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# # Git Get Started:

## 1) Get Started:-->

To check the Version of the Git use this command in cmd or Terminal.

---> git --version

Output---> git version 2.30.2.windows.1

To Configure Git

Now let Git know who you are.

This is important for version control systems, as each Git commit uses this information:

local user: git config --global user.name "Git-test"

local user: git config --global user.email "test@git.com"

# Creating Git Folder:

local user: mkdir myproject —> Make a directory of folder name is myproject

local user: cd myproject

#Initialize Git

Once you have navigated to the correct folder, you can initialize Git on that folder:

--> git init

(Initialize empty Git repository in /Users/user/myproject/.git)

**For Eg:- Create an Html file that contains the heading Hello World and with Paragraph.**

```
<!DOCTYPE html>
<html>
<head>
<title>Hello World!</title>
</head>
<body>
<h1>Hello world!</h1>
<p>This is the first file in my new Git Repo.</p>
</body>
</html>
```

And Save it as `index.html`

Let's go back to the terminal and list the files in our current working directory:

ls - List

### Steps:-

- a) `git init` —> This is the step of initializing the file
- b) `git ls` —> Showing the list of the files or folder
- c) `git status` —> Status of the process

---

## 2) Git Staging Environment:--->

As you are working, you may be adding, editing and removing files. But whenever you hit a milestone or finish a part of the work, you should add the files to a Staging Environment.

**Staged** files are files that are ready to be **committed** to the repository you are working on. You will learn more about **Commit** shortly.

For now, we are done working with **index.html**. So we can add it to the Staging Environment:

### Steps:-

- a) `git add index.html`
- b) `git status`
- c) `git add -all` or `git add -A`

### 3) Git Commit:--->

Since we have finished our work, we are ready to move from `stage` to `commit` for our repo.

Adding commits keeps track of our progress and changes as we work. Git considers each `commit` change point or "save point". It is a point in the project you can go back to if you find a bug, or want to make a change.

When we `commit`, we should **always** include a **message**.

**a) git commit -m "First release of Hello world"**

**Git status - - short**

**b) Git Commit without Stage:- It is possible to commit changes directly, skipping the staging environment.**

**The `-a` option will automatically stage every changed, already tracked file.**

**- -> git commit -a -m "Update index.html with a new line"**

**git log (To view the history of commits for a repository)**

#### 4) Git Help:--->

If you are having trouble remembering commands or options for commands, you can use Git help.

`git command -help` - See all the available options for the specific command

`git help --all` - See all possible commands

#### 5) Git Branch:--->

In Git, a **branch** is a new/separate version of the main repository.

New Git Branch:- **Now we created a new branch called "hello-world-images". Let's confirm that we have created a new branch:**

Eg:- a) **git branch hello-world-images**

b) git branch

c) git checkout hello-world-images

d) The edit in and IDE or VSCode and edit the file (index.html) or add a new file(image.jpg).

e) git checkout hello-world-images Switched to branch 'hello-world-images' —> Checkout is the command used to check out a branch.

f) git status

g) git add - -all

h) git status

i) git commit -m "Added image to Hello World"

### **Switching Between Branches:-**

#### **Steps:-**

- a) ls
- b) git checkout master
- c) ls

**Emergency Branch:-** If you don't want to mess with master directly and I do not want to mess with hello-world-images, then use this command:-

#### **Steps:-**

- a) **git checkout -b emergency-fix**
- b) git status (To Check The status)
- c) git add index.html

### **6) Git Branch Merge:-->**

After emergency fix ready and then merge the master and emergency-fix branches.

#### **Steps:-**

- a) **git checkout master** - Checkout the master branch
- b) **git merge emergency-fix** - Then merge with emergency branch
- c) **git branch -d emergency-fix** (-d for delete operations)
  - As master and emergency-fix are essentially the same now, we can delete emergency-fix, as it is no longer needed:

#### d) **Merge Conflict:-**

It is a process in which github shows the duplicate file's data in the repository/branches and that have to be resolved by using this process are:-

1) git checkout hello-world-images      -----(It will shift to this branch)

2) git add - - all

3) git commit -m "added new image"

4) git checkout master      ----- (Swift to the master branch)

5) git merge hello-world-images

6) git status

7) Then after fixing the index.html file:

git add index.html

git status

git commit -m "merged with hello-world-images after fixing conflicts"

8) Then delete the hello-world-images branch:-

git branch -d hello-world-images



---

# # Git and GitHub

## 1) GitHub Get Started:--->

### Steps:-

- 1) Create a new repository and use the HTTP Link of the repository.
- 2) git remote add origin https://github.com/xyz.git (Or - Link)
- 3) git push - -set-upstream origin master

## 2) GitHub Edit Code:--->

It is an easy step in GitHub you can do it in the repository section.

- a) Readme.md file
- b) and Commit Changes.

## 3) Pull from GitHub:--->

Pull is the combination of 2 Different commands:-

- 1) fetch
- 2) merge

### Steps:-

- |                            |  |
|----------------------------|--|
| 1) git fetch origin        | --- It will fetch the origin data        |
| 2) git log origin/master   | --- It will obtain the history of branch |
| 3) git diff origin/master  | --- Differentiate between them.          |
| 4) git merge origin/master | --- It will merge the origin and master  |
| 5) git pull origin         | --- Git will pull in the origin          |

## 4) Push to GitHub:--->

Let's try making some changes to our local git file (index.html) and pushing them to GitHub.

- 1) git commit -a -m "Updated index.html Resized image"
- 2) git push origin
- 3) git status

## 5) GitHub Branch:--->

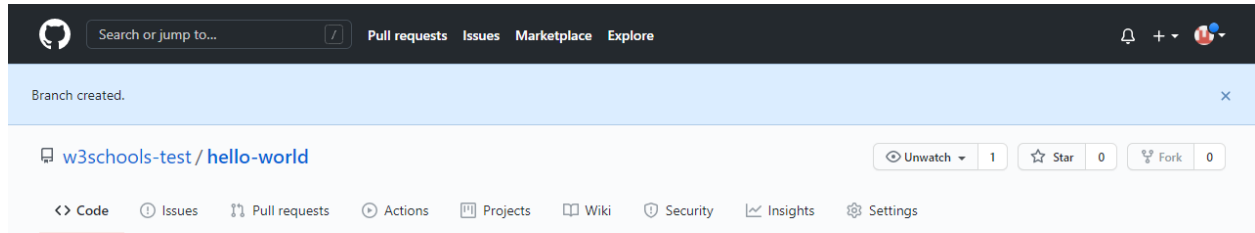
Create a new Branch on Github using master

On GitHub, access your repository and click the "master" branch button.

There you can create a new Branch. Type in a descriptive name, and click Create branch:

The screenshot shows the GitHub interface for the repository `w3schools-test/hello-world`. The `master` branch is selected. A dropdown menu is open for the `master` branch, showing a list of branches including `html-skeleton`. A green arrow points from the `html-skeleton` branch in the dropdown to the `Create branch: html-skeleton from 'master'` button. The commit history is visible, showing the first release of `Hello World!` and subsequent updates to the `README.md` and `index.html`. The `README.md` content is displayed below the commit history, showing the `hello-world` title and a description of the repository's purpose.

The **branch** should now be created and active. You can confirm which branch you are working on by looking at the branch button. See that it now says "html-skeleton" instead of "main"?



This branch is even with master.

Pull request Compare

w3schools-test	Merge branch 'master' of https://github.com/w3schools-test/hello-world	faceae 12 days ago	10 commits
README.md	Updated README.md with a line about focus	12 days ago	
bluestyle.css	First release of Hello World!	12 days ago	
img_hello_git.jpg	added new image	12 days ago	
img_hello_world.jpg	Added image to Hello World	12 days ago	
index.html	Updated index.html. Resized image	12 days ago	

About

No description, website, or topics provided.

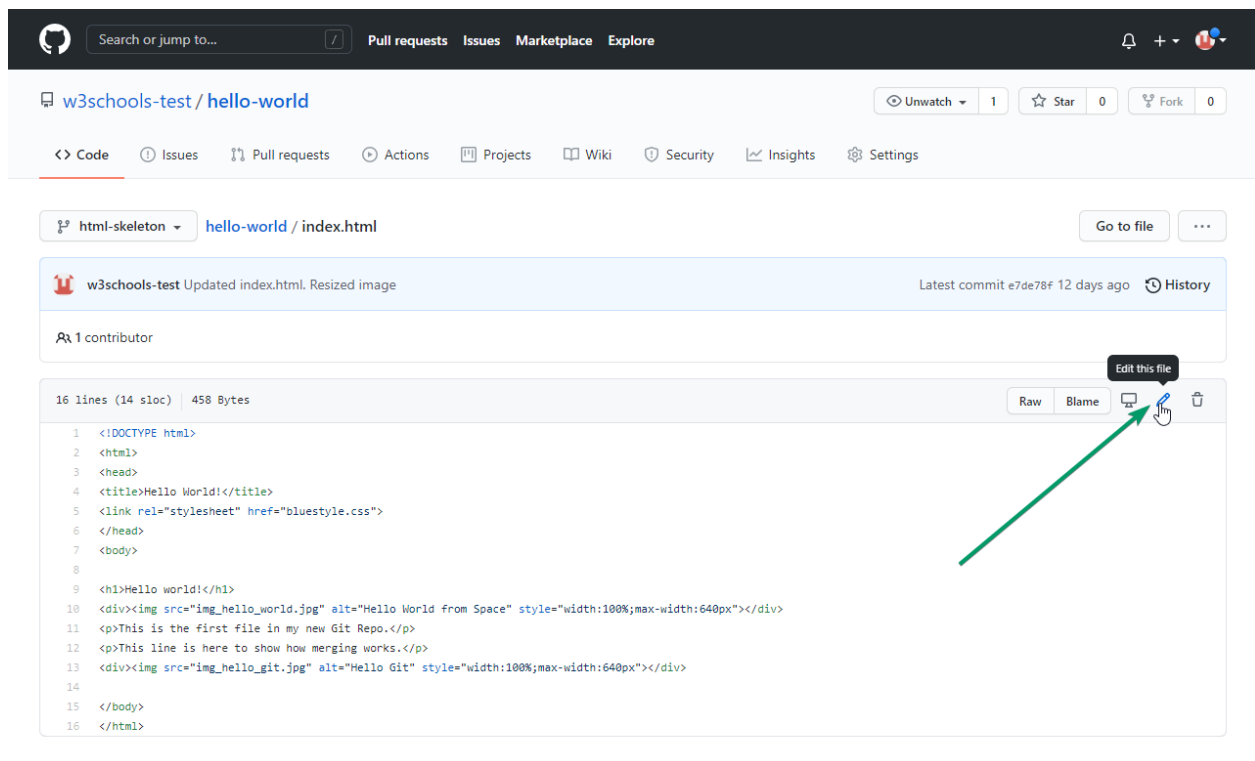
Readme

Releases

No releases published  
[Create a new release](#)

