

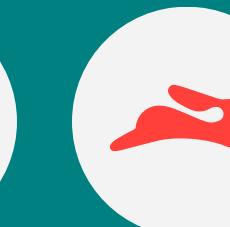
# Introduction to Git and GitHub



Ready To Learn?



Supported By



01



# What will we be learning?

- **What is a Version Control?**
- **Basic CLI Commands**
- **Introduction to Git Setting up**
- **Introduction to GitHub**
- **QNA**

# Who Are We?



**Santosh Bhandari**  
**Web Developer**  
**Python | Flask | FastAPI |**  
**Django**



**Shameer Kharel**  
**ML/App Devloper**  
**Python | ReactNative |**  
**Computer Vision**



# What is a Version Control System?

# Let's Visualize



You are a  
designer



poster.png



final-poster.png



final-final-poster.png



pls-stop.png

# What is Version Control System?

**Version Control System manages the entire process of version and keeps the track of the changes made.**

We need Version Control System to:

- **Track the changes made,**
- **Revert back to any versions when needed, compare the changes made between any two versions,**
- **To know information like who, when, why made the changes,**
- **To get all these benefits with minimal effort.**

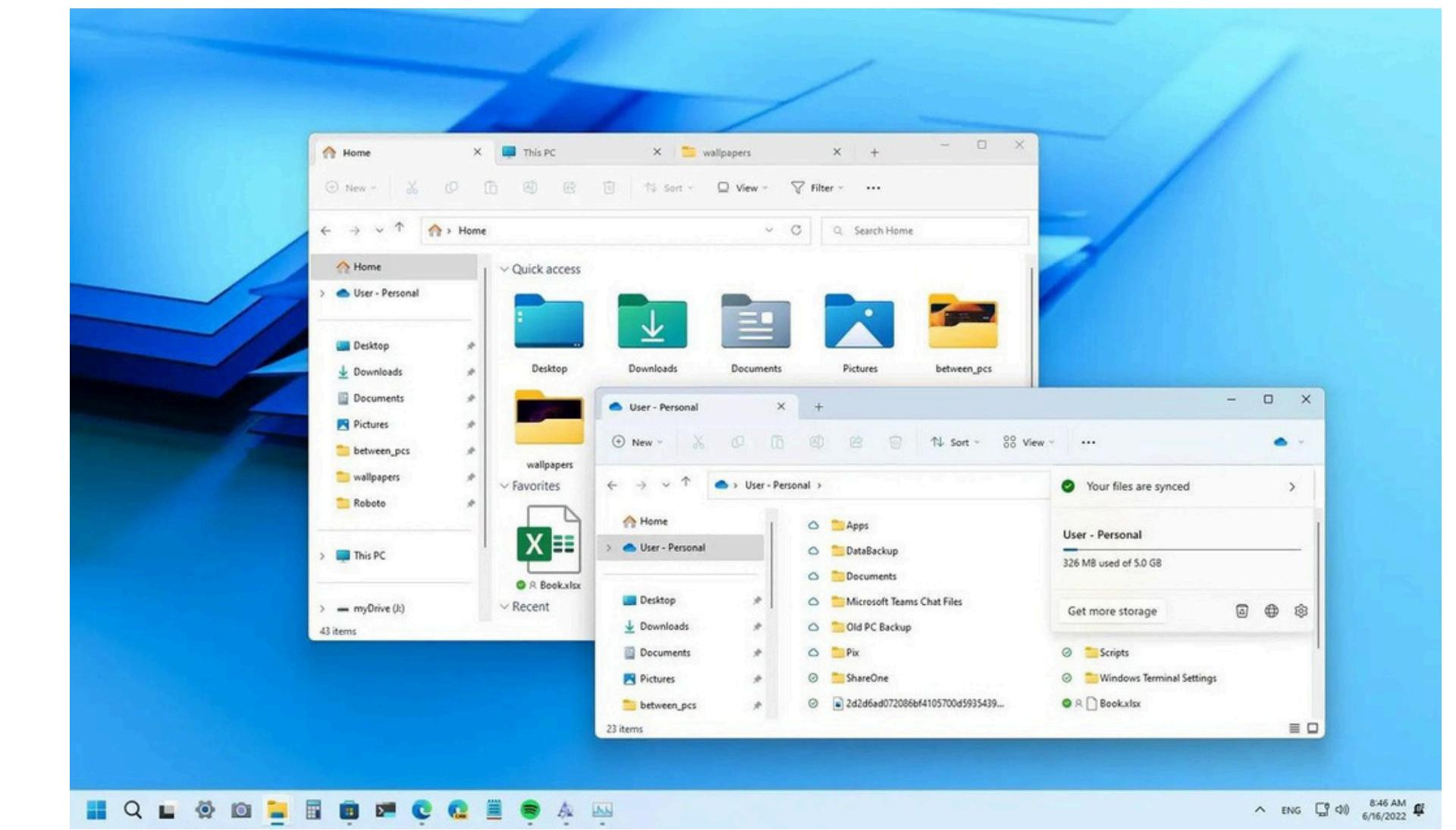
# Before We learn Git Let's Learn about CLI



```
user@tecmint: ~
```

