

# Add your credentials to your Linux machine

To add your credentials to your Linux machine and make it trusted from your GitHub account using the installed Git and SSH, follow these step-by-step instructions:

1. **Open a terminal on your Linux PC.**

2. **initiate**

```
git config --global user.name "scrwho"
git config --global user.name
git config --global user.email "scrwho@gmail.com"
git config --global user.email
```

4. **Generate a new SSH key pair** by running the following command:

```
ssh-keygen -t rsa -b 4096 -C "your_email@example.com"

ssh-keygen -t rsa -b 4096 -C "scrwho@gmail.com"
```

Replace `your_email@example.com` with the email address associated with your GitHub account.

3. **When prompted, press Enter to accept the default location** for storing the key pair ( `~/.ssh/id_rsa` ). You can also provide a custom path if desired.

4. **Enter a secure passphrase** when prompted, or leave it blank if you don't want to use a passphrase (not recommended).

5. **Add the new SSH key to the ssh-agent** by running the following commands:

```
eval "$(ssh-agent -s)"
ssh-add ~/.ssh/id_rsa
```

Enter your passphrase (if you set one) when prompted.

6. **Copy the public key** to your clipboard by running:

```
cat ~/.ssh/id_rsa.pub
```

Select and copy the entire output (which starts with `ssh-rsa` and ends with your email address).

```
https://github.com/settings/keys
```

7. **Open your GitHub account** in a web browser and navigate to the "Settings" page.
8. **Click on "SSH and GPG keys"** in the left sidebar.
9. **Click on "New SSH key"** and provide a descriptive title for the new key (e.g., "Linux PC").
10. **Paste the copied public key** from step 6 into the "Key" text area.
11. **Click "Add SSH key"** to save the new key.
12. **Verify the SSH connection** by running the following command in your terminal:

```
ssh -T git@github.com
```

If you see a message like

Hi username! You've successfully authenticated, but GitHub does not provide shell access. , your SSH key has been added successfully.

That's it! Your Linux machine is now trusted by GitHub using the installed Git and SSH. You can now use Git over SSH for securely communicating with GitHub repositories without needing to enter your GitHub credentials every time.

Note: If you encounter any issues or errors during this process, double-check that you've followed the steps correctly and that your SSH key was properly added to your GitHub account.

## gh auth login

To install the `gh` command-line tool for GitHub on your terminal, follow these steps:

1. **Install Git:** If you haven't already, install Git on your system. You can download it from the official Git website: <https://git-scm.com/downloads>
2. **Install the GitHub CLI:** You can install the GitHub CLI ( `gh` ) using a package manager or by downloading a binary from the GitHub repository.

### Option 1: Using a Package Manager

- **macOS** (with Homebrew):

```
curl -sS https://webi.sh/gh | sh  
brew install gh
```

- **Windows** (with Chocolatey):

```
choco install gh
```

- **Linux** (with APT):

```
sudo apt-get install gh
```

### Option 2: Downloading a Binary

- Visit the GitHub CLI releases page: <https://github.com/cli/cli/releases/latest>
- choose the binary depending on your OS
- Download the binary for your operating system and architecture.
- Unzip the downloaded file.
- Move the `gh` binary to a directory included in your system's `PATH`.

3. **Verify the Installation:** Open a new terminal window and run the following command to verify that the `gh` command is installed and available:

```
gh --version
```

This should print the version of the GitHub CLI that you have installed.

After installing the `gh` command-line tool, you can use it to interact with GitHub from your terminal. Some common commands include:

- `gh repo view` : View information about the current repository.
- `gh pr list` : List open pull requests in the current repository.
- `gh issue create` : Create a new issue in the current repository.
- `gh auth login` : Authenticate with your GitHub account.

You can explore more commands and options by running `gh help` or referring to the official GitHub CLI documentation: <https://cli.github.com/manual/>

## Authenticate with a GitHub host.

The default authentication mode is a web-based browser flow. After completion, an authentication token will be stored securely in the system credential store. If a credential store is not found or there is an issue using it `gh` will fallback to writing the token to a plain text file. See `gh auth status` for its stored location.

Alternatively, use `--with-token` to pass in a token on standard input. The minimum required scopes for the token are: `repo`, `read:org`, and `gist`.