Packages

No packages published  
[Publish your first package](#)



The screenshot shows a GitHub repository page for 'w3schools-test/hello-world'. The file 'index.html' is selected, and the 'Preview changes' tab is active. The diff shows several changes to the HTML file, including adding meta tags and images. A green arrow points from the 'Preview changes' tab to the commit message input field. The commit message is 'Added some meta tags to index.html'. Below the message, there are two options: 'Commit directly to the html-skeleton branch.' (selected) and 'Create a new branch for this commit and start a pull request.' (unselected). A green arrow points from the 'Commit changes' button to the 'Commit directly to the html-skeleton branch.' option.

hello-world / index.html in html-skeleton Cancel changes

<> Edit file Preview changes

```
... @@ -1,16 +1,18 @@
1 1 <!DOCTYPE html>
2 - <html>
3 + <html lang="en">
4   <head>
5 -   <title>Hello World!</title>
6 -   <link rel="stylesheet" href="bluestyle.css">
7 +   <meta charset="UTF-8">
8 +   <title>Hello World!</title>
9 +   <meta name="viewport" content="width=device-width,initial-scale=1">
10 +   <link rel="stylesheet" href="bluestyle.css">
11 </head>
12 <body>
13 - <h1>Hello world!</h1>
14 - <div></div>
15 - <p>This is the first file in my new Git Repo.</p>
16 - <p>This line is here to show how merging works.</p>
17 - <div></div>
18 + <h1>Hello world!</h1>
19 + <div></div>
20 + <p>This is the first file in my new Git Repo.</p>
21 + <p>This line is here to show how merging works.</p>
22 + <div></div>
23 </body>
24 </html>
```

Commit changes

Updated index.html with basic meta

Added some meta tags to index.html

☒ Commit directly to the html-skeleton branch.

☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

Commit changes Cancel

If you are happy with the change, add a comment that explains what you did, and click Commit changes.

You now have a new **branch** on GitHub, updated with some changes!

## 6) Pull Branch from GitHub:--->

### **Pulling a branch from GitHub:-**

Now continue working on our new `branch` in our local Git.

Lets `pull` from our GitHub repository again so that our code is up-to-date:

1) `git pull`

2) `git status`

3) `git branch`

4) `git branch -a` — > So, we do not have the new `branch` on our local Git. But we know it is available on GitHub. So we can use the `-a` option to see all local and remote branches: (Note: `branch -r` is for remote branches only.)

**We see that the branch `html-skeleton` is available remotely, but not on our local git. Let's check it out:**

5) `git checkout html-skeleton` —> switch the branch

6) `git pull` —> And check if it is all up to date:

7) `git branch` --- > Which branches do we have now, and where are we working from?

## 7) Push Branch to GitHub:--->

Let's try to create a new local branch, and push that to GitHub.

Start by creating a branch, like we did earlier:

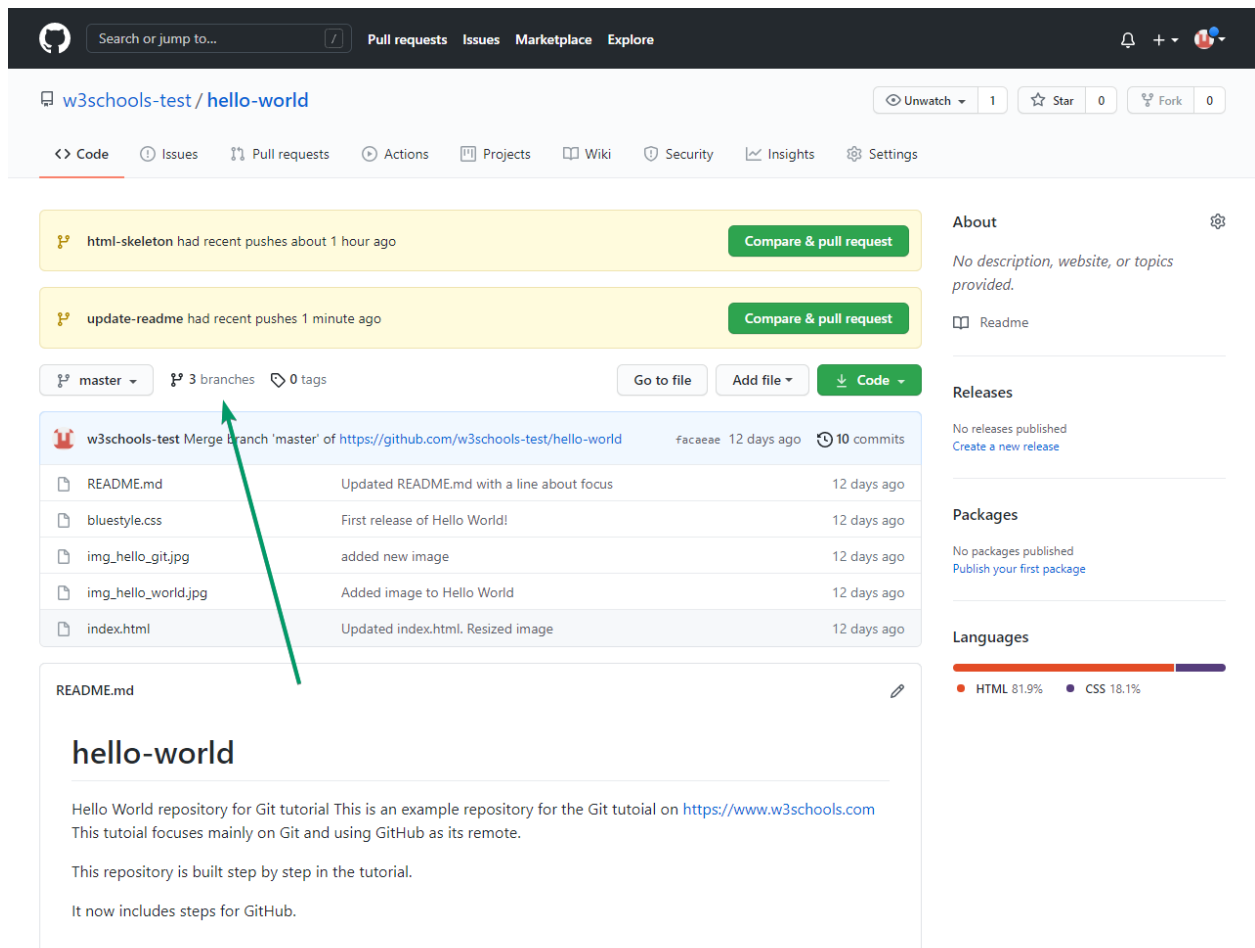
- 1) `git checkout -b update-readme` —> creating a new branch
- 2) `git status` —> checking the status
- 3) `git add README.md` —> is modified but not added to the Staging Environment.
- 4) `git status` —> to check the status of the branch
- 5) `git commit -m "updated readme for GitHub Branches"` —>  
Then saves our changes
- 6) `git push origin update-readme` —>

Now **push** the **branch** from our local Git repository, to GitHub, where everyone can see the changes.

Go to GitHub, and confirm that the repository has a new **branch**:

In GitHub, we can now see the changes and **merge** them into the master **branch** if we approve it.

If you click the "Compare & pull request", you can go through the changes made and new files added:



The screenshot displays the GitHub interface for the repository `w3schools-test/hello-world`. The repository has 1 Unwatch, 0 Stars, and 0 Forks. The navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. The repository overview shows two recent pushes: `html-skeleton` (about 1 hour ago) and `update-readme` (1 minute ago), both with a "Compare & pull request" button. The repository navigation bar shows the `master` branch selected, with 3 branches and 0 tags. A green arrow points to the "3 branches" link. The commit history table lists the following files and their commit details:

File	Commit Message	Commit Hash	Time Ago
README.md	Updated README.md with a line about focus	f6c6e6e	12 days ago
bluestyle.css	First release of Hello World!		12 days ago
img_hello_git.jpg	added new image		12 days ago
img_hello_world.jpg	Added image to Hello World		12 days ago
index.html	Updated index.html. Resized image		12 days ago

The README.md file content is displayed below the commit history:

```
hello-world

Hello World repository for Git tutorial This is an example repository for the Git tutoial on https://www.w3schools.com
This tutoial focuses mainly on Git and using GitHub as its remote.

This repository is built step by step in the tutorial.

It now includes steps for GitHub.
```

The right sidebar shows the repository's metadata, including the About section (No description, website, or topics provided), Readme link, Releases section (No releases published), Packages section (No packages published), and Languages section (HTML 81.9%, CSS 18.1%).

In GitHub, we can now see the changes and **merge** them into the master **branch** if we approve it.

If you click the "Compare & pull request", you can go through the changes made and new files added:

2 commits

2 files changed

0 comments

2 contributors

Commits on Apr 07, 2021

Updated index.html with basic meta

Verified daf4f7c

Updated readme for GitHub Branches

836e5bf

Showing 2 changed files with 12 additions and 9 deletions.

Unified Split

1 README.md

@@ -6,3 +6,4 @@ This tutorial focuses mainly on Git and using GitHub as its remote.

6 6 This repository is built step by step in the tutorial.

7 7

8 8 It now includes steps for GitHub.

9 + Including how to work with Branches on GitHub.

20 index.html

... @@ -1,16 +1,18 @@

1 1 <!DOCTYPE html>

2 - <html>

2 + <html lang="en">

3 3 <head>

4 - <title>Hello World!</title>

5 - <link rel="stylesheet" href="bluestyle.css">

4 + <meta charset="UTF-8">

5 + <title>Hello World!</title>

6 + <meta name="viewport" content="width=device-width,initial-scale=1">

7 + <link rel="stylesheet" href="bluestyle.css">

6 8 </head>

7 9 <body>

8 10

9 - <h1>Hello world!</h1>

10 - <div></div>

11 - <p>This is the first file in my new Git Repo.</p>

12 - <p>This line is here to show how merging works.</p>

13 - <div></div>

11 + <h1>Hello world!</h1>

12 + <div></div>

13 + <p>This is the first file in my new Git Repo.</p>

14 + <p>This line is here to show how merging works.</p>

15 + <div></div>

14 16 </body>

15 17 </html>

16 - </html>

18 + </html>

**Note:** This comparison shows both the changes from **update-readme** and **html-skeleton** because we created the new branch FROM **html-skeleton**.



