

# Diffusion Models Bootcamp Step 1 - Setup Laboratory Repo

**Note:** These instructions assume you have already followed basic Vector cluster account setup, including initial access, changing your password, and setting up multifactor authentication. These instructions have been sent to you from the Vector Ops Team. Multifactor authentication is now required upon all connections to the Vector cluster.

Overview: In this section, you will create ssh keys on the Vector cluster in order to connect to the rag\_bootcamp GitHub repository. You will need to add these ssh keys to your GitHub profile in order to access code.

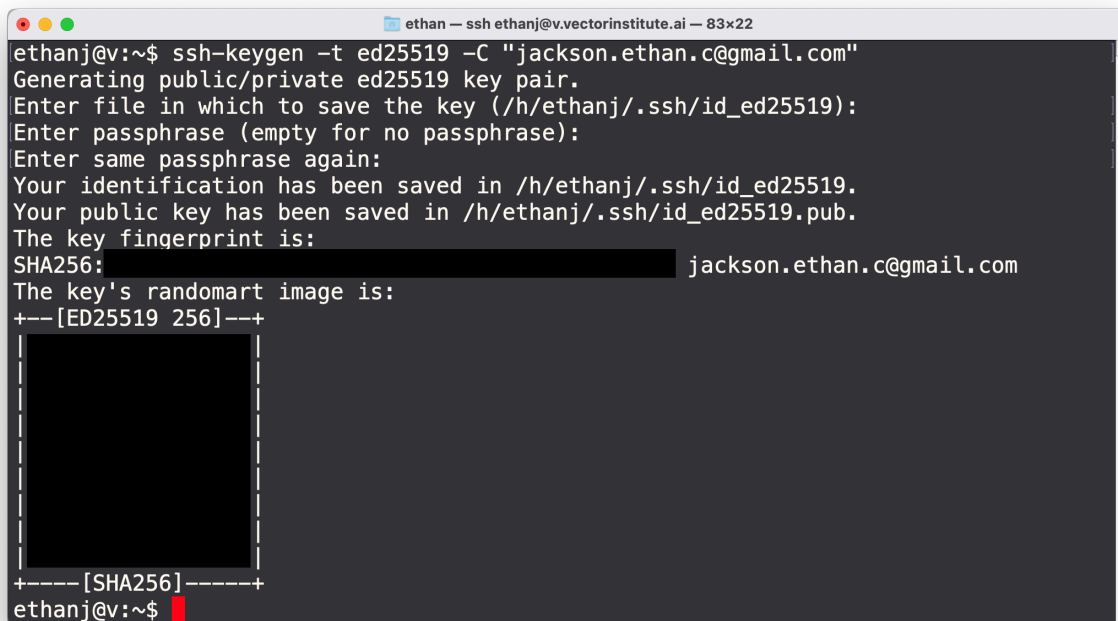
1. Login to Vaughan (Vector cluster) over ssh using your login credentials (replace **username** with your own Vector username). **If you are using Windows**, use Windows PowerShell to run local commands, including the following one. Otherwise, use Terminal.

```
ssh <username>@v.vectorinstitute.ai
```

2. Once logged into Vaughan, create ssh keys (replace **your\_email@example.com** with your GitHub account email address. For additional reference, see information [here](#).

```
ssh-keygen -t ed25519 -C "your_email@example.com"
```

When prompted to choose a file in which to save the key, just press Enter for the default.

A terminal window titled 'ethan — ssh ethanj@v.vectorinstitute.ai — 83x22'. The user 'ethanj' is at the prompt '~\$'. They run 'ssh-keygen -t ed25519 -C "jackson.ethan.c@gmail.com"'. The terminal shows the process of generating a public/private key pair. It prompts for a file to save the key (defaulting to /h/ethanj/.ssh/id\_ed25519), then for a passphrase (empty), and then to confirm the passphrase. It then shows the key's fingerprint (SHA256) and a randomart image. The randomart image is a square with a dashed border and a pattern of dots. The terminal ends with the prompt 'ethanj@v:~\$' and a red cursor.

```
ethanj@v:~$ ssh-keygen -t ed25519 -C "jackson.ethan.c@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/h/ethanj/.ssh/id_ed25519):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /h/ethanj/.ssh/id_ed25519.
Your public key has been saved in /h/ethanj/.ssh/id_ed25519.pub.
The key fingerprint is:
SHA256: [redacted] jackson.ethan.c@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|
|
|
|
|
+----[SHA256]-----+
ethanj@v:~$
```

