

Creating a pre-receive hook environment

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To execute pre-receive hooks, use either the default pre-receive environment, or create a custom environment.

A pre-receive environment for GitHub Enterprise Server is a Linux [chroot](#) environment. Because pre-receive hooks execute on every push event, they should be fast and lightweight. The environment needed for such checks will typically be minimal.

GitHub Enterprise Server provides a default environment which includes these packages: `awk`, `bash`, `coreutils`, `curl`, `find`, `gnupg`, `grep`, `jq`, `sed`.

If you have a specific requirement that isn't met by this environment, such as support for a particular language, you can create and upload your own 64-bit Linux `chroot` environment.

Creating a pre-receive hook environment using Docker

You can use a Linux container management tool to build a pre-receive hook environment. This example uses [Alpine Linux](#) and [Docker](#).

- 1 [Ensure Docker is installed](#) locally.
- 2 Create the file `Dockerfile.alpine` that contains this information:

```
FROM alpine:latest
RUN apk add --no-cache git bash
```

- 3 From the working directory that contains `Dockerfile.alpine`, build an image:

```
$ docker build -f Dockerfile.alpine -t pre-receive.alpine .
> Sending build context to Docker daemon 12.29 kB
> Step 1 : FROM alpine:latest
> ---> 8944964f99f4
> Step 2 : RUN apk add --no-cache git bash
> ---> Using cache
> ---> 0250ab3be9c5
> Successfully built 0250ab3be9c5
```

- 4 Create a container:

```
docker create --name pre-receive.alpine pre-receive.alpine /bin/true
```

- 5 Export the Docker container to a `gzip` compressed `tar` file:

```
docker export pre-receive.alpine | gzip > alpine.tar.gz
```

This file `alpine.tar.gz` is ready to be uploaded to the GitHub Enterprise Server appliance.

Creating a pre-receive hook environment using chroot

- 1 Create a Linux `chroot` environment.
- 2 Create a `gzip` compressed `tar` file of the `chroot` directory.

```
cd /path/to/chroot
tar -czf /path/to/pre-receive-environment.tar.gz .
```

Notes:

- Do not include leading directory paths of files within the tar archive, such as `/path/to/chroot`.
- `/bin/sh` must exist and be executable, as the entry point into the chroot environment.
- Unlike traditional chroots, the `dev` directory is not required by the chroot environment for pre-receive hooks.

For more information about creating a chroot environment see "[Chroot](#)" from the *Debian Wiki*, "[BasicChroot](#)" from the *Ubuntu Community Help Wiki*, or "[Installing Alpine Linux in a chroot](#)" from the *Alpine Linux Wiki*.

Uploading a pre-receive hook environment on GitHub Enterprise Server

- 1 In the top-right corner of GitHub Enterprise Server, click your profile photo, then click **Enterprise settings**.



- 2 In the enterprise account sidebar, click ⚙️ **Settings**.
- 3 Under "⚙️ Settings", click **Hooks**.
- 4 Click **Manage environments**.
- 5 Click **Add environment**.
- 6 In the "Environment name" field, enter the desired name.
- 7 In the "Upload environment from a URL" field, enter the URL of the *.tar.gz file that contains your environment.
- 8 Click **Add environment**.

Uploading a pre-receive hook environment via the administrative shell [🔗](#)

- 1 Upload a readable *.tar.gz file that contains your environment to a web host and copy the URL or transfer the file to the GitHub Enterprise Server appliance via scp . When using scp , you may need to adjust the *.tar.gz file permissions so that the file is world readable.
- 2 Connect to the administrative shell.
- 3 Use the ghe-hook-env-create command and type the name you want for the environment as the first argument and the full local path or URL of a *.tar.gz file that contains your environment as the second argument.

```
admin@ghe-host:~$ ghe-hook-env-create AlpineTestEnv
/home/admin/alpine.tar.gz
> Pre-receive hook environment 'AlpineTestEnv' (2) has been created.
```

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