If the changes look good, you can go forward, creating a **pull request**:

The screenshot shows the GitHub interface for a pull request. At the top, the repository is identified as `w3schools-test / hello-world`. The pull request title is "Update readme". The base branch is `master` and the compare branch is `update-readme`. A green checkmark indicates "Able to merge. These branches can be automatically merged." The pull request description is "Updated readme with branches info". The "Create pull request" button is highlighted with a green arrow. The right sidebar shows various settings like Reviewers, Assignees, Labels, Projects, Milestone, Linked issues, and Helpful resources. The bottom bar shows 2 commits, 2 files changed, 0 comments, and 2 contributors.

Search or jump to... Pull requests Issues Marketplace Explore

w3schools-test / hello-world Unwatch 1 Star 0 Fork 0

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

### Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

base: master ← compare: update-readme ✓ Able to merge. These branches can be automatically merged.

#### Update readme

Write Preview H B I i < > @ ↩

Updated readme with branches info

Attach files by dragging & dropping, selecting or pasting them.

Create pull request

Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

Reviewers: No reviews

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

Linked issues: Use [Closing keywords](#) in the description to automatically close issues

Helpful resources: [GitHub Community Guidelines](#)

2 commits 2 files changed 0 comments 2 contributors

A pull request is how you propose changes. You can ask some to review your changes or pull your contribution and merge it into their branch.

Since this is your own repository, you can **merge** your pull request yourself:

The screenshot shows a GitHub pull request interface for the repository `w3schools-test/hello-world`. The pull request is titled "Update readme #1" and is in the "Open" state. It shows 2 commits from the `update-readme` branch to the `master` branch. The commits are:

- Updated index.html with basic meta (Verified, daf4f7c)
- Updated readme for GitHub Branches (836e5bf)

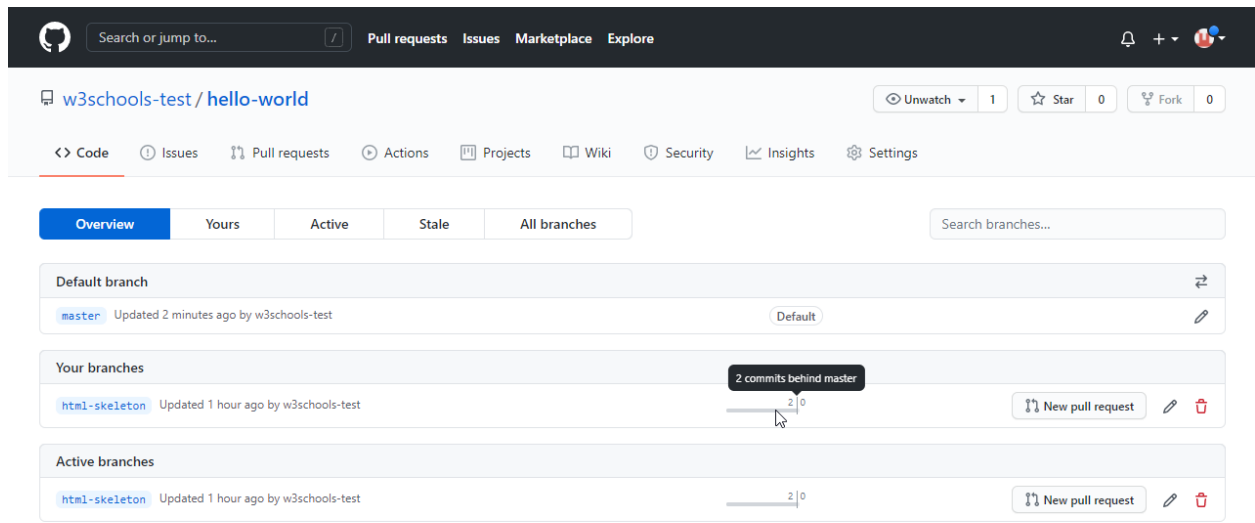
The pull request description includes a comment from `w3schools-test` stating "Updated readme with branches info". Below the commits, there is a green box with a checkmark indicating "This branch has no conflicts with the base branch" and a button labeled "Merge pull request". A green arrow points to the "Merge pull request" button. The right sidebar shows various settings like "Reviews", "Assignees", "Labels", "Projects", "Milestone", "Linked issues", "Notifications", and "1 participant". At the bottom, there is a comment section with a "Close pull request" button and a "Comment" button.

The pull request will record the changes, which means you can go through them later to figure out the changes made.

The result should be something like this:

The screenshot shows a GitHub pull request interface for the repository 'w3schools-test/hello-world'. The pull request is titled 'Update readme #1' and is in the 'Merged' state. It shows a commit history with two commits: 'Updated index.html with basic meta' and 'Updated readme for GitHub Branches'. The pull request is successfully merged and closed, with a message indicating that the 'update-readme' branch can be safely deleted. The interface includes a sidebar with navigation links (Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, Settings) and a right-hand panel with various settings (Reviewers, Assignees, Labels, Projects, Milestone, Linked issues, Notifications). A comment box is visible at the bottom, and a 'Delete branch' button is present.

To keep the repo from getting overly complicated, you can delete the now unused branch by clicking "Delete branch".



## 8)GitHub Flow:--->

The GitHub flow is a workflow designed to work well with Git and GitHub.

It focuses on branching and makes it possible for teams to experiment freely, and make deployments regularly.

The GitHub flow works like this:

1. Create a new Branch
2. Make changes and add Commits
3. Open a Pull Request
4. Review
5. Deploy
6. Merge

# Create a New Branch

Branching is the key concept in Git. And it works around the rule that the master branch is ALWAYS deployable.

That means, if you want to try something new or experiment, you create a new branch! Branching gives you an environment where you can make changes without affecting the main branch.

When your new branch is ready, it can be reviewed, discussed, and merged with the main branch when ready.

When you make a new branch, you will (almost always) want to make it from the master branch.

Note: Keep in mind that you are working with others. Using descriptive names for new branches, so everyone can understand what is happening.

# Make Changes and Add Commits

After the new branch is created, it is time to get to work. Make changes by adding, editing and deleting files. Whenever you reach a small milestone, add the changes to your branch by commit.

Adding commits keeps track of your work. Each commit should have a message explaining what has changed and why. Each commit becomes a part of the history of the branch, and a point you can revert back to if you need to.

Note: commit messages are very important! Let everyone know what has changed and why. Messages and comments make it so much easier for yourself and other people to keep track of changes.

# Open a Pull Request

Pull requests are a key part of GitHub. A Pull Request notifies people you have changes ready for them to consider or review.

You can ask others to review your changes or pull your contribution and merge it into their branch.

---

## Review

When a Pull Request is made, it can be reviewed by whoever has the proper access to the branch. This is where good discussions and review of the changes happen.

Pull Requests are designed to allow people to work together easily and produce better results together!

If you receive feedback and continue to improve your changes, you can push your changes with new commits, making further reviews possible.

Note: GitHub shows new commit and feedback in the "unified Pull Request view".

## Deploy

When the pull request has been reviewed and everything looks good, it is time for the final testing. GitHub allows you to deploy from a branch for final testing in production before merging with the master branch.

If any issues arise, you can undo the changes by deploying the master branch into production again!

Note: Teams often have dedicated testing environments used for deploying branches.

# Merge

After exhaustive testing, you can merge the code into the master branch!

Pull Requests keep records of changes to your code, and if you commented and named changes well, you can go back and understand why changes and decisions were made.

Note: You can add keywords to your pull request for easier searching!

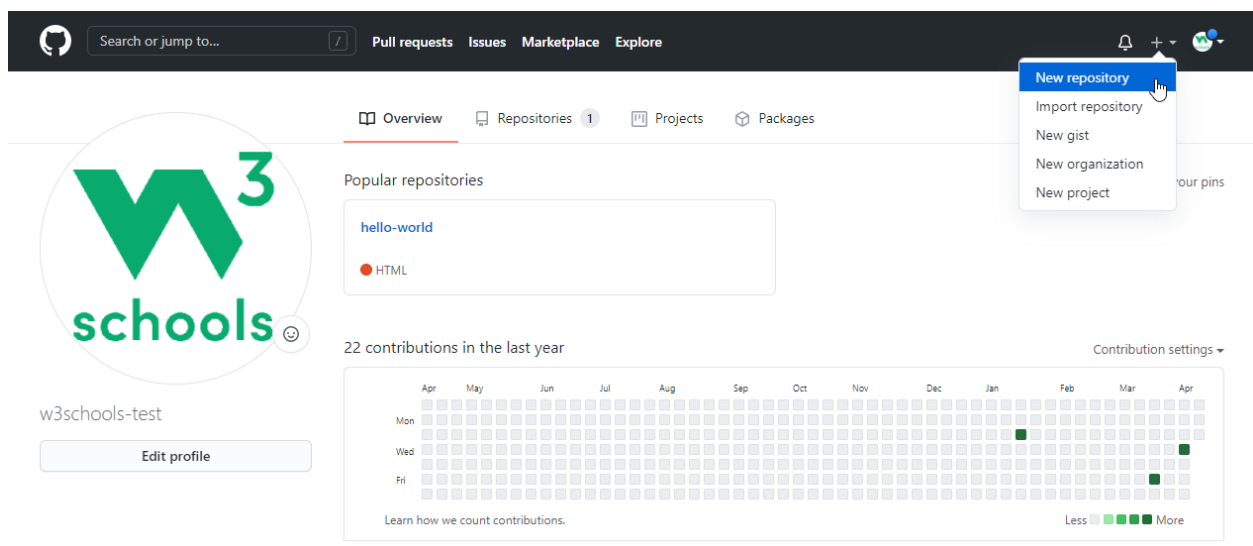
## 9)GitHub Pages:--->


# Host Your Page on GitHub

With GitHub pages, GitHub allows you to host a webpage from your repository. Let's try to use GitHub Pages to host our repository.