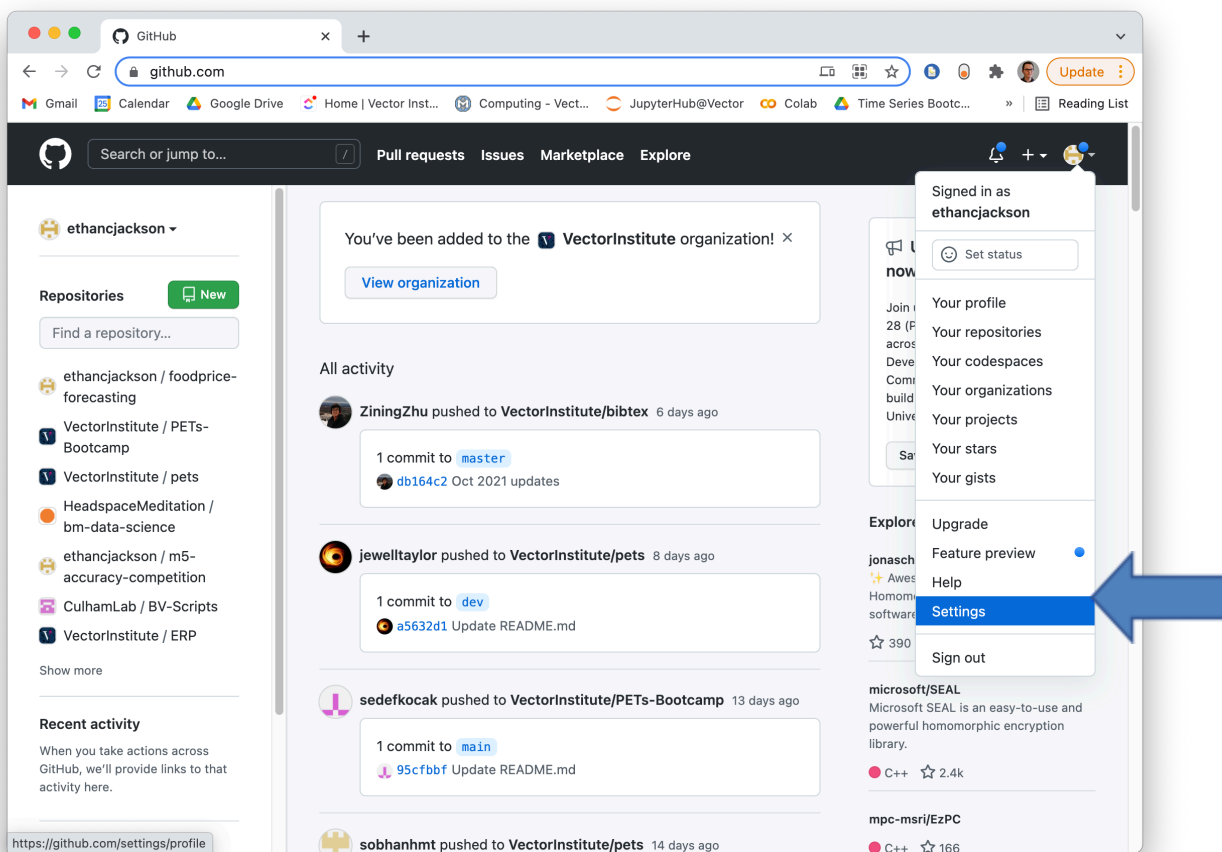
3. Show your **public key** in the terminal and copy it to the clipboard.

```
cat $HOME/.ssh/id_ed25519.pub
```