File Edit View Search Terminal Help

[user ]	/home/user	
Name	Size	Date
..	4096	27 Jan 13:50
.cache	4096	11 Feb 16:00
.config	4096	11 Feb 16:36
.gnupg	4096	10 Feb 13:49
.local	4096	27 Jan 13:55
.mozilla	4096	11 Feb 15:57
.ssh	4096	10 Feb 13:49
.vim	4096	11 Feb 16:27
/Desktop	4096	27 Jan 13:55
/Documents	4096	27 Jan 13:55
/Downloads	4096	27 Jan 13:55
/Music	4096	27 Jan 13:55
/Pictures	4096	27 Jan 13:55
/Public	4096	27 Jan 13:55
/Templates	4096	27 Jan 13:55
/Videos	4096	27 Jan 13:55
.bash_history	57	10 Feb 17:39
.bash_logout	220	27 Jan 13:50
.bashrc	3771	27 Jan 13:50



## Command line Interface

## Graphical User Interface

# Basic CLI Commands



```
$ pwd
```

**Prints the full name (the full path) of current/working directory**

```
$ cd Desktop
```

**Changes the working directory to Desktop. Use this to navigate around CLI**

```
$ ls
```

**List directory contents.**

```
$ mkdir name
```

**Create a new directory called *name*.**

```
$ rm file.txt
```

**Removes the file *file.txt***

**Let's Try it!**



# What is Git?

**Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.**



## Let's Install Git

<https://git-scm.com/downloads>

# Setup Git



## Check version

```
$ git --version
```

## Add in your name

```
$ git config --global user.name "[firstname lastname]"
```

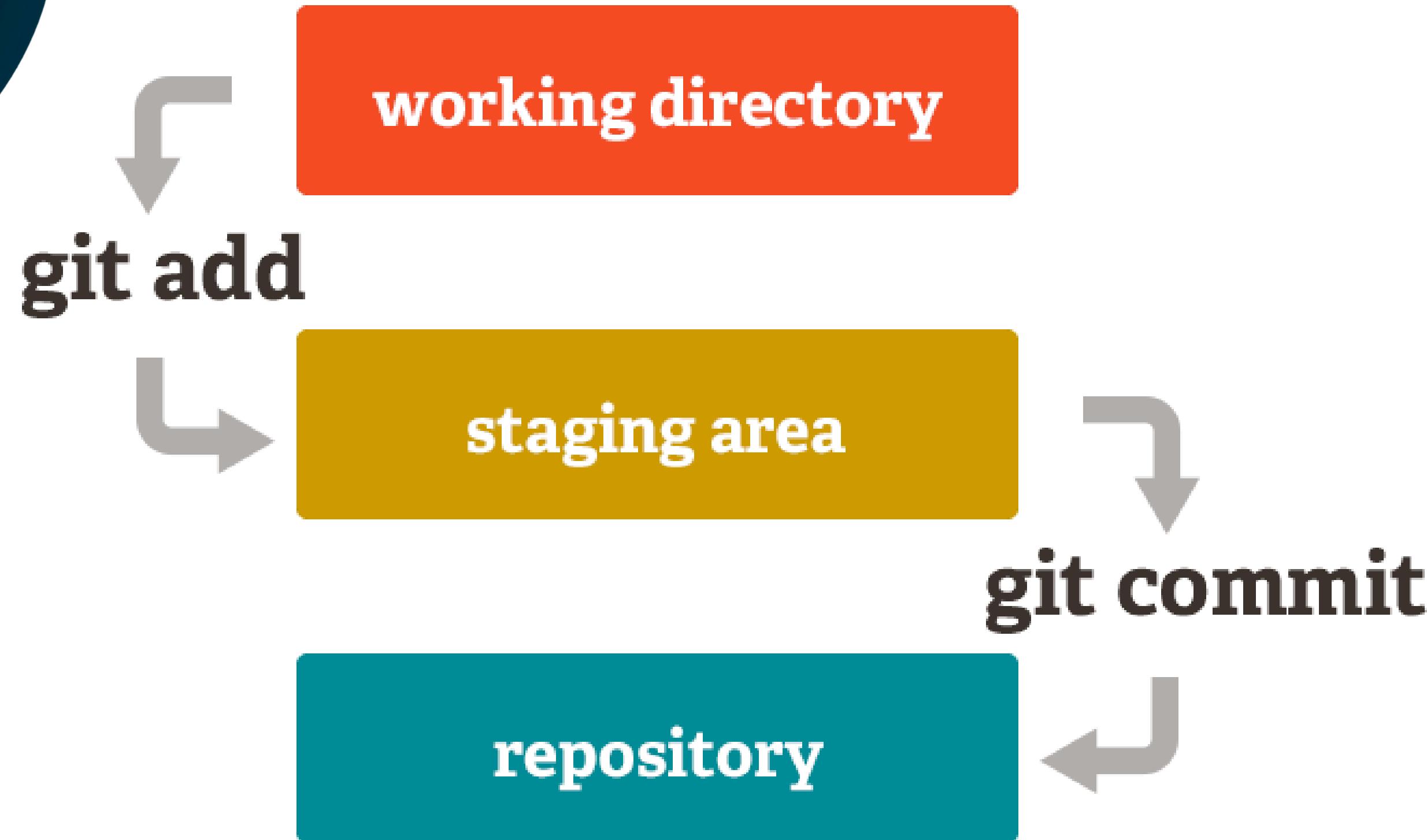
## Add Your Email

```
$ git config --global user.email "[valid-email]"
```

