

# **GIT AND GITHUB**



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# INTRODUCTION TO GIT

GIT IS A **POPULAR VERSION CONTROL SYSTEM**. IT WAS CREATED BY LINUS TORVALDS IN 2005, AND HAS BEEN MAINTAINED BY JUNIO HAMANO SINCE THEN.

IT IS USED FOR: TRACKING CODE CHANGES. TRACKING WHO MADE CHANGES.

Version control, also known as source control, is **the practice of tracking and managing changes to software code**. Version control systems are software tools that help software teams manage changes to source code over time.

The three types of version control

1. **Local Version Control System.**
2. **Centralized Version Control System.**
3. **Distributed Version Control System.**



Local VCS

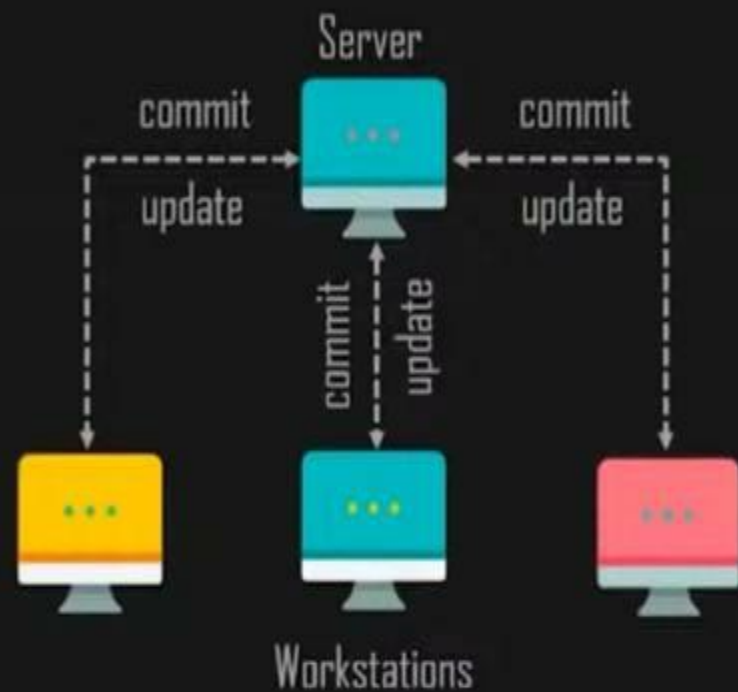


Centralized VCS

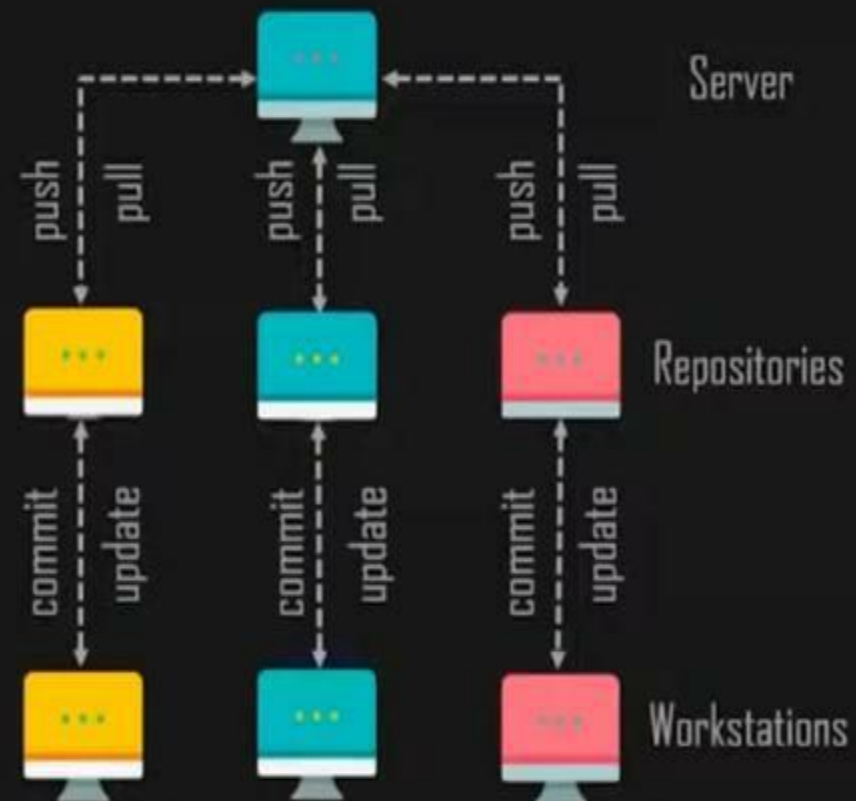


Distributed VCS

# CENTRALISED vs DISTRIBUTED VCS



Centralized VCS



Distributed VCS

# WHY VERSION CONTROL?

## Collaboration



Shared workspace &  
real-time updates

## Manage Versions



All versions of code  
are preserved

## Rollbacks



Easy rollback from  
current version

## Reduce Downtime



Reverse faulty  
update & save time

## Analyse Project



Analyze and compare  
versions

# GIT FEATURES

## Economical



Released under GPL's license.  
It is free & open source.

## Non-Linear



Supports non-linear  
development of software.

## Snapshots



Records changes made to a  
file rather than file itself

## Distributed



Every user has his own copy  
of the repository data stored  
locally.

## Speed



Speed offered by Git is  
lightening fast compared to  
other VCSs.

## Robustness



Nearly every task in Git is  
undo-able.

## Integrity



No changes can be made  
without Git recording it.

## Branching



Every collaborator's working  
directory is a branch by  
itself.



# GIT INSTALLATION & SETUP

Go to this website to get more details:- <https://git-scm.com/downloads>



## To Install GitBash For Windows

- ✓ Log on to <https://git-scm.com/downloads>
- ✓ Click on the **Download for Windows** button.
- ✓ Run the downloaded **executable file** and follow through till you finally install Git



git install windows

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About 22,70,00,000 results (0.39 seconds)

https://git-scm.com › downloads

Downloads - Git SCM ✓