# Create a New Repository

Start by signing in to GitHub. GitHub pages need a special name and setup to work, so we start by creating a new repository:

The screenshot shows the GitHub homepage for a user named 'w3schools-test'. The top navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. A dropdown menu is open, showing options: New repository, Import repository, New gist, New organization, and New project. The main content area features a profile card for 'w3schools-test' with a green 'W3schools' logo and an 'Edit profile' button. Below the profile card, there's a section for 'Popular repositories' with a 'hello-world' repository listed. Further down, a '22 contributions in the last year' section displays a calendar grid with green squares indicating contributions. The bottom of the page has a link to 'Learn how we count contributions.' and a 'Contribution settings' dropdown.

 Search or jump to... Pull requests Issues Marketplace Explore

## Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner <sup>\*</sup>


Repository name <sup>\*</sup>


w3schools-test / w3schools-test.github.io ✓

Great repository names are short and memorable. Need inspiration? How about [refactored-octo-garbanzo?](#)

Description (optional)

w3schools.com repository used in demonstrating GitHub and GitHub pages

☒  **Public**  
Anyone on the internet can see this repository. You choose who can commit.

☐  **Private**  
You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

☐ **Add a README file**  
This is where you can write a long description for your project. [Learn more.](#)

☐ **Add .gitignore**  
Choose which files not to track from a list of templates. [Learn more.](#)


☐ **Choose a license**  
A license tells others what they can and can't do with your code. [Learn more.](#)

Create repository

## Push Local Repository to GitHub Pages

We add this new repository as a remote for our local repository, we are calling it **gh-page** (for GitHub Pages).

Copy the **URL** from here:


 Search or jump to... Pull requests Issues Marketplace Explore

w3schools-test / w3schools-test.github.io

Unwatch 1 Star 0 Fork 0

[Code](#) [Issues](#) [Pull requests](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [Insights](#) [Settings](#)

### Quick setup — if you've done this kind of thing before

 Set up in Desktop or ☐ HTTP ☒ SSH

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).



And add it as a new **remote**:

```
git remote add gh-page
https://github.com/w3schools-test/w3schools-test.github.io.git
```

Make sure you are on the **master branch**, then push the **master branch** to the new **remote**:

User → **git push gh-page master**

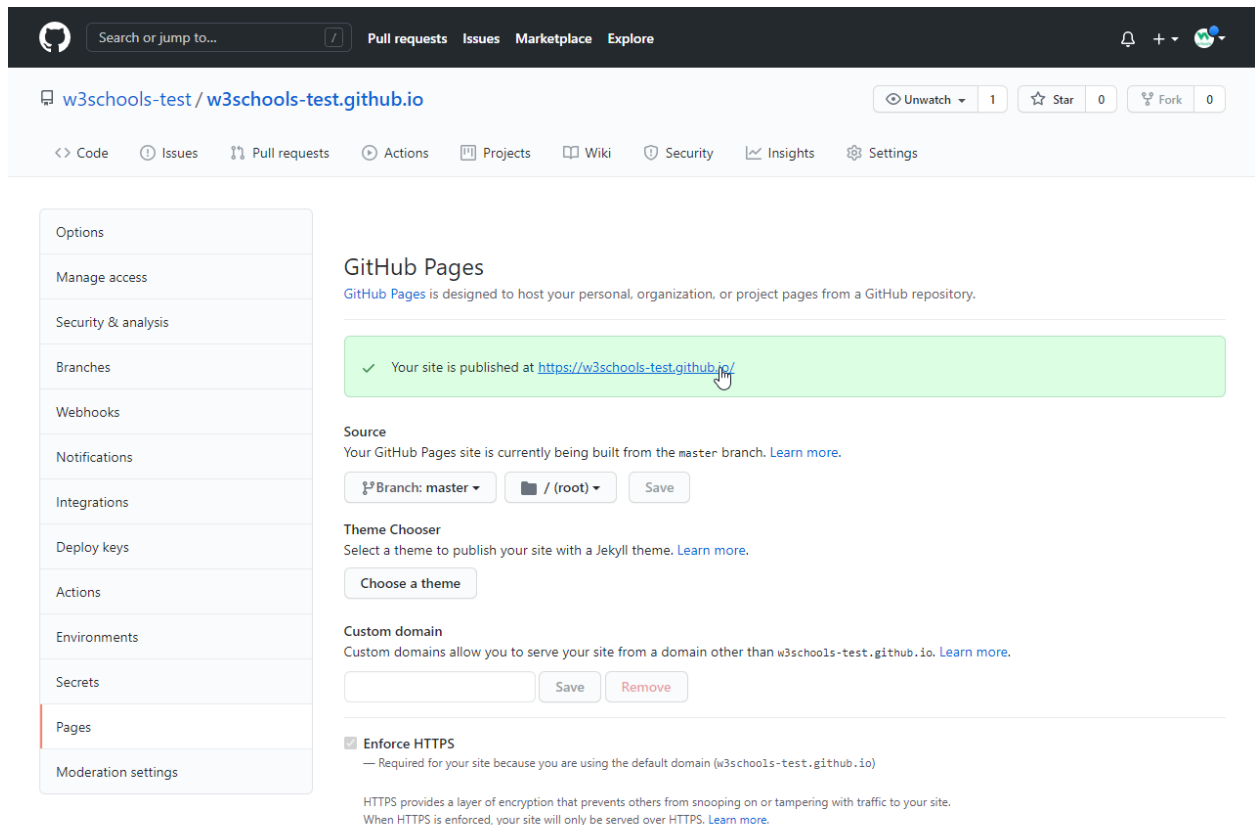
**Note: If this is the first time you are connecting to GitHub, you will get some kind of notification to authenticate this connection.**

Check that the new repository has received all the files:

The screenshot displays the GitHub interface for the repository `w3schools-test/w3schools-test.github.io`. The repository is on the `master` branch, which has 1 branch and 0 tags. It shows 10 commits, with the most recent commit by `faceae` 18 days ago. The file list includes `README.md` (updated with a line about focus), `bluestyle.css` (first release of Hello World!), `img_hello_git.jpg` (added new image), `img_hello_world.jpg` (added image to Hello World), and `index.html` (updated index.html. Resized image). The README content is visible, showing the title `hello-world` and a description: "Hello World repository for Git tutorial. This is an example repository for the Git tutorial on <https://www.w3schools.com>. This tutorial focuses mainly on Git and using GitHub as its remote. This repository is built step by step in the tutorial. It now includes steps for GitHub." The right sidebar shows the repository's activity, including releases, packages, environments (with `github-pages` active), and languages (HTML 81.9%, CSS 18.1%).

# Check Out Your Own GitHub Page

**That looks good, now click the Settings menu and navigate to the Pages tab:**



The screenshot shows the GitHub repository settings page for the repository `w3schools-test` on the domain `w3schools-test.github.io`. The left sidebar contains a list of settings categories: Options, Manage access, Security & analysis, Branches, Webhooks, Notifications, Integrations, Deploy keys, Actions, Environments, Secrets, Pages (highlighted with a red bar), and Moderation settings. The main content area is titled "GitHub Pages" and includes the following sections:

- Source:** A green status bar indicates "Your site is published at <https://w3schools-test.github.io/>". Below, it states "Your GitHub Pages site is currently being built from the master branch. [Learn more.](#)" and provides controls for "Branch: master" and " / (root)", with a "Save" button.
- Theme Chooser:** States "Select a theme to publish your site with a Jekyll theme. [Learn more.](#)" and includes a "Choose a theme" button.
- Custom domain:** States "Custom domains allow you to serve your site from a domain other than `w3schools-test.github.io`. [Learn more.](#)" and includes a text input field, "Save", and "Remove" buttons.
- Enforce HTTPS:** A checkbox is checked. A note states: "Required for your site because you are using the default domain (`w3schools-test.github.io`). HTTPS provides a layer of encryption that prevents others from snooping on or tampering with traffic to your site. When HTTPS is enforced, your site will only be served over HTTPS. [Learn more.](#)"

---

## # Git Contribute

### 1)GitHub Fork:--->

## Add to Someone Else's Repository

At the heart of Git is collaboration. However, Git does not allow you to add code to someone else's repository without access rights.

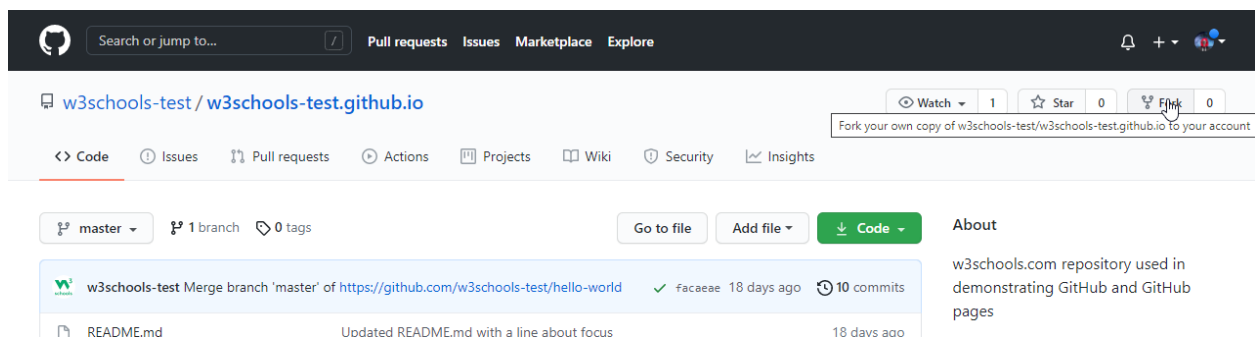
In these next 3 chapters we will show you how to copy a repository, make changes to it, and suggest those changes be implemented to the original repository.