## Initialize an existing directory as a Git repo

```
$ git init
```

# How Git works?



# Git Commands



**It displays the state of working tree and staging area.**

```
$ git status
```

**It starts to track a file by adding it to the staging**

```
$ git add [file]
```

**It remove file from staging Area**

```
$ git reset [file]
```

# Git Commands



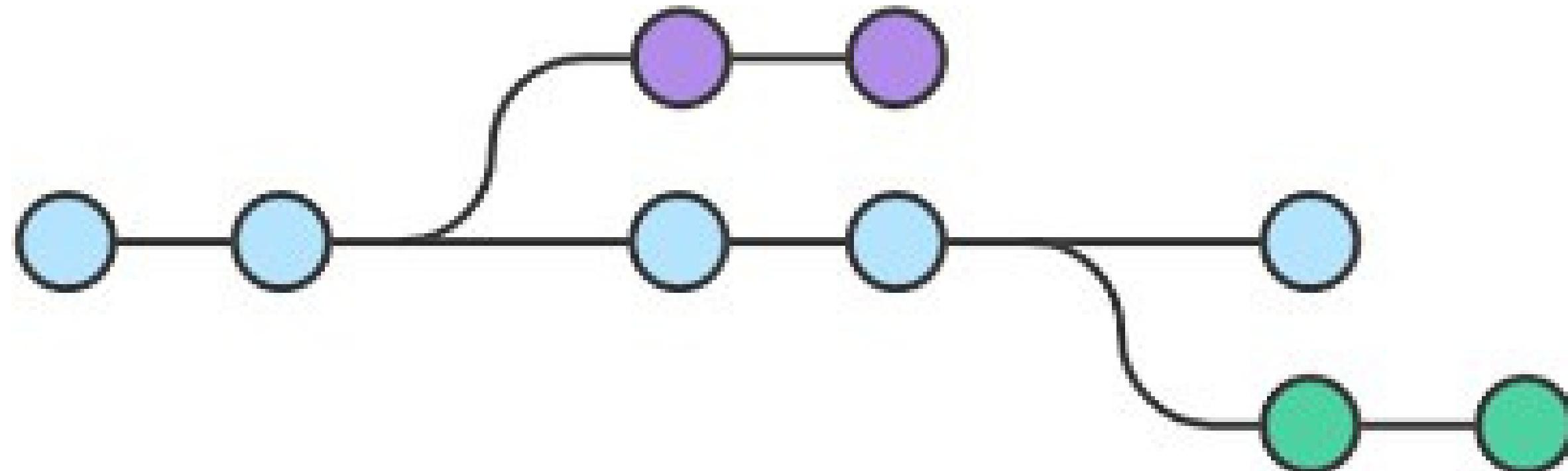
**It commits your changes and captures a new snapshot**

```
$ git commit -m "Some valuable message"
```