Alternatively, gh will use the authentication token found in environment variables. This method is most suitable for "headless" use of gh such as in automation. See `gh help environment` for more info.

To use gh in GitHub Actions, add `GH_TOKEN: ${github.token}` to env.

The git protocol to use for git operations on this host can be set with `--git-protocol`, or during the interactive prompting. Although login is for a single account on a host, setting the git protocol will take effect for all users on the host.

Specifying ssh for the git protocol will detect existing SSH keys to upload, prompting to create and upload a new key if one is not found. This can be skipped with `--skip-ssh-key` flag.

## Options

- `-p, --git-protocol <string>`  
The protocol to use for git operations on this host: {ssh|https}
- `-h, --hostname <string>`  
The hostname of the GitHub instance to authenticate with
- `--insecure-storage`  
Save authentication credentials in plain text instead of credential store
- `-s, --scopes <strings>`  
Additional authentication scopes to request
- `--skip-ssh-key`  
Skip generate/upload SSH key prompt
- `-w, --web`  
Open a browser to authenticate
- `--with-token`  
Read token from standard input

## Examples

```
# Start interactive setup
$ gh auth login
```

```
# Authenticate against github.com by reading the token from a file
$ gh auth login --with-token < mytoken.txt
```

```
# Authenticate with specific host
$ gh auth login --hostname enterprise.internal
```

- Follow the on-screen prompts.
- GitHub CLI automatically stores your Git credentials for you when you choose HTTPS as your preferred protocol for Git operations and answer "yes" to the prompt asking if you would like to authenticate to Git with your GitHub credentials. This can be useful as it allows you to use Git commands like `git push` and `git pull` without needing to set up a separate credential manager or use SSH.

Work seamlessly with GitHub from the command line.

## Core commands

- `gh auth`
- `gh browse`
- `gh codespace`
- `gh gist`
- `gh issue`
- `gh org`
- `gh pr`
- `gh project`
- `gh release`
- `gh repo`

## GitHub Actions commands

- `gh cache`
- `gh run`
- `gh workflow`

## Additional commands

- `gh alias`
- `gh api`
- `gh attestation`
- `gh completion`
- `gh config`
- `gh extension`
- `gh gpg-key`
- `gh label`

- `gh ruleset`
- `gh search`
- `gh secret`
- `gh ssh-key`
- `gh status`
- `gh variable`

## Options

- `--version`  
Show gh version

## Examples

```
$ gh issue create
$ gh repo clone cli/cli
$ gh pr checkout 321
```

# push a cloned repository to Git with a new branch,

To push a cloned repository to Git with a new branch, you can follow these steps:

### 1. Clone the Repository:

If you haven't already, clone the repository to your local machine using the `git clone` command:

```
git clone <repository_url>
```

### 2. Navigate to the Cloned Repository:

Change your directory to the cloned repository:

```
cd <repository_name>
```

### 3. Create a New Branch:

Create a new branch locally using the `git checkout` command:

```
git checkout -b <new_branch_name>
```

```
git checkout -b project_branch
```

```
git checkout project_branch
```

#### 4. **Make Changes and Commit:**

Make the necessary changes to the code or files in your local repository. Once you're satisfied with the changes, stage them and commit to the new branch:

```
git add .  
git commit -m "Your commit message"
```

```
git add .  
git commit -m "a project_branch branch"
```

#### 5. **Push the New Branch to Remote:**

Push the new branch to the remote repository (usually named `origin` by default) using the `git push` command:

```
git push origin <new_branch_name>
```

```
git push origin project_branch
```

#### 6. **Verify on Git Hosting Platform:**

Visit your Git hosting platform (e.g., GitHub, GitLab, Bitbucket) and navigate to your repository. You should see the newly pushed branch listed.

#### 7. **Create a Pull Request (Optional):**

If you're collaborating with others or if your repository is managed using a pull request workflow, you can create a pull request from your new branch to the main branch (or another target branch). This allows others to review your changes before merging.

That's it! You've successfully pushed your cloned repository to Git with a new branch. You can continue working on your branch, making changes, committing, and pushing them as needed.

