddress`
- `username`
- `NameID`
- `emails`

If there is no match, or if SAML authentication or SCIM provisioning is not in use, we attempt to match the primary email address on GitHub Enterprise Server with a verified email address for a user account on GitHub.com. For more information about verification of email addresses on GitHub.com, see "Verifying your email address" in the GitHub Enterprise Cloud documentation.

Fields in the consumed license files 🔗

The GitHub.com license usage report and GitHub Enterprise Server exported license usage file include a variety of fields to help you troubleshoot license usage for your enterprise.

GitHub.com license usage report (CSV file) 🔗

The license usage report for your enterprise is a CSV file that contains the following information about members of your enterprise. Some fields are specific to your GitHub Enterprise Cloud (GHEC) deployment, GitHub Enterprise Server (GHES) connected environments, or your Visual Studio subscriptions (VSS) with GitHub Enterprise.

Field	Description
github_com_login	The username for the user's GHEC account
github_com_name	The display name for the user's GHEC account
github_com_profile	The URL for the user's profile page on GHEC
github_com_user	Whether or not the user has an account on GHEC
github_com_member_roles	For each of the organizations the user belongs to on GHEC, the organization name and the user's role in that organization (`Owner` or `Member`) separated by a colon Organizations delimited by commas
github_com_enterprise_role	Can be one of: `Owner` , `Member` , or `Outside collaborator`
github_com_verified_domain_emails	All email addresses associated with the user's GHEC account that match your enterprise's verified domains
github_com_saml_name_id	The SAML username
github_com_orgs_with_pending_invites	All pending invitations for the user's GHEC account to join organizations within your enterprise
license_type	Can be one of: `Visual Studio subscription` or `Enterprise`
enterprise_server_user	Whether or not the user has at least one account on GHES

	account on GHES
enterprise_server_primary_emails	The primary email addresses associated with each of the user's GHES accounts
enterprise_server_user_ids	For each of the user's GHES accounts, the account's user ID
total_user_accounts	The total number of accounts the person has across both GHEC and GHES
visual_studio_subscription_user	Whether or not the user is a Visual Studio subscriber
visual_studio_subscription_email	The email address associated with the user's VSS
visual_studio_license_status	Whether the Visual Studio license has been matched to a GitHub user

GitHub Enterprise Server exported license usage (JSON file) 🔗

Your GitHub Enterprise Server license usage is a JSON file that is typically used when performing a manual sync of user licenses between GitHub Enterprise Server and GitHub Enterprise Cloud deployments. The file contains the following information specific to your GitHub Enterprise Server environment.

Field	Description
Features	The GitHub Connect features that are enabled on your GitHub Enterprise Server instance, and the date and time of enablement.
Host name	The hostname of your GitHub Enterprise Server instance.
HTTP only	Whether Transport Layer Security (TLS) is enabled and configured on your GitHub Enterprise Server instance. Can be one of: `True` or `False`.
License	A hash of your GitHub Enterprise Server license.
Public key	The public key portion of your GitHub Enterprise Server license.
Server ID	UUID generated for your GitHub Enterprise Server instance.
Version	The version of your GitHub Enterprise Server instance.

Troubleshooting consumed licenses 🔗

To ensure that the each user is only consuming a single seat for different deployments and subscriptions, try the following troubleshooting steps.

1. To help identify users that are consuming multiple seats, if your enterprise uses verified domains for GitHub Enterprise Cloud, review the list of enterprise members

who do not have an email address from a verified domain associated with their account on GitHub.com. Often, these are the users who erroneously consume more than one licensed seat. For more information, see "[Viewing people in your enterprise](#)."

> **Note:** To make troubleshooting easier, we recommend using verified domains with your enterprise account on GitHub.com. For more information, see "[Verifying or approving a domain for your enterprise](#)."

2. After you identify users who are consuming multiple seats, make sure that the same email address is associated with all of the user's accounts. For more information about which email addresses must match, see "[About the calculation of consumed licenses](#)."

3. If an email address was recently updated or verified to correct a mismatch, view the timestamp of the last license sync job. If a job hasn't run since the correction was made, manually trigger a new job. For more information, see "[Syncing license usage between GitHub Enterprise Server and GitHub Enterprise Cloud](#)."

If you still have questions about your consumed licenses after reviewing the troubleshooting information above, you can contact GitHub Support through the [GitHub Support portal](#).