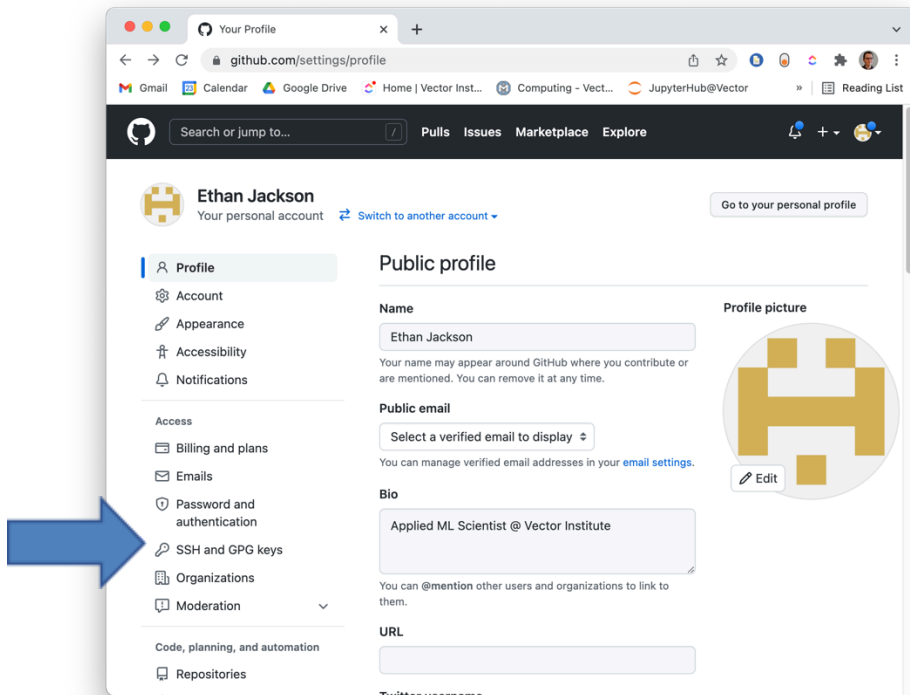
This entire line is my personal key. Don't use this one, use the output in your terminal!

```
ethan — ssh ethanj@v.vectorinstitute.ai — 107x9
ethanj@v:~$ cat /h/ethanj/.ssh/id_ed25519.pub
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIAhZUHQ3yASMkXjpmmhNvuWwRt5wd+0sSnfdV90BpVS7 jackson.ethan.c@gmail.com
ethanj@v:~$
```

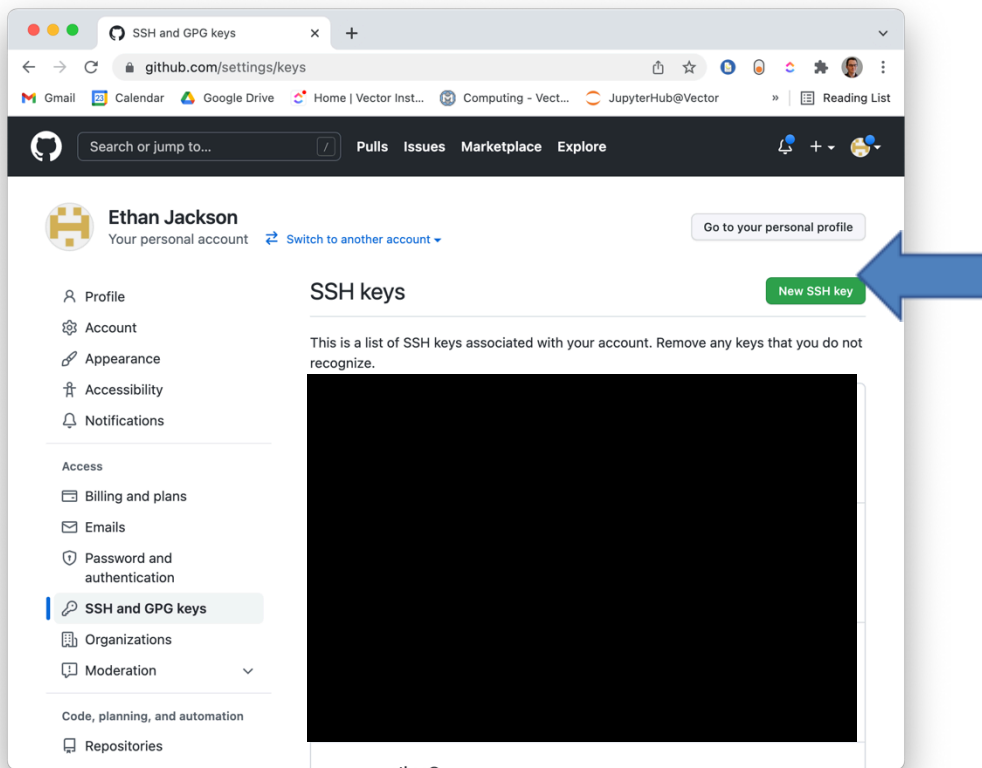
4. Add this ssh key to your GitHub profile.
  - a. Log into your GitHub account and navigate to Settings.