# To push your branch to the main branch (or another target branch) for review,

To push your branch to the main branch (or another target branch) for review, you typically use a pull request workflow. Here's how you can do it:

## 1. Ensure Your Branch is Up-to-Date:

Before creating a pull request, make sure your branch is up-to-date with the latest changes from the main branch. You can do this by fetching the latest changes from the remote repository and merging them into your branch:

```
git fetch origin
git merge origin/main
```

## 2. Push Your Branch to Remote:

Push your branch to the remote repository (origin) if you haven't already done so:

```
git push origin <your_branch_name>

git push origin project_branch
```

## 3. Create a Pull Request:

Go to your Git hosting platform (e.g., GitHub, GitLab, Bitbucket) and navigate to your repository.

- Find the option to create a new pull request. This is usually located prominently on the repository's page.
- Select your branch as the source branch and the main branch (or another target branch) as the target branch.
- Provide a title and description for your pull request, detailing what changes you've made and why.
- Review any changes, additions, or deletions that are part of your pull request.
- If everything looks good, submit the pull request.

## 4. Notify Reviewers (Optional):

If there are specific individuals or teams responsible for reviewing code changes, you may want to notify them about your pull request. Some platforms allow you to tag users or teams in pull request descriptions or comments.

## 5. Address Feedback:

Once your pull request is created, reviewers may provide feedback or request changes. Address



their feedback by making additional commits to your branch. You can push these changes to the same branch, and they will be automatically added to the pull request.

## 6. **Merge the Pull Request:**

Once your pull request has been approved and any necessary changes have been made, you can merge it into the target branch. This can usually be done directly on the pull request page on your Git hosting platform.

## 7. **Delete Your Branch (Optional):**

After your pull request has been merged, you may choose to delete your branch to keep the repository clean:

```
git branch -d <your_branch_name> # Locally
git push origin --delete <your_branch_name> # Remotely
```

```
git branch -d project_branch # Locally
git push origin --delete project_branch # Remotely
```

That's it! You've successfully pushed your branch to the main branch for review using a pull request workflow.

# To update your local Git repository and push changes

To update your local Git repository and push changes to the `project_branch` on GitHub, follow these steps:

## 1. **Check Current Branch:**

First, ensure you are on the branch you want to update. You can check the current branch with:

```
git branch
```

## 2. **Switch to the Branch:**

If you are not on the `project_branch`, switch to it using:

```
git checkout project_branch
```

## 3. **Add and Commit Changes:**

Add any changes you've made to your local repository:

```
git add .
```

Commit the changes:

```
git commit -m "Your commit message here"
```

#### 4. **Push Changes to GitHub:**

Push the committed changes to the `project_branch` on GitHub:

```
git push origin project_branch
```

#### 5. **Verify Changes on GitHub:**

Go to your GitHub repository in your web browser and navigate to the `project_branch` to verify that the changes have been pushed successfully.

These steps will update your local Git repository with any changes you've made and push those changes to the `project_branch` on GitHub. Make sure to replace "Your commit message here" with a descriptive commit message explaining the changes you've made.

## Merging via command line

If you do not want to use the merge button or an automatic merge cannot be performed, you can perform a manual merge on the command line. However, the following steps are not applicable if the base branch is protected.

```
https://github.com/project/oscar-git.git
```

Step 1: Clone the repository or update your local repository with the latest changes.

```
git pull origin main
```

Step 2: Switch to the base branch of the pull request.

```
git checkout main
```

Step 3: Merge the head branch into the base branch.

```
git merge project_branch
```

Step 4: Push the changes.

```
git push -u origin main
```

# To request a review of the main repository on GitHub

To request a review of the main repository on GitHub, you can follow these steps:

1. **Create a new branch:** First, create a new branch from the `main` branch. You can do this by running the following command in your local repository:

```
git checkout -b my-new-branch
```

This will create a new branch called `my-new-branch` and switch to it.

2. **Make your changes:** Now, you can make your desired changes to the codebase in this new branch.
3. **Commit your changes:** After making your changes, you need to commit them to your local branch. You can do this by running the following commands:

```
git add .  
git commit -m "Add my changes"
```

4. **Push your branch to the remote repository:** Next, push your new branch to the remote repository on GitHub by running:

```
git push origin my-new-branch
```

5. **Open a Pull Request:** Once your branch has been pushed to the remote repository, navigate to the repository on GitHub and you should see a prompt to create a new Pull Request. Click on the "Compare & pull request" button.
6. **Review your changes:** On the Pull Request page, you can review the changes you've made and add a descriptive title and comment explaining the purpose of your changes.
7. **Request a review:** In the right sidebar of the Pull Request page, you should see a "Reviewers" section. Here, you can click on the gear icon and select the appropriate reviewers from the list of collaborators or teams. You can also directly mention the usernames of the desired reviewers by typing the `@` symbol followed by their username in the Pull Request description or comments.
8. **Wait for the review:** Once you've requested a review, the selected reviewers will be notified, and they can review your changes, provide feedback, and approve or request further changes to the Pull Request.