macOS · Windows ... If you already have Git installed, you can get the latest development version via Git itself: `git clone https://github.com/git/git`.  
Brew install git · Git logo · Linux and Unix

https://git-scm.com › download › win

Download for Windows - Git SCM ✓

Click here to download the latest (2.37.3) 32-bit version of Git for Windows.

Got to google and type the git install windows

https://gitforwindows.org

Git for Windows ✓

Git for Windows provides a BASH emulation used to run Git from the command line. \*NIX users should feel right at home, as the BASH emulation behaves just like ...



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GUI Clients  
Logos

Community

The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to read online for free. Dead tree versions are available on Amazon.com.



Older releases are available and the Git source repository is on GitHub.

GUI Clients

Git comes with built-in GUI tools (**git-gui**, **gitk**), but there are several third-party tools for users looking for a platform-specific experience.

View GUI Clients →

Logos

Various Git logos in PNG (bitmap) and EPS (vector) formats are available for use in online and print projects.

View Logos →



Git via Git

If you already have Git installed, you can get the latest development version via Git itself:



Search entire site...

Next you can choose for 64-bit

## Download for Windows

Click here to download the latest (2.37.3) 64-bit version of Git for Windows. This is the most recent maintained build. It was released 26 days ago, on 2022-08-30.

Other Git for Windows downloads

Standalone Installer

32-bit Git for Windows Setup.

64-bit Git for Windows Setup.

Portable ("thumbdrive edition")

32-bit Git for Windows Portable.

64-bit Git for Windows Portable.

Using winget tool

Install winget tool if you don't already have it, then type this command in command prompt or Powershell.

```
winget install --id Git.Git -e --source winget
```

The current source code release is version 2.37.3. If you want the newer version, you can build it from the source code.



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## Download for Windows

Git 2.37.3 Setup

Information

Please read the following important information before continuing.

When you are ready to continue with Setup, click Next.

NECESSARY SERVICING, REPAIR OR CORRECTION.