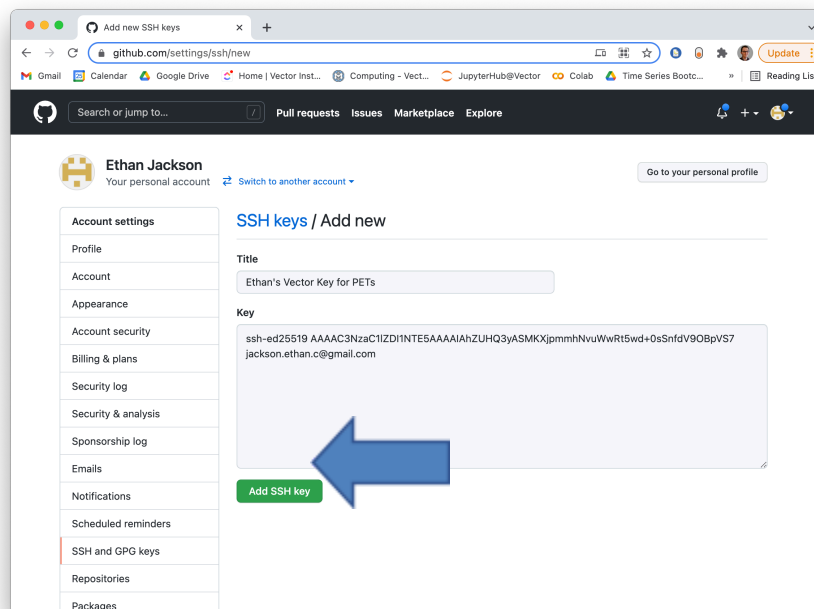
b. Navigate to the SSH and GPG keys page.



C. Click on the “New SSH key” button



- d. Give your key a title and paste your public ssh key into the key field. Complete the process by clicking “Add SSH key”. **Be sure to use your own personal public key!**



- e. Finally, you may be required to enter your GitHub password to complete the process.

5. Return to your terminal session and clone the `diffusion_model_bootcamp` repository into your home directory.

```
git clone git@github.com:VectorInstitute/diffusion_model_bootcamp.git
```

```
(p3.9) sayromlou@v3:~/test$ git clone git@github.com:VectorInstitute/diffusion_model_bootcamp.git
Cloning into 'diffusion_model_bootcamp'...
remote: Enumerating objects: 2219, done.
remote: Counting objects: 100% (458/458), done.
remote: Compressing objects: 100% (224/224), done.
remote: Total 2219 (delta 229), reused 439 (delta 223), pack-reused 1761
Receiving objects: 100% (2219/2219), 137.50 MiB | 30.40 MiB/s, done.
Resolving deltas: 100% (1207/1207), done.
Checking out files: 100% (468/468), done.
```

If the Github repository is private, then the above command will fail with a "Repository not found" message. In this case, an administrator will need to add the individual github user accounts via the following url: [https://github.com/VectorInstitute/diffusion\\_model\\_bootcamp](https://github.com/VectorInstitute/diffusion_model_bootcamp)

6. Once you have successfully cloned the `diffusion_model_bootcamp` repository, please proceed to setting up VPN and JupyterHub access.