9. **Address feedback and merge:** If the reviewers suggest any changes, you can make the necessary updates in your branch, commit, and push the changes to the same branch. The Pull Request will automatically update with the new commits. Once the reviewers approve the changes, you can merge the Pull Request into the `main` branch.

By following these steps, you can request a review of your changes from the desired reviewers before merging your code into the `main` branch of the repository.

To request a review of a main repository on GitHub, you typically don't request a review of the entire repository but rather specific changes made in a branch. Here's how you can do it:

**1. Create a Pull Request (PR) for Your Changes:**

- Navigate to your repository on GitHub.
- Click on the "Pull requests" tab.
- Click on the green "New pull request" button.
- Choose the branch that contains your changes as the "compare" branch, and the main branch (e.g., `main` or `master`) as the "base" branch.

**2. Provide Details and Select Reviewers:**

- Write a descriptive title and description for your pull request, explaining the changes you've made.
- Scroll down to the "Reviewers" section on the right side.
- Type the username or name of the person you want to request a review from.
- GitHub will suggest users based on what you type. Select the appropriate user.

**3. Create the Pull Request:**

- Once you've added the reviewers and provided all necessary information, click on the "Create pull request" button.

**4. Review and Approval:**

- The user you requested a review from will receive a notification about the pull request.
- They can then review the changes, leave comments, suggest modifications, and approve the pull request if everything looks good.

By following these steps, you can request a review of specific changes in your main repository on GitHub. This allows reviewers to focus on the specific code modifications you've made rather than the entire repository.

To notify reviewers on GitHub, follow these step-by-step instructions:

### 1. Open the Pull Request (PR):

- Navigate to your repository on GitHub.
- Go to the "Pull requests" tab.
- Click on the pull request you want to notify reviewers about.

### 2. Add Reviewers:

- On the right side of the PR page, you'll see a section labeled "Reviewers."
- Click on "Reviewers" to expand the section.
- Start typing the username or name of the person you want to notify.
- GitHub will suggest users based on what you type. Click on the appropriate user to add them as a reviewer.

### 3. Review Request:

- Once you've added the desired reviewers, GitHub will automatically send them a notification about your pull request.
- The reviewers will receive a notification in their GitHub account and/or via email, depending on their notification settings.
- They can then review your pull request, leave comments, suggest changes, and approve the changes if everything looks good.

### 4. Optional: Mention Reviewers in Comments:

- If you want to directly notify a reviewer about something specific in the pull request, you can mention them in a comment.
- In the comment box, type "@" followed by the username of the reviewer (e.g., "@username").
- GitHub will suggest users as you type. Select the appropriate user from the suggestions.
- Write your comment and submit it. The mentioned reviewer will receive a notification about the comment.

### 5. Confirm Notification:

- You can confirm that the reviewers have been notified by checking the list of reviewers on the pull request page. You should see the usernames of the reviewers you added.

By following these steps, you can notify reviewers on GitHub about your pull request, ensuring that they are aware of the changes and can provide feedback and approval as needed.

To request a review of the main repository on GitHub, you can follow these steps:

1. **Create a new branch:** First, create a new branch from the `main` branch. You can do this by running the following command in your local repository:

```
git checkout -b my-new-branch
```

This will create a new branch called `my-new-branch` and switch to it.

