HOW SOFTWARE WORKS · BEGINNER · 14 MIN READ

Git and GitHub: save points for your code

Repositories, commits, branches and pull requests, and why every builder (and every AI agent) uses them.

Pass the check (4 of 5) online to earn the “Version Keeper” badge:
https://digitalbuilders757.com/university/study/git-and-github

Git is the save system; GitHub is where saves live online

Git is free software that tracks every change to a folder of code. Each saved snapshot is a commit, with a message explaining what changed. If something breaks, you can see exactly what changed and go back.

GitHub is a website (owned by Microsoft) that hosts Git projects online so you can back them up, share them and work together. GitLab and Bitbucket are alternatives. A project on GitHub is called a repository, or repo.

The words you'll hear every day

- Repository (repo): the project folder plus its full history.
- Commit: a saved snapshot with a message, like 'Add sign-in page'.
- Branch: a parallel copy where you build something new without touching the main line. The main line is usually called main.
- Clone: download a repo to your computer.
- Push / pull: send your commits up to GitHub / bring others' commits down.
- Pull request (PR): a request to merge a branch into another, with a page to review the changes, discuss and run checks.
- Merge: combine a branch's changes into another branch.
- Merge conflict: two branches changed the same lines; a person (or agent) decides which to keep.
- Issue: a to-do, bug report or idea tracked in the repo.
- README: the front page of a repo explaining what it is and how to run it.
- .gitignore: a list of files Git must never save, such as .env files with secrets.

A healthy workflow

Real teams (including Digital Builders) never build straight on main. A common pattern: make a branch for one feature, commit small steps, push, open a pull request, let automated checks (CI) run, review the diff, then merge. Many teams have an integration branch called develop that collects work before a release to main.

This matters even more with AI. Agents should work on branches and hand you pull requests, so nothing reaches your live site without review.

GitHub does more than store code

- GitHub Actions: automation that runs tests and builds on every push (this is CI, continuous integration).
- GitHub Copilot: AI assistance and a coding agent that can work on issues and open pull requests.
- GitHub Pages: free hosting for simple static sites.
- Connected deploys: hosts like Vercel watch your repo and deploy on every push.

Key terms

Git
Free software that tracks every change to a folder of code.

GitHub
A website that hosts Git repositories online for backup, sharing and teamwork.

Repository (repo)
A project folder plus its full change history.

Commit
A saved snapshot of changes with a message.

Branch
A parallel line of work so you can build without touching the main line.

Clone
Download a copy of a repository to your computer.

Push / pull
Send your commits to GitHub / bring others' commits down.

Pull request (PR)
A request to merge one branch into another, with review and checks.

Merge
Combine one branch's changes into another.

Merge conflict
Two branches changed the same lines; someone decides which to keep.

Issue
A tracked to-do, bug report or idea in a repository.

README
The front page of a repository: what it is and how to run it.

.gitignore
A list of files Git must never save, such as .env secrets.

CI (continuous integration)
Automatic checks (tests, builds) that run on every push or pull request.

Try it: Make your first pull request

1. Create a free GitHub account and a new repository with a README.
2. On GitHub, create a branch called add-about.
3. Edit the README on that branch: add one line about you. Commit with a clear message.
4. Open a pull request from add-about into main, read the diff, and merge it.

KNOWLEDGE CHECK

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5 questions. Circle one answer for each; 4 or more correct passes. Answers are at the back.

1. What is a commit?

A. An automatic backup GitHub makes of your whole computer every night
B. A GitHub subscription
C. A saved snapshot of changes with a message
D. A deleted file

2. Why build a new feature on a branch?

A. Branches make the app run faster for users once it is deployed
B. GitHub charges less
C. Branches keep your code private so no one else on the team can see it
D. To work without breaking main, then review before merging

3. What is a pull request?

A. A request to merge one branch into another, with review and checks
B. Downloading the latest changes to your computer
C. A copy of someone else's repository
D. A type of commit

4. Which file should be listed in .gitignore?

A. README.md, because it's only notes for you
B. .env with your secret keys
C. package.json, so others can't see your libraries
D. index.html

5. What is the difference between Git and GitHub?

A. They are the same tool; GitHub is just the newer name for Git
B. GitHub is the editor where you write code; Git is where you run it
C. Git tracks changes; GitHub hosts Git projects online
D. Git is only for teams; GitHub is for people working alone

Official sites

GitHub Docs: Get started: https://docs.github.com/en/get-started
GitHub Skills on GitHub Learn (free interactive courses): https://learn.github.com/skills
Git: https://git-scm.com

Last reviewed 2026-11-25. AI tools change fast; check each tool's own site for current features, plans and prices.

ANSWER KEY

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1. C: A saved snapshot of changes with a message
Commits are save points. Clear messages make history easy to read.

2. D: To work without breaking main, then review before merging
Branches keep unfinished work away from the live line until it's reviewed.

3. A: A request to merge one branch into another, with review and checks
PRs are where changes get reviewed, discussed and checked before merging.

4. B: .env with your secret keys
Secrets must never be committed. .gitignore stops Git from saving them.

5. C: Git tracks changes; GitHub hosts Git projects online
Git is the version-control tool; GitHub is a hosting and collaboration site built around it.