At the end of these chapters, you will have the opportunity to add a message to our public GitHub page: <https://w3schools-test.github.io/>

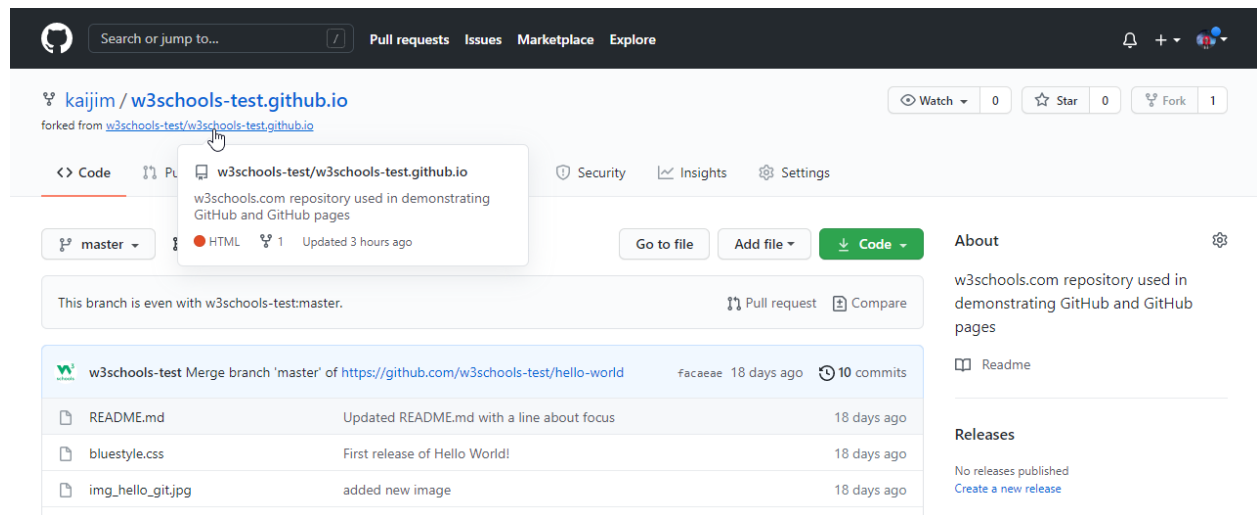
## Fork a Repository

A **fork** is a copy of a repository. This is useful when you want to contribute to someone else's project or start your own project based on theirs.

**fork** is not a command in Git, but something offered in GitHub and other repository hosts. Let's start by logging in to GitHub, and **fork** our repository: <https://github.com/w3schools-test/w3schools-test.github.io>



Now we have our own copy of `w3schools-test.github.io`:



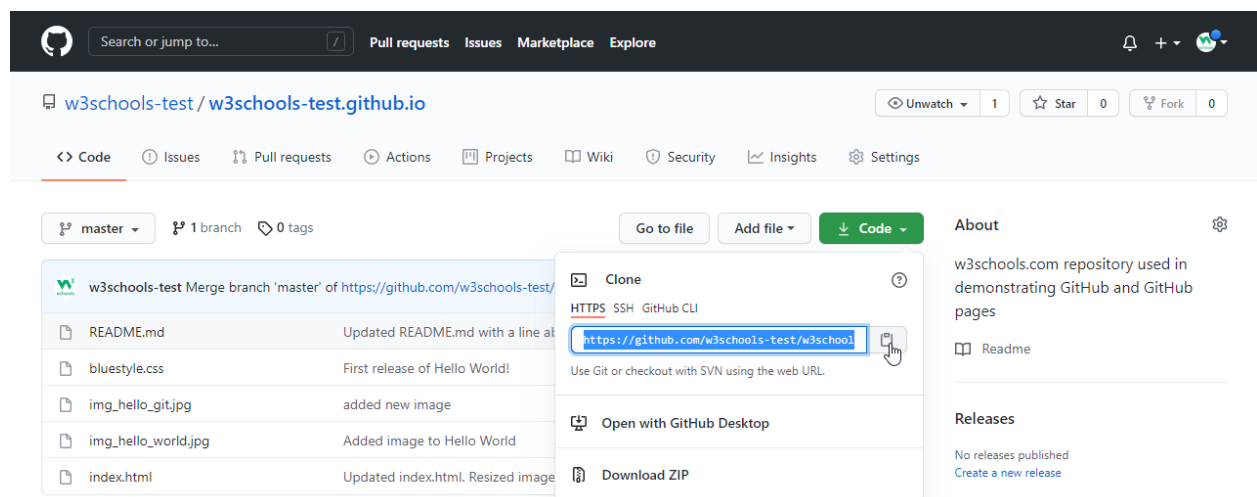
## 2)Git Clone from GitHub:--->

# Clone a Fork from GitHub

Now we have our own `fork`, but only on GitHub. We also want a `clone` on our local Git to keep working on it.

A `clone` is a full copy of a repository, including all logging and versions of files.

Move back to the original repository, and click the green "Code" button to get the `URL` to `clone`:



Open your Git bash and `clone` the repository:

```
Git —> git clone https://github.com/w3schools-test/w3schools-test.github.io
```

Take a look in your file system, and you will see a new directory named after the cloned project:

```
Git—> ls
```

Navigate to the new directory, and check the `status`:

```
Git--> a) cd w3school-test-github.io  
b) git status  
c) git log
```

## Configuring Remotes

**Basically, we have a full copy of a repository, whose `origin` we are not allowed to make changes to.**

**Let's see how the `remotes` of this Git is set up:**

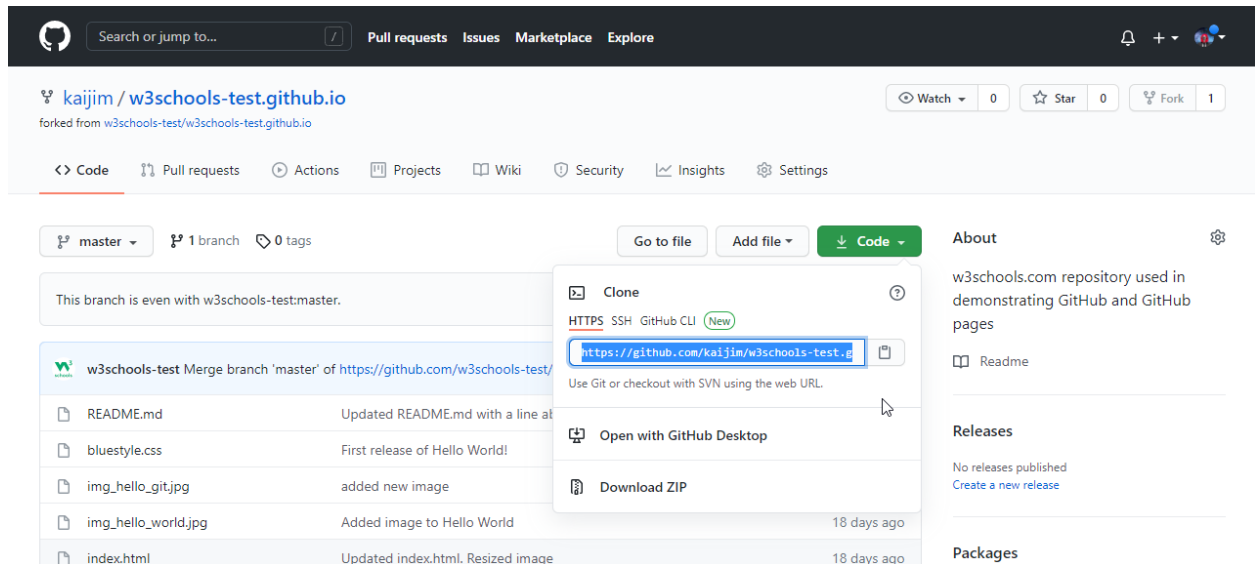
```
git remote -v
```

**We see that `origin` is set up to the original "`w3schools-test`" repository, we also want to add our own `fork`.**

**First, we `rename` the original `origin` remote:**

```
git remote rename origin upstream  
git remote -v
```

**Then fetch the `URL` of our own `fork`:**



And add that as **origin**:

- git remote add origin https://github.com/xyz/xyz.github.io.git
- git remote -v

Now we have 2 remotes:

- origin** - our own **fork**, where we have read and write access
- upstream** - the original, where we have read-only access

Now we are going to make some changes to the code. In the next chapter, we will cover how we suggest those changes to the original repository.

### 3)GitHub Send Pull Request:--->

## Push Changes to Our GitHub Fork

We have made a lot of changes to our local Git.

**Now we push them to our GitHub fork:**

**commit the changes:**

```
git push origin
```

Go to GitHub, and we see that the repository has a new commit. And we can send a Pull Request to the original repository:

The screenshot shows the GitHub interface for a repository named 'kaijim / w3schools-test.github.io'. The repository is a fork of 'w3schools-test/w3schools-test.github.io'. The main branch is 'master', and there is 1 branch and 0 tags. A message indicates 'This branch is 1 commit ahead of w3schools-test:master.' A 'Pull request' button is highlighted with a mouse cursor. Below this, a commit by 'kaijim' is shown, titled 'Changed to serve as a public guestbook', with a commit hash of 'ebb1a5c' and a timestamp of '21 minutes ago'. The commit message is 'Changed to serve as a public guestbook'. The commit includes changes to 'README.md', 'img\_guestbook\_wall.jpg', and 'index.html'. The README content is visible, showing a 'Guestbook for w3schools.com Git tutorial' and a link to 'https://www.w3schools.com/git'. The right sidebar shows repository statistics: 0 stars, 0 forks, and 1 watch. The 'About' section mentions 'w3schools.com repository used in demonstrating GitHub and GitHub pages'. The 'Releases' section shows 'No releases published'. The 'Packages' section shows 'No packages published'. The 'Languages' section shows a bar chart with 'HTML 81.9%' and 'CSS 18.1%'.

Click that and create a pull request:

The screenshot shows the 'Comparing changes' page on GitHub. The page title is 'Comparing changes'. Below the title, it says 'Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#).' The comparison is set up with 'base repository: w3schools-test/w3schools-test...' and 'base: master'. The 'head repository' is 'kaijim/w3schools-test.github.io' and the 'compare' is 'master'. A green checkmark indicates 'Able to merge. These branches can be automatically merged.' A yellow box contains the text 'Discuss and review the changes in this comparison with others. [Learn about pull requests](#)' and a green 'Create pull request' button. Below this, a summary bar shows '1 commit', '6 files changed', '0 comments', and '1 contributor'. The 'Commits on Apr 13, 2021' section shows a commit by 'kaijim' titled 'Changed to serve as a public guestbook' with a commit hash of 'ebb1a5c'.

Remember to add an explanation for the administrators.

The screenshot shows the GitHub interface for a pull request. At the top, the repository is identified as `w3schools-test / w3schools-test.github.io`. The pull request title is "Changed to serve as a public guestbook". The description states: "I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html". The "Create pull request" button is highlighted with a mouse cursor. Below the pull request form, there is a summary bar showing "1 commit", "6 files changed", "0 comments", and "1 contributor". The commit history shows a single commit on April 13, 2021, with the message "Changed to serve as a public guestbook" by user `ebb1a5c`.

base repository: w3schools-test/w3schools-test... base: master ← head repository: kajjim/w3schools-test.github.io compare: master

✓ Able to merge. These branches can be automatically merged.

Changed to serve as a public guestbook

Write Preview H B I i < > @ ↩ ↪

I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html

Attach files by dragging & dropping, selecting or pasting them.

