Increasing storage capacity

In this article

You can increase or change the amount of storage available for Git repositories, databases, search indexes, and other persistent application data.

Warning: The process for allocating new system resources varies by virtualization platform and resource type. You should always configure the monitoring and alerting of key system resources. For more information, see "Monitoring your instance."

As more users join your GitHub Enterprise Server instance, you may need to resize your storage volume. Refer to the documentation for your virtualization platform for information on resizing storage.

Requirements and recommendations

Note: Before resizing any storage volume, put your instance in maintenance mode. You can validate changes by configuring an IP exception list to allow access from specified IP addresses. For more information, see "Enabling and scheduling maintenance mode."

Minimum requirements

User licenses	x86-64 vCPUs	Memory	Root storage	Attached (data) storage
Trial, demo, or 10 light users	4	32 GB	200 GB	150 GB
10 to 3,000	8	48 GB	200 GB	300 GB
3,000 to 5000	12	64 GB	200 GB	500 GB
5,000 to 8000	16	96 GB	200 GB	750 GB
8,000 to 10,000+	20	160 GB	200 GB	1000 GB

Increasing the data partition size

1. Resize the existing user volume disk using your virtualization platform's tools.

2. SSH into your GitHub Enterprise Server instance. If your instance comprises multiple nodes, for example if high availability or geo-replication are configured, SSH into the primary node. If you use a cluster, you can SSH into any node. For more information about SSH access, see "Accessing the administrative shell (SSH)."

   ```
   ssh -p 122 admin@HOSTNAME
   ```

3. Put the appliance in maintenance mode. For more information, see "Enabling and scheduling maintenance mode."
4. Reboot the appliance to detect the new storage allocation:

   ```
   sudo reboot
   ```

5. Run the `ghe-storage-extend` command to expand the `/data/user` filesystem:

   ```
   ghe-storage-extend
   ```

6. Ensure system services are functioning correctly, then release maintenance mode. For more information, see "Enabling and scheduling maintenance mode."

Increasing the root partition size using a new appliance

1. Set up a new GitHub Enterprise Server instance with a larger root disk using the same version as your current appliance. For more information, see "Setting up a GitHub Enterprise Server instance."
2. Shut down the current appliance:

   ```
   sudo poweroff
   ```

3. Detach the data disk from the current appliance using your virtualization platform's tools.
4. Attach the data disk to the new appliance with the larger root disk.

Increasing the root partition size using an existing appliance

Warning: Before increasing the root partition size, you must put your instance in maintenance mode. For more information, see "Enabling and scheduling maintenance mode."

1. Attach a new disk to your GitHub Enterprise Server appliance.
2. Run the `lsblk` command to identify the new disk's device name.
3. Run the `parted` command to format the disk, substituting your device name for `/dev/xvdg`:

```
sudo parted /dev/xvdg mklabel msdos
sudo parted /dev/xvdg mkpart primary ext4 0% 50%
sudo parted /dev/xvdg mkpart primary ext4 50% 100%
```

4. If your appliance is configured for high-availability or geo-replication, to stop replication run the `ghe-repl-stop` command on each replica node:

   ```
   ghe-repl-stop
   ```

5. To install the GitHub Enterprise Server software on the newly partitioned disk, run the `ghe-upgrade` command. You must replace **PACKAGE-NAME.pkg** with the path to a platform-specific upgrade package that matches the version of GitHub Enterprise Server already running on the appliance. You cannot use a universal hotpatch upgrade package, such as `github-enterprise-2.11.9.hpkg`. After the `ghe-upgrade` command completes, application services will automatically terminate.

   ```
   ghe-upgrade PACKAGE-NAME.pkg -s -t /dev/xvdg1
   ```

6. Shut down the appliance:

   ```
   sudo poweroff
   ```

7. In the hypervisor, remove the old root disk and attach the new root disk at the same location as the old root disk.

8. Start the appliance.

9. Ensure system services are functioning correctly, then release maintenance mode. For more information, see "Enabling and scheduling maintenance mode."

If your appliance is configured for high-availability or geo-replication, remember to start replication on each replica node using `ghe-repl-start` after the storage on all nodes has been upgraded.