Great! Using **SSH authentication** with GitHub is a secure and convenient way to avoid entering credentials repeatedly. Here's a full step-by-step guide:

## ✅ ****Step-by-Step: Set Up SSH Authentication for GitHub****

### 🔹 ****1. Check for existing SSH keys (optional)****

Open your terminal and run:

ls -al ~/.ssh

Look for files like:

id\_rsa / id\_ed25519

id\_rsa.pub / id\_ed25519.pub

If you have them already, you can reuse them. If not, move to step 2.

### 🔹 ****2. Generate a new SSH key****

Run the following (replace your email with your GitHub email):

ssh-keygen -t ed25519 -C "your\_email@example.com"

If you get an error that ed25519 is not supported, use rsa instead:

ssh-keygen -t rsa -b 4096 -C "your\_email@example.com"

When prompted:

**File location**: Press Enter to accept the default (~/.ssh/id\_ed25519)

**Passphrase**: Optional (adds extra security)

### 🔹 ****3. Add your SSH key to the ssh-agent****

Start the agent:

eval "$(ssh-agent -s)"

Then add your key:

ssh-add ~/.ssh/id\_ed25519

### 🔹 ****4. Add the SSH key to your GitHub account****

Copy your public key to your clipboard:

cat ~/.ssh/id\_ed25519.pub

Copy the full output.

Then:

Go to **GitHub → Settings → SSH and GPG keys**:  
<https://github.com/settings/keys>

Click **"New SSH key"**

Title: anything (e.g., “My Laptop”)

Paste your copied key into the box

Click **"Add SSH key"**

### 🔹 ****5. Change your Git remote URL to SSH****

If your remote uses HTTPS, change it to SSH:

First, check your current remote:

git remote -v

Then switch it:

git remote set-url origin git@github.com:USERNAME/REPO.git

Example:

git remote set-url origin git@github.com:MARIUMAFTABKHAN/Git-Course.git

### 🔹 ****6. Test the SSH connection****

Run:

ssh -T git@github.com

You should see something like:

Hi USERNAME! You've successfully authenticated, but GitHub does not provide shell access.

### 🔹 ****7. Now Push Your Code****

You can now push without entering a username/password:

git push -u origin master

Let me know if you run into any issues at any step!