

# GitHub SSH + Git Setup Guide (Windows, PowerShell & Git Bash)

A complete end-to-end guide to setting up Git, GitHub, SSH keys, Git LFS, and pushing repositories using SSH on Windows.

## 0) Install the Tools

- Install Git for Windows from <https://git-scm.com/download/win> (includes Git Bash & Credential Manager).
- Optionally install Git LFS: `winget install -e --id GitHub.GitLFS`
- Install Python module git-filter-repo if needed: `python -m pip install git-filter-repo`

## 1) Configure Git Globally

- `git config --global user.name "Your Name"`
- `git config --global user.email "you@example.com"`
- `git config --global init.defaultBranch main`

## 2) Create an SSH Key

- PowerShell: `ssh-keygen -t ed25519 -C "you@example.com" -f "$env:USERPROFILE\.ssh\id_ed25519"`
- Git Bash: `ssh-keygen -t ed25519 -C "you@example.com" -f ~/.ssh/id_ed25519`

## 3) Start SSH-Agent and Add Key

- PowerShell: `Get-Service ssh-agent | Set-Service -StartupType Automatic`
- `Start-Service ssh-agent`
- `ssh-add "$env:USERPROFILE\.ssh\id_ed25519"`

## 4) Copy Public Key to Clipboard

- PowerShell: `Get-Content -Raw "$env:USERPROFILE\.ssh\id_ed25519.pub" | Set-Clipboard`
- Git Bash: `clip < ~/.ssh/id_ed25519.pub`

## 5) Add Key to GitHub

- On GitHub → Settings → SSH and GPG Keys → New SSH key.
- Paste the copied key (starts with `ssh-ed25519`) and save.

## 6) Test SSH Access

- `ssh -T git@github.com` → should show success message.

## 7) Create a Repository and Push

- `git init`
- `git add -A`
- `git commit -m "Initial commit"`

- `git branch -M main`
- `git remote add origin git@github.com:USERNAME/REPO.git`
- `git push -u origin main`

## 8) Handle Large Files (Git LFS)

- `git lfs install`
- `git lfs track "*.mov" "*.mp4" "*.exr"`
- `git add .gitattributes`
- `git commit -m "Enable Git LFS"`

## 9) Common .gitignore Rules

- `*.mov, *.mp4, *.exr, *.zip, *.rar, *.bak, backup/*, ffmpeg/`

## 10) Troubleshooting

- Permission denied (publickey): ensure key added and ssh-agent running.
- Large file (>100MB): use `git-filter-repo` to remove and force push.
- origin missing: `git remote add origin git@github.com:USER/REPO.git`

Author: Martin Heigan (mh\_tools) — A compact reference for maintaining private repositories efficiently on GitHub.