☒ Allow edits by maintainers ⓘ Create pull request

ⓘ Remember, contributions to this repository should follow our [GitHub Community Guidelines](#).

↩ 1 commit 6 files changed 0 comments 1 contributor

Commits on Apr 13, 2021

↩ Changed to serve as a public guestbook ebb1a5c



## Pull Request is sent:

Search or jump to... Pull requests Issues Marketplace Explore

w3schools-test / w3schools-test.github.io Watch 1 Star 0 Fork 1

Code Issues Pull requests 1 Actions Projects Wiki Security Insights

### Changed to serve as a public guestbook #1

Edit Open with

Open kaijim wants to merge 1 commit into w3schools-test:master from kaijim:master

Conversation 0 Commits 1 Checks 0 Files changed 6 +109 -24

kaijim commented now

I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html

Changed to serve as a public guestbook ebb1a5c

Add more commits by pushing to the master branch on kaijim/w3schools-test.github.io.

This branch has no conflicts with the base branch  
Only those with write access to this repository can merge pull requests.

Write Preview H B I

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Close pull request Comment

Remember, contributions to this repository should follow our GitHub Community Guidelines.

ProTip! Add comments to specific lines under Files changed.

Reviewers  
No reviews  
Still in progress? Convert to draft

Assignees  
No one assigned

Labels  
None yet

Projects  
None yet

Milestone  
No milestone

Linked issues  
Successfully merging this pull request may close these issues.  
None yet

Notifications  
Unsubscribe  
You're receiving notifications because you authored the thread.

# Approving Pull Requests

Now any member with access can see the Pull Request when they see the original repository:

Search or jump to... Pull requests Issues Marketplace Explore

w3schools-test / w3schools-test.github.io Unwatch 1 Star 0 Fork 1

Code Issues Pull requests 1 Actions Projects Wiki Security Insights Settings

master 1 branch 0 tags Go to file Add file Code

w3schools-test Merge branch 'master' of https://github.com/w3schools-test/hello-world ✓ facaeae 18 days ago 10 commits

README.md	Updated README.md with a line about focus	18 days ago
bluestyle.css	First release of Hello World!	18 days ago
img_hello_git.jpg	added new image	18 days ago
img_hello_world.jpg	Added image to Hello World	18 days ago
index.html	Updated index.html. Resized image	18 days ago

README.md

## hello-world

Hello World repository for Git tutorial This is an example repository for the Git tutoial on <https://www.w3schools.com> This tutoial focuses mainly on Git and using GitHub as its remote.

This repository is built step by step in the tutorial.

It now includes steps for GitHub.

About w3schools.com repository used in demonstrating GitHub and GitHub pages

Releases No releases published [Create a new release](#)

Packages No packages published [Publish your first package](#)

Environments 1 github-pages Active

Languages

HTML 81.9% CSS 18.1%

## And they can see the proposed changes:

Label issues and pull requests for new contributors

Now, GitHub will help potential first-time contributors [discover issues](#) labeled with [good first issue](#)

Dismiss

Filters

☐ **Changed to serve as a public guestbook #1**  
I removed, added and updated files to make this able to serve as a public guest book....  
w3schools-test:master ← kaijim:master

☐ **Changed to serve as a public guestbook**  
#1 opened 1 minute ago by kaijim

Labels 9 Milestones 0 [New pull request](#)

Author Label Projects Milestones Reviews Assignee Sort

ProTip! Filter pull requests by the default branch with base:master.

## Comment on the changes and **merge**:

Changed to serve as a public guestbook #1

[Open](#) kaijim wants to merge 1 commit into [w3schools-test:master](#) from [kaijim:master](#)

Conversation 0 Commits 1 Checks 0 Files changed 6 +109 -24

kaijim commented 2 minutes ago [First-time contributor](#)

I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html

Changed to serve as a public guestbook ebb1a5c

w3schools-test commented now [Owner](#)

This looks good! Changes approved!

Add more commits by pushing to the **master** branch on [kaijim/w3schools-test.github.io](#).

[This branch has not been deployed](#)  
No deployments

[This branch has no conflicts with the base branch](#)  
Merging can be performed automatically.

[Merge pull request](#) You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

Reviewers

Suggestions

[w3schools-test](#) [Request](#)

Still in progress? Convert to draft

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Milestone

No milestone


Linked issues

Successfully merging this pull request may close these issues.




None yet

Notifications [Customize](#)

Confirm:



[Pull requests](#) [Issues](#) [Marketplace](#) [Explore](#)

[w3schools-test / w3schools-test.github.io](#)


[Unwatch](#) [1](#) [Star](#) [0](#) [Fork](#) [1](#)

[Code](#) [Issues](#) [Pull requests](#) [1](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [Insights](#) [Settings](#)

## Changed to serve as a public guestbook #1


[Open](#) [kaijim](#) wants to merge 1 commit into [w3schools-test:master](#) from [kaijim:master](#)

[Conversation](#) [Commits](#) [Checks](#) [Files changed](#)



kaijim commented 3 minutes ago

I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html



w3schools-test commented 34 seconds ago

This looks good! Changes approved!

Add more commits by pushing to the **master** branch on [kaijim/w3schools-test.github.io](#).

Merge pull request #1 from kaijim/master

Changed to serve as a public guestbook

[Confirm merge](#) [Cancel](#)

[Reviewers](#)  
Suggestions  
[w3schools-test](#)  
Still in progress? Convert to draft

[Assignees](#)  
No one—assign yourself

[Labels](#)  
None yet

[Projects](#)  
None yet

[Milestone](#)  
No milestone

[Linked issues](#)  
Successfully merging this pull request may close these issues.  
None yet

And changes have been **merged with master**:

The screenshot shows a GitHub pull request interface for the repository `w3schools-test / w3schools-test.github.io`. The pull request is titled "Changed to serve as a public guestbook #1" and is in the "Merged" state. The merge message indicates that `w3schools-test` merged 1 commit into `w3schools-test:master` from `kaijim:master`. The pull request details show that the contributor, `kaijim`, commented 3 minutes ago: "I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html". The owner, `w3schools-test`, commented 34 seconds ago: "This looks good! Changes approved!". The pull request also shows a commit history with 1 commit and 6 files changed. The right sidebar contains metadata for the pull request, including reviewers (No reviews), assignees (No one—assign yourself), labels (None yet), projects (None yet), and milestones (No milestone).

Search or jump to... Pull requests Issues Marketplace Explore

w3schools-test / w3schools-test.github.io Unwatch 1 Star 0 Fork 1

< Code Issues Pull requests 1 Actions Projects Wiki Security Insights Settings

### Changed to serve as a public guestbook #1

Edit Open with

Merged w3schools-test merged 1 commit into w3schools-test:master from kaijim:master now

Conversation 0 Commits 1 Checks 0 Files changed 6 +109 -24

kaijim commented 3 minutes ago Contributor

I removed, added and updated files to make this able to serve as a public guest book. Future changes should be only to index.html

Changed to serve as a public guestbook ebb1a5c

w3schools-test commented 34 seconds ago Owner

This looks good! Changes approved!

w3schools-test merged commit #745935 into w3schools-test:master now Revert

Reviewers: No reviews

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

---

## # Git Advanced

### 1)Git .gitignore:--->

## Git Ignore

When sharing your code with others, there are often files or parts of your project, you do not want to share.

### Examples

- log files
- temporary files
- hidden files
- personal files
- etc.

Git can specify which files or parts of your project should be ignored by Git using a `.gitignore` file.

Git will not track files and folders specified in `.gitignore`. However, the `.gitignore` file itself IS tracked by Git.

## Create .gitignore

To create a `.gitignore` file, go to the root of your local Git, and create it:

```
touch .gitignore
```

Now open the file using a text editor.

We are just going to add two simple rules:

- Ignore any files with the `.log` extension
- Ignore everything in any directory named `temp`

## Example:-

```
# ignore ALL .log files
*.log

# ignore ALL files in ANY directory named temp
temp/
```

Now all **.log** files and anything in **temp** folders will be ignored by Git.

Pattern	Explanation/Matches	Examples
	Blank lines are ignored	
<i># text comment</i>	Lines starting with # are ignored	
<i>name</i>	All <i>name</i> files, <i>name</i> folders, and files and folders in any <i>name</i> folder	/name.log /name/file.txt /lib/name.log
<i>name/</i>	Ending with / specifies the pattern is for a folder. Matches all files and folders in any <i>name</i> folder	/name/file.txt /name/log/name.log  <b>no match:</b> /name.log
<i>name.file</i>	All files with the <i>name.file</i>	/name.file /lib/name.file
<i>/name.file</i>	Starting with / specifies the pattern matches only files in the root folder	/name.file  <b>no match:</b> /lib/name.file
<i>lib/name.file</i>	Patterns specifying files in specific folders are always relative to root (even if you do not start with / )	/lib/name.file  <b>no match:</b> name.file /test/lib/name.file
<i>**/lib/name.file</i>	Starting with ** before / specifies that it matches any folder in the repository. Not just on root.	/lib/name.file /test/lib/name.file
<i>**/name</i>	All <i>name</i> folders, and files and folders in any <i>name</i> folder	/name/log.file /lib/name/log.file /name/lib/log.file
<i>/lib/**/name</i>	All <i>name</i> folders, and files and folders in any <i>name</i> folder within the lib folder.	/lib/name/log.file /lib/test/name/log.file /lib/test/ver1/name/log.file  <b>no match:</b> /name/log.file
<i>*.file</i>	All files with the <i>.file</i> extension	/name.file /lib/name.file
<i>*name/</i>	All folders ending with <i>name</i>	/lastname/log.file /firstname/log.file
<i>name?.file</i>	? matches a <b>single</b> non-specific character	/names.file /name1.file  <b>no match:</b> /names1.file

<i>name</i> [a-z]. <i>file</i>	[ <i>range</i> ] matches a <b>single</b> character in the specified range (in this case a character in the range of a-z, and also be numeric.)	/names. <i>file</i> /nameb. <i>file</i>  <b>no match:</b> /name1. <i>file</i>
<i>name</i> [abc]. <i>file</i>	[ <i>set</i> ] matches a <b>single</b> character in the specified set of characters (in this case either a, b, or c)	/namea. <i>file</i> /nameb. <i>file</i>  <b>no match:</b> /names. <i>file</i>
<i>name</i> [!abc]. <i>file</i>	[! <i>set</i> ] matches a <b>single</b> character, <b>except</b> the ones specified in the set of characters (in this case a, b, or c)	/names. <i>file</i> /namex. <i>file</i>  <b>no match:</b> /namesb. <i>file</i>
*. <i>file</i>	All files with the . <i>file</i> extension	/name. <i>file</i> /lib/name. <i>file</i>
<i>name</i> / ! <i>name</i> /secret.log	! specifies a negation or exception. Matches all files and folders in any <i>name</i> folder, except name/secret.log	/name/ <i>file</i> .txt /name/log/name.log  <b>no match:</b> /name/secret.log
*. <i>file</i> ! <i>name</i> . <i>file</i>	! specifies a negation or exception. All files with the . <i>file</i> extension, except name. <i>file</i>	/log. <i>file</i> /lastname. <i>file</i>  <b>no match:</b> /name. <i>file</i>
*. <i>file</i> ! <i>name</i> /*. <i>file</i> junk.*	Adding new patterns after a negation will re-ignore a previous negated file All files with the . <i>file</i> extension, except the ones in <i>name</i> folder. Unless the file name is junk	/log. <i>file</i> /name/log. <i>file</i>  <b>no match:</b> /name/junk. <i>file</i>

## Local and Personal Git Ignore Rules

It is also possible to ignore files or folders but not show it in the distributed `.gitignore` file.

