

SSH Setup for Git (Complete Step-by-Step Guide)

System

Linux / macOS / WSL (Windows Subsystem for Linux). If you're on Windows Git Bash, ask for a tailored version.

Where to Run

You can run these commands from any directory. The home directory is fine.

Step 1: Open Terminal

Just open your terminal. No need to change directories.

Step 2: Generate SSH Key

Run:

ssh-keygen -t ed25519 -C [your_email@example.com](#)

```
vipul@DESKTOP-107S3T2 MINGW64 ~
$ ssh-keygen -t ed25519 -C "thevipulgaikwad@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/c/Users/ASUS/.ssh/id_ed25519):
Enter passphrase for "/c/Users/ASUS/.ssh/id_ed25519" (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/ASUS/.ssh/id_ed25519
Your public key has been saved in /c/Users/ASUS/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:7DnDCKmXC3R/HU51e3+dkH/REuzNMvMIXgPikuObQ0 thevipulgaikwad@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|
|  o   o o
| . o   o *
| o ... + +
| o ... + +
|...o...S. + + B.|
|+.....E .o . 0.0|
|..   . 0. . 0 X.|
|   .o.+ o o. |
|   .o+   . .o|
|+-----[SHA256]-----+
vipul@DESKTOP-107S3T2 MINGW64 ~
$
```

Press Enter to accept the default location.

When prompted for a passphrase, press Enter twice to skip.

Step 3: Start the SSH Agent

Run:

eval "\$(ssh-agent -s)"

```
vipul@DESKTOP-107S3T2 MINGW64 ~
$ eval "$(ssh-agent -s)"
Agent pid 746
```

You'll see something like: Agent pid 1234

Step 4: Add Your Private Key to the SSH Agent

Run:

ssh-add ~/.ssh/id_ed25519

```
vipul@DESKTOP-I07S3T2 MINGW64 ~
$ ssh-add ~/.ssh/id_ed25519
Identity added: /c/Users/ASUS/.ssh/id_ed25519 (thevipulgaikwad@gmail.com)
```

If you get an error, re-run `eval "$(ssh-agent -s)"` and try again.

Step 5: Copy Your Public Key

Run:

cat ~/.ssh/id_ed25519.pub

Copy the output that starts with `ssh-ed25519`.

Step 6: Add SSH Key to GitHub / GitLab / Bitbucket

GitHub:

1. Visit <https://github.com/settings/keys>
2. Click 'New SSH Key'
3. Paste your key and save.

GitLab:

Visit <https://gitlab.com/-/profile/keys>

Bitbucket:

Visit <https://bitbucket.org/account/settings/ssh-keys/>

Step 7: Test Your SSH Connection

GitHub:

ssh -T git@github.com

```
vipul@DESKTOP-I07S3T2 MINGW64 ~/.ssh
$ ssh -T git@github.com
The authenticity of host 'github.com (20.207.73.82)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCOqU.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
Hi vipulvr! You've successfully authenticated, but GitHub does not provide shell access.
```

GitLab:

ssh -T git@gitlab.com

Expected message: 'Hi your-username! You've successfully authenticated.'

Step 8: Clone a Repo Using SSH

Use:

```
git clone git@github.com:your-username/your-repo.git
```