2. **Make your changes:** Now, you can make your desired changes to the codebase in this new branch.
3. **Commit your changes:** After making your changes, you need to commit them to your local branch. You can do this by running the following commands:

```
git add .  
git commit -m "Add my changes"
```

4. **Push your branch to the remote repository:** Next, push your new branch to the remote repository on GitHub by running:

```
git push origin my-new-branch
```

5. **Open a Pull Request:** Once your branch has been pushed to the remote repository, navigate to the repository on GitHub and you should see a prompt to create a new Pull Request. Click on the "Compare & pull request" button.
6. **Review your changes:** On the Pull Request page, you can review the changes you've made and add a descriptive title and comment explaining the purpose of your changes.
7. **Request a review:** In the right sidebar of the Pull Request page, you should see a "Reviewers" section. Here, you can click on the gear icon and select the appropriate reviewers from the list of collaborators or teams. You can also directly mention the usernames of the desired reviewers by typing the @ symbol followed by their username in the Pull Request description or comments.
8. **Wait for the review:** Once you've requested a review, the selected reviewers will be notified, and they can review your changes, provide feedback, and approve or request further changes to the Pull Request.
9. **Address feedback and merge:** If the reviewers suggest any changes, you can make the necessary updates in your branch, commit, and push the changes to the same branch. The Pull Request will automatically update with the new commits. Once the reviewers approve the changes, you can merge the Pull Request into the `main` branch.

By following these steps, you can request a review of your changes from the desired reviewers before merging your code into the `main` branch of the repository.

# To undo a merge to the main branch on GitHub

To undo a merge to the main branch on GitHub, you can follow these steps:

1. **Open the Pull Request:**

Navigate to the Pull Request (PR) that resulted in the merge to the main branch.

2. **Identify the Commit ID:**

Find the commit ID of the merge commit. This is usually displayed in the PR interface or in the commit history of your repository.

3. **Copy the Commit ID:**

Copy the commit ID of the merge commit to your clipboard.

4. **Open a Terminal or Command Prompt:**

Open a terminal or command prompt on your local machine.

5. **Checkout the Main Branch:**

Use the following command to switch to the main branch:

```
git checkout main
```

6. **Revert the Merge Commit:**

Use the following command to revert the merge commit:

```
git revert <commit-id>
```

```
git revert a3d6325
```

Replace `<commit-id>` with the commit ID of the merge commit you copied earlier.

7. **Push Changes to GitHub:**

After reverting the merge commit locally, push the changes to your GitHub repository:

```
git push origin main
```

8. **Confirm Reverted Changes:**

Go to your GitHub repository and verify that the changes have been reverted successfully. The main branch should no longer contain the merged changes.

By following these steps, you can effectively undo a merge to the main branch on GitHub by reverting the merge commit. This preserves the commit history while removing the changes introduced by the merge.

# To undo all merges and revert the main branch to its state before any merges

To undo all merges and revert the main branch to its state before any merges were made, you can follow these steps:

## 1. Identify the Commit Before the Merges:

Determine the commit ID of the main branch before any merges were made. You can use `git log` to view the commit history and identify the commit you want to revert to.

## 2. Open a Terminal or Command Prompt:

Open a terminal or command prompt on your local machine.

## 3. Checkout the Main Branch:

Use the following command to switch to the main branch:

```
git checkout main
```

## 4. Reset the Main Branch:

Use the following command to reset the main branch to the commit before any merges were made:

```
git reset --hard <commit-id>
```

```
git reset --hard git a3d6325
```

Replace `<commit-id>` with the commit ID of the main branch before any merges were made.

## 5. Force Push Changes to GitHub:

After resetting the main branch locally, force push the changes to your GitHub repository:

```
git push origin main --force
```

Note: Be cautious when using `--force` as it overwrites the history of the main branch on the remote repository.

## 6. Confirm Reset on GitHub:

Go to your GitHub repository and verify that the main branch has been reset to its state before any merges were made. The commit history should reflect the changes made by the reset.

By following these steps, you can undo all merges and revert the main branch to its state before any merges were made. This effectively removes all merged changes from the main branch's history. Make sure to communicate with your team if you're working in a collaborative environment, as this operation can affect others who may be working on the repository.



# gitignore

To create a `.gitignore` file, follow these steps:

1. Open a text editor or a terminal.
2. Navigate to the root directory of your Git repository if you're using a terminal.
3. Create a new file named `.gitignore`.

If you're using a text editor:

- Open the text editor.
- Create a new file.
- Save the file with the name `.gitignore` (including the leading dot).

If you're using a terminal:

```
touch .gitignore
```

4. Open the `.gitignore` file in your text editor.
5. Add the patterns for files or directories that you want Git to ignore. Each pattern should be on a separate line.