These kinds of ignores are specified in the `.git/info/exclude` file. It works the same way as `.gitignore` but are not shown to anyone else.



## 2)Git Security SSH:--->

# Git Security

Up to this point, we have used HTTPS to connect to our remote repository.

HTTPS will usually work just fine, but you should use SSH if you work with unsecured networks. And sometimes, a project will require that you use SSH.

---

## What is SSH

SSH is a secure shell network protocol that is used for network management, remote file transfer, and remote system access.

SSH uses a pair of SSH keys to establish an authenticated and encrypted secure network protocol. It allows for secure remote communication on unsecured open networks.

SSH keys are used to initiate a secure "handshake". When generating a set of keys, you will generate a "public" and "private" key.

The "public" key is the one you share with the remote party. Think of this more as the lock.

The "private" key is the one you keep for yourself in a secure place. Think of this as the key to the lock.

SSH keys are generated through a security algorithm. It is all very complicated, but it uses prime numbers, and large random numbers to make the public and private key.

It is created so that the public key can be derived from the private key, but not the other way around.

---

# Generating an SSH Key Pair

In the command line for Linux, Apple, and in the Git Bash for Windows, you can generate an SSH key.

Let's go through it, step by step.

Start by creating a new key, using your email as a label:

Eg:-

```
ssh-keygen -t rsa -b 4096 -C "test@w3schools.com"
```

You will be prompted with the following through this creation:

```
Enter file in which to save the key (/c/Users/user/.ssh/id_rsa):
```

Select a file location, or press "Enter" to use the default file location.

```
Enter passphrase (empty for no passphrase):  
Enter same passphrase again:
```

Entering a secure passphrase will create an additional layer of security. Preventing anyone who gains access to the computer to use that key without the passphrase. However, it will require you to supply the passphrase anytime the SSH key is used.

Now we add this SSH key pair to the SSH-Agent (using the file location from above):

Eg:-

```
ssh-add /Users/user/.ssh/id_rsa  
Enter passphrase for /Users/user/.ssh/id_rsa:  
Identity added: /Users/user/.ssh/id_rsa (test@w3schools.com)
```

You will be prompted to supply the passphrase if you added one.

Now the SSH key pair is ready to use.

### 3)GitHub Add SSH:--->

## Copy the SSH Public Key

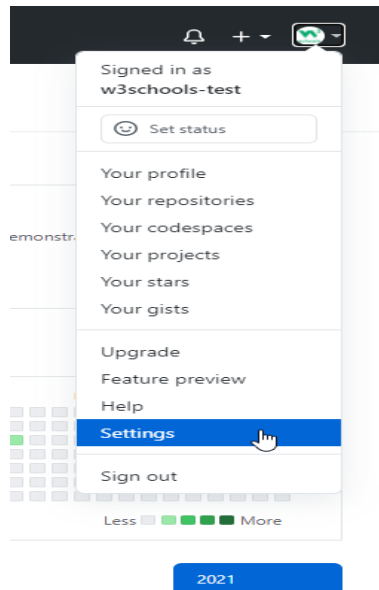
In the previous chapter, we created an SSH key pair.

Now we will use the `clip <` command to copy the public key to our clipboard:

Eg:-

```
clip < /Users/user/.ssh/id_rsa.pub
```

Go to GitHub, navigate to the top left corner, click your profile, and select: Settings:



Then select "SSH and GPG keys". and click the "New SSH key" button:

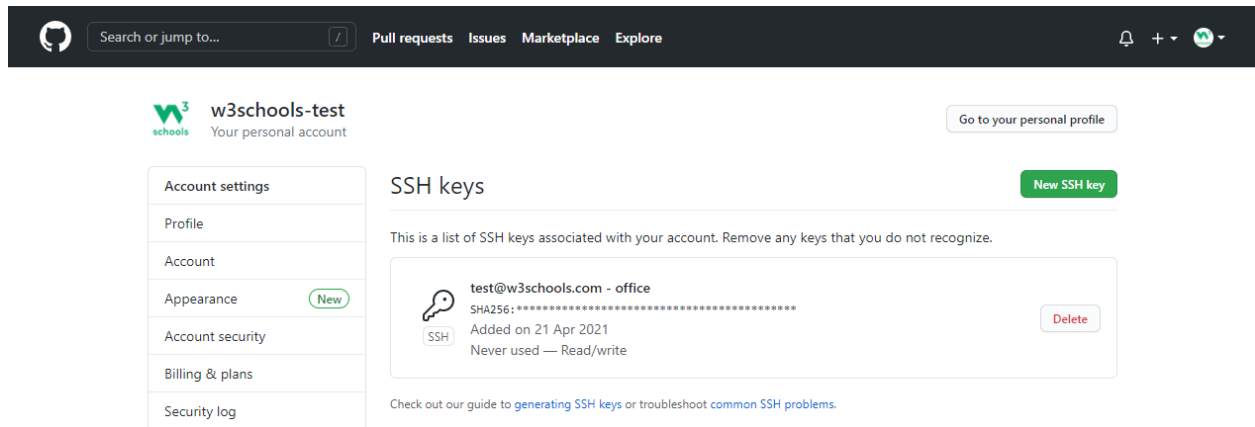
The screenshot shows the GitHub account settings page for a user named 'w3schools-test'. The left sidebar contains a list of settings: Account settings, Profile, Account, Appearance (marked 'New'), Account security, Billing & plans, Security log, Security & analysis, Emails, Notifications, SSH and GPG keys (highlighted with a red bar), and Repositories. The main content area is divided into two sections: 'SSH keys' and 'GPG keys'. The 'SSH keys' section states 'There are no SSH keys associated with your account.' and provides a link to a guide on generating SSH keys. The 'GPG keys' section states 'There are no GPG keys associated with your account.' and provides a link to a guide on generating a GPG key. In the top right corner, there is a 'Go to your personal profile' button. In the bottom right corner of the main content area, there are two green buttons: 'New SSH key' and 'New GPG key'. A green arrow points from the 'SSH and GPG keys' menu item in the sidebar to the 'New SSH key' button.

Select a title, and paste the public SSH key into the "Key" field, and click "Add SSH Key":

The screenshot shows the 'Add new SSH key' page in the GitHub account settings. The left sidebar is the same as in the previous screenshot, with 'SSH and GPG keys' highlighted. The main content area is titled 'SSH keys / Add new'. It has a 'Title' field with the value 'test@w3schools.com - office'. Below it is a 'Key' field containing a public SSH key: 'ssh-rsa' followed by a long string of asterisks. At the bottom of the page, there is a green 'Add SSH key' button.

You will be prompted to supply your GitHub password.

You will see your new SSH key added:



## Test SSH Connection to GitHub

Now we can test our connection via SSH to GitHub:

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

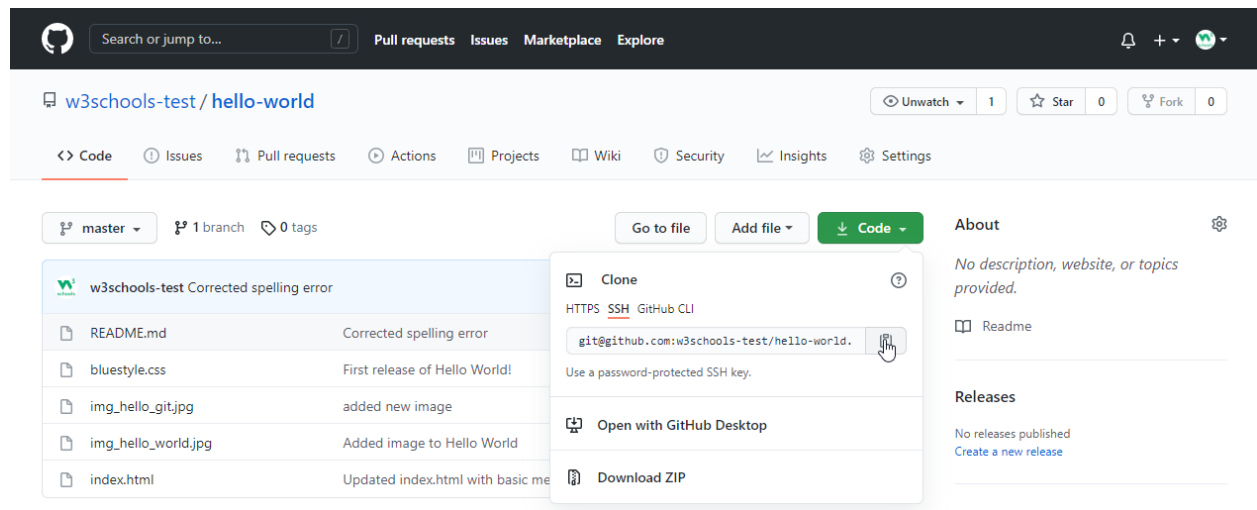
```
Output:- The authenticity of host 'github.com (140.82.121.3) '
can't be established. RSA key fingerprint is
SHA256:nThbg6kXUpJWG17E1IGOCspRomTxdCARLviKw6E5SY8. Are you sure
you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com,140.82.121.3' (RSA) to the
list of known hosts. Hi w3schools-test! You've successfully
authenticated, but GitHub does not provide shell access.
```

If the last line contains your username on GitHub, you are successfully authenticated!

# Add New GitHub SSH Remote

Now we can add a new remote via SSH to our Git.