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☒ Only show new options

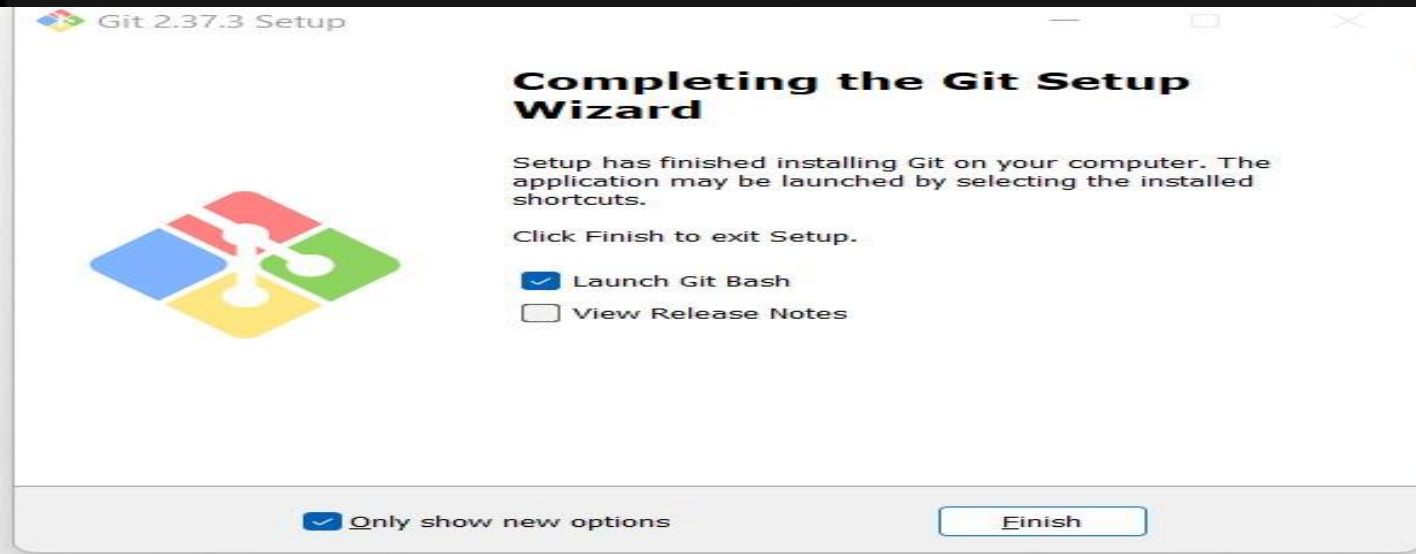
Install

Cancel

After downloading you can check below click on it for install. Then git is downloaded for your local machine ..

Git-2.37.3-64-bit (1).exe

# GIT INSTALLATION & SETUP



## To Install Git For Linux

- ✓ Start by updating the package index: **sudo apt update**
- ✓ Install Git: **sudo apt install git**
- ✓ Verify the installation by printing the version: **git --version**

- STEP1:- Go to CONSOLE [HTTPS://AWS.AMAZON.COM/CONSOLE/](https://aws.amazon.com/console/)
- STEP2:- Select EC2 INSTANCE
- STEP3:- Click on LAUNCH INSTANCE
- STEP4:- Give name UBUNTU-SERVER-GIT
- STEP5:- Select UBUNTU FREE-TIER-ELIGIBLE
- STEP6:- Select CREATE NEW KEY-PAIR
- STEP7:- Select ALL TRAFFIC ANYWHERE OR SSH ANYWHERE
- STEP8:- STORAGE AND SECURITY GROUP are default
- STEP9:- Click on LAUNCH INSTANCE
- STEP10:- SUCCESSFULLY INITIATED LAUNCH OF INSTANCE
- STEP11:- LOGIN WITH PUTTY WITH PUBLIC IP ADDRESS
- STEP12:- \$ sudo apt update
- STEP13:- \$ sudo apt install git
- STEP14:- \$ git -version





## What is a Repository?

A **repository** (or a repo) is a **directory** or storage space where your projects can live. It can be local to a folder on your computer, or it can be a storage space on another online host (such as Github). You can keep code files, text files, image files, you name it, inside a repository.