**It displays all the commits in the current branch.**

```
$ git log
```

## Branching



# Git Commands



## List your branches

```
$ git branch
```

Creates a new branch from the current

```
$ git branch [name]
```

Switches to another branch

```
$ git checkout [name]
```

Merges the specified branch's history into the current

```
$ git merge [name]
```

# Git Ignores



```
● ● ●  
1 # .gitignore file is used to ignore some files in a repo  
2 # such files always remain untracked  
3 # the use of such file is done as follows  
4  
5 # any line starting with # is a comment  
6 # ignoring file named password  
7 password  
8 # ignoring all files ending with .exe  
9 *.exe  
10 # but not ignoring final.exe  
11 !final.exe  
12 # ignoring all files inside build folder  
13 build/  
14 # ignoring file TODO not inside any subdirectory  
15 /TODO
```

# What is GitHub



- Till now, we have all the changes made saved in our local system only.
- To host our repository online, we need a server or hosting platform.
- GitHub is a repository hosting platform that uses Git in its core.

## Let's make an account!

# GitHub Student Developer Pack

Learn to ship software like a pro. There's no substitute for hands-on experience. As a student, real world tools can be cost-prohibitive. That's why we created the GitHub Student Developer Pack with some of our partners and friends.

[Sign up for Student Developer Pack](#)

Love the pack? Spread the word

## Experiences



### Aspiring Creatives

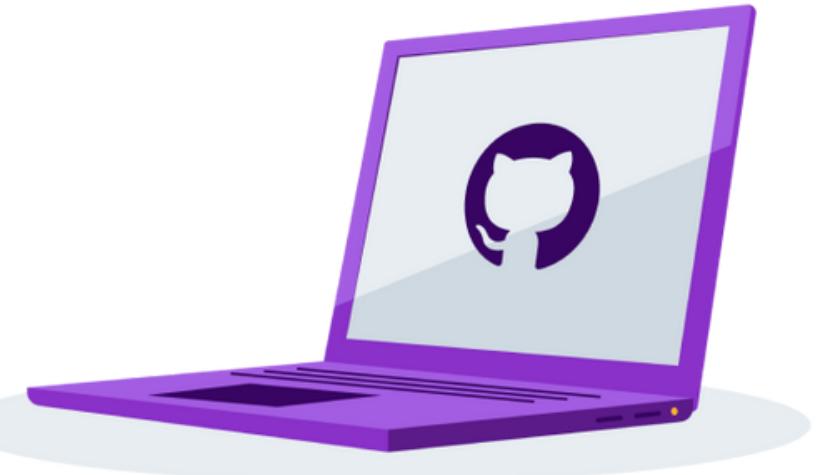
Working on a creative project? Develop your design and collaboration skills to get your clever intentions off the ground. Unleash your originality and start to



### Primer: Codespaces

Wondering how to get started with GitHub Codespaces? This Primer makes it easy by giving you step-by-step templates, videos and step-by-step instructions.

**FREE** Goodies



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#### Tags

### Bootstrap Studio

#### About Bootstrap Studio

Bootstrap Studio is a powerful desktop app for creating responsive websites using the Bootstrap framework.

#### Offer

A free license for Bootstrap Studio while you are a student.

#### Tags

# Some More Git Commands



## Add a Remote Repository (Repo) Link

```
$ git remote add origin [link]
```

## Push local Repo changes to remote Repo

```
$ git push
```

## Fetch and merge changes from remote repo

```
$ git pull
```

## Retrieve an hosted repository from a URL

```
$ git clone [URL]
```

# Some More Git Terminologies



- **Fork:** A fork is a copy of a repository that allows you to freely experiment with changes without affecting the original project.
- **Pull requests:** A PR is request sent to the repository to merge new commits into the repository.
- **Issues:** Issues is what it sounds. It can be a new feature, bug, documentation problem and many more.

# Workflow to Contribute



01

Find a issue or  
Suggest a feature

02

Ask the maintainer  
to assign the issue

03

Fork and Clone  
the Repo

04

Branch and  
make changes

05

Commit your  
changes

06

Create a Pull  
Request

07

Listen to Review and  
do changes if  
needed

08

Hurray!  
accepte The PR  
d

# Resource Link

[www.w3schools.com/git/](http://www.w3schools.com/git/)

[www.geeksforgeeks.org/git-tutorial/](http://www.geeksforgeeks.org/git-tutorial/)

[git-scm.com/doc](http://git-scm.com/doc)



# QNA

Join Our Community  
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# Thank You!

Keep Learning, Keep Exploring