For example:

```
# Ignore compiled files
*.pyc

# Ignore directories
env/
node_modules/
```

This `.gitignore` file will ignore Python compiled files ( `*.pyc` ), and directories named `env` and `node_modules`.

6. Save the `.gitignore` file.
7. If you haven't already done so, add the `.gitignore` file to your Git repository and commit it.

```
git add .gitignore
git commit -m "Add .gitignore file"
```

Now, Git will ignore the files and directories specified in the `.gitignore` file.

To create a `.gitignore` file, follow these steps:

1. Open a text editor or create a new file in your project's root directory.
2. Save the file with the name `.gitignore` (note the leading period).

3. In the `.gitignore` file, add the patterns or file names you want Git to ignore. Each pattern should be on a new line.

Here are some common patterns you might want to include in your `.gitignore` file:

#### # Compiled source files

- \*.com
- \*.class
- \*.dll
- \*.exe
- \*.o
- \*.so

#### # Packages

- \*.7z
- \*.dmg
- \*.gz
- \*.iso
- \*.jar
- \*.rar
- \*.tar
- \*.zip

#### # Logs and databases

- \*.log
- \*.sql
- \*.sqlite

#### # OS-specific files

- .DS\_Store
- .DS\_Store?
- \*\_\*
- .Spotlight-V100
- .Trashes
- ehthumbs.db
- Thumbs.db

#### # Editor files

- \*.sublime-project
- \*.sublime-workspace
- \*.vscode

#### # Dependencies

- node\_modules/
- .pnp/
- .pnp.js
- .yarn/

```
# Testing
coverage/

# Environment files
.env
.env.*

# Miscellaneous
.idea/
.vscode/
*.swp
```

This is a basic `.gitignore` file that covers common patterns for compiled files, packages, logs, databases, OS-specific files, editor files, dependencies, testing, environment files, and miscellaneous files.

You can customize this file based on your project's specific needs. For example, if you're working on a Python project, you might want to add patterns like `__pycache__` , `*.pyc` , and `*.pyo` to ignore compiled Python files.

#### 4. Save the `.gitignore` file.

After creating the `.gitignore` file, Git will ignore the files and directories specified in the file when you commit your changes to the repository.

You can find more information and examples of `.gitignore` files for different programming languages and environments on the official Git documentation site: <https://git-scm.com/docs/gitignore>

To add a directory containing environment files ( `env` files) to your `.gitignore` file, follow these steps:

1. Open your `.gitignore` file in a text editor. If you don't have one, create a new file named `.gitignore` in the root directory of your Git repository.
2. Add the directory name to the `.gitignore` file. If the directory is named `env` , simply add the following line:

```
env/
```

3. Save the `.gitignore` file.
4. If you've already committed the `env` directory to your Git repository, you need to remove it from version control. You can do this by running:

```
git rm -r --cached env
```

This command removes the `env` directory from Git's index without deleting it from your file system.

5. Commit the changes to your `.gitignore` file:

```
git add .gitignore
git commit -m "Add 'env' directory to .gitignore"
```

6. From now on, changes to files in the `env` directory will be ignored by Git.

To add a directory that contains all the environment files (e.g., `.env` files) to the `.gitignore` file, you can follow these steps:

1. Open your project directory in a text editor or terminal.
2. Create a new file called `.gitignore` (if it doesn't already exist) in the root directory of your project.
3. Open the `.gitignore` file and add the following line:

```
/env/
```

This line will ignore the entire `env` directory and all files and subdirectories within it.

If you want to ignore specific environment files (e.g., `.env`, `.env.dev`, `.env.prod`) instead of the entire directory, you can add them individually to the `.gitignore` file like this:

```
.env
.env.dev
.env.prod
```

4. Save the `.gitignore` file.

After adding the `env` directory or specific environment files to the `.gitignore` file, Git will ignore these files and directories when you commit your changes to the repository.

Note: If you have already committed the environment files or directory to your Git repository, you'll need to remove them from the repository's history as well. You can do this by running the following commands:

```
git rm -r --cached env/
git commit -m "Remove env directory from the repository"
```

Replace `env/` with the path to the environment files or directory you want to remove from the repository.

By adding environment files and directories to the `.gitignore` file, you can ensure that sensitive information, such as API keys, database credentials, and other environment-specific configurations, are not accidentally committed to your Git repository.