First, get the SSH address from our repository on GitHub:



Then use that address to add a new origin:

```
git remote add ssh-origin git@github.com:w3schools-test/hello-world.git
```

Note: You can change a remote origin from HTTPS to SSH with the command:

```
git remote set-url remote-name git@github.com:username/repository.git
```

```
git remote set-url origin git@github.com:w3schools-test/hello-world.git
```

---

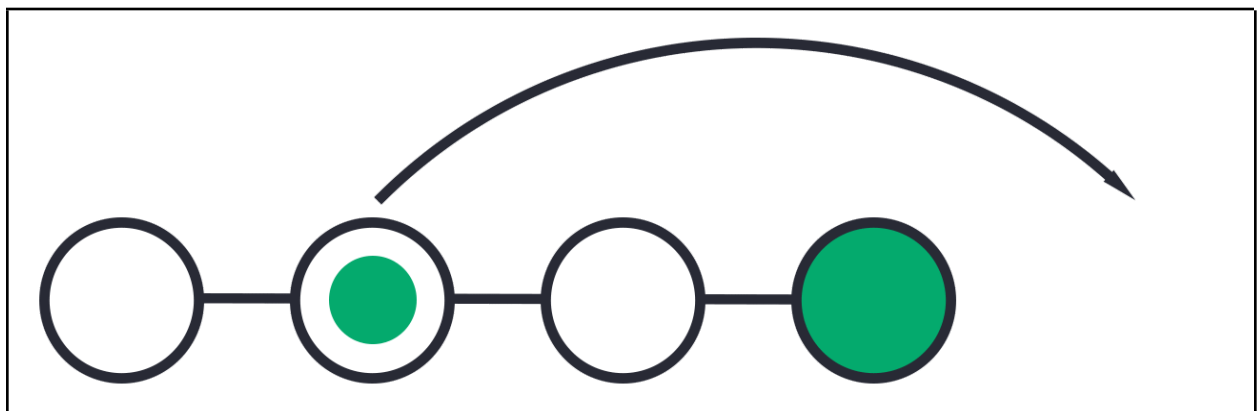
## # Git Undo

### 1) Git Revert:--->

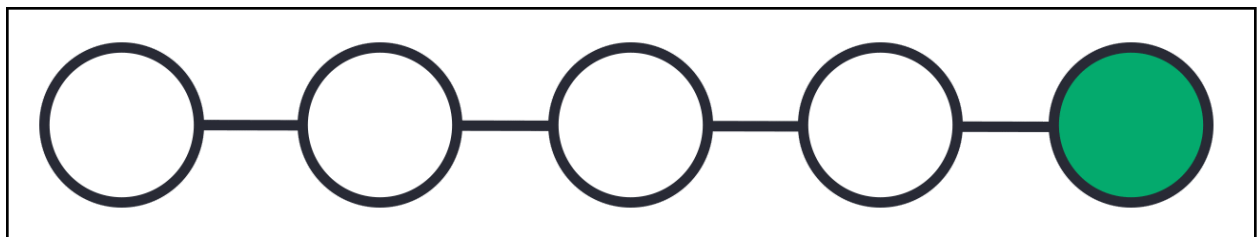
## Git Revert

`revert` is the command we use when we want to take a previous `commit` and add it as a new `commit`, keeping the `log` intact.

Step 1: Find the previous `commit`:



Step 2: Use it to make a new `commit`:



Let's make a new `commit`, where we have "accidentally" deleted a file:

Eg:-

```
git commit -m "Just a regular update, definitely no accidents here..."
```

Now we have a part in our `commit` history we want to go back to. Let's try and do that with `revert`.

---

## Git Revert Find Commit in Log

First thing, we need to find the point we want to return to. To do that, we need to go through the `log`.

To avoid the very long log list, we are going to use the `--oneline` option, which gives just one line per commit showing:

- The first seven characters of the `commit hash`
- the `commit message`

So let's find the point we want to `revert`:

```
git log - - oneline
```

We want to revert to the previous `commit: 52418f7 (HEAD -> master)` Just a regular update, definitely no accidents here..., and we see that it is the latest `commit`.

## Git Revert HEAD

We revert the latest `commit` using `git revert HEAD` (`revert` the latest change, and then `commit`), adding the option `--no-edit` to skip the commit message editor (getting the default `revert` message):

```
a) git revert HEAD - - no-edit  
b) git log - - oneline
```



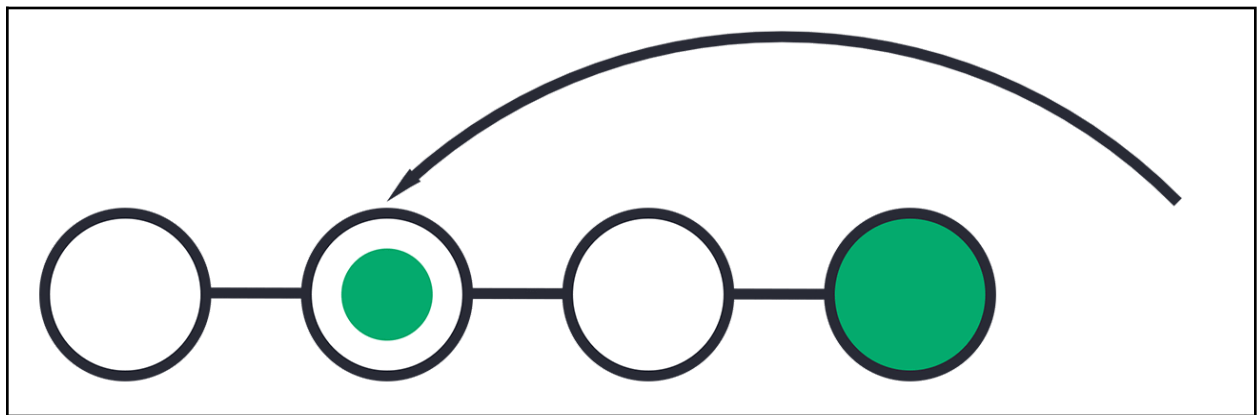
We want to revert to the previous `commit: 52418f7` (`HEAD -> master`) Just a regular update, definitely no accidents here..., and we see that it is the latest `commit`.

## 2) Git Reset:--->

# Git Reset

`reset` is the command we use when we want to move the repository back to a previous `commit`, discarding any changes made after that `commit`.

Step 1: Find the previous `commit`:



Step 2: Move the repository back to that step:



After the previous chapter, we have a part in our `commit` history we could go back to. Let's try and do that with `reset`.

# Git Reset Find Commit in Log

First thing, we need to find the point we want to return to. To do that, we need to go through the `log`.

To avoid the very long `log` list, we are going to use the `--oneline` option, which gives just one line per `commit` showing:

- The first seven characters of the `commit hash` - this is what we need to refer to in our reset command.
- the `commit message`

So let's find the point we want to `reset` to:

```
a) git log - - oneline
```

We want to return to the `commit: 9a9add8 (origin/master) Added .gitignore`, the last one before we started to mess with things.

## Git Reset

We `reset` our repository back to the specific commit using `git reset commithash` (`commithash` being the first 7 characters of the commit hash we found in the `log`):

```
git reset 9a9add8
```

Now let's check the `log` again:

```
git log - - oneline
```

Warning: Messing with the `commit` history of a repository can be dangerous. It is usually ok to make these kinds of changes to your own local repository. However, you should avoid making changes that rewrite history to `remote` repositories, especially if others are working with them.

## Git Undo Reset

Even though the commits are no longer showing up in the `log`, it is not removed from Git.

```
git reset e56ba1f
```

Now let's check the `log` again:

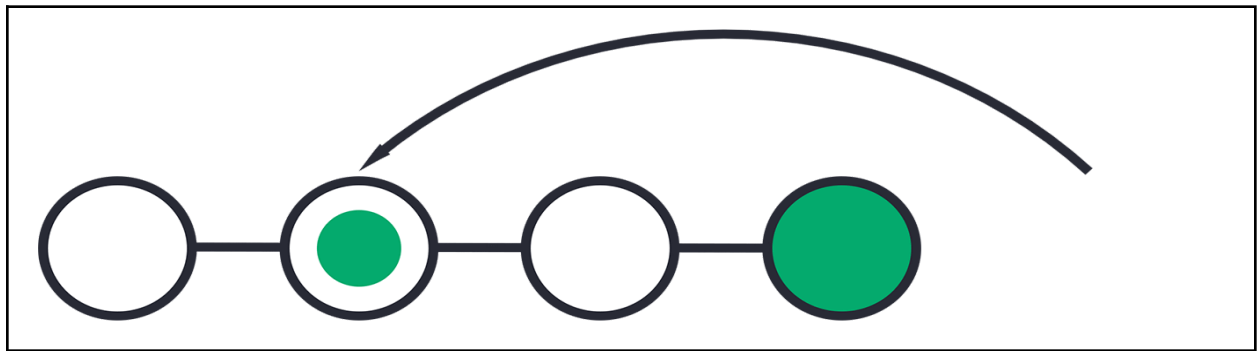
```
git log - - oneline
```

### 3) Git Amend:--->

## Git Reset

`reset` is the command we use when we want to move the repository back to a previous `commit`, discarding any changes made after that `commit`.

Step 1: Find the previous `commit`:



Step 2: Move the repository back to that step:



After the previous chapter, we have a part in our `commit` history we could go back to. Let's try and do that with `reset`.

# Git Reset Find Commit in Log

First thing, we need to find the point we want to return to. To do that, we need to go through the `log`.

To avoid the very long `log` list, we are going to use the `--oneline` option, which gives just one line per `commit` showing:

- The first seven characters of the `commit hash` - this is what we need to refer to in our reset command.
- the `commit message`

So let's find the point we want to `reset` to:

Eg:-

```
git log - - oneline
```

We want to return to the `commit: 9a9add8 (origin/master) Added .gitignore`, the last one before we started to mess with things.

## Git Reset

We `reset` our repository back to the specific commit using `git reset commithash` (`commithash` being the first 7 characters of the commit hash we found in the `log`):

Eg:-

```
git reset 9a9add8
```

Now let's check the `log` again:

```
git log - - oneline
```

# Git Undo Reset

Even though the commits are no longer showing up in the `log`, it is not removed from Git.

If you know the commit hash you can `reset` to it:

```
Git reset e56ba1f
```

Now let's check the `log` again:

```
git log --oneline
```

---

Git - Cheat Sheet Developed by [Jyotirmay Chowdhury](